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CMHI Operational Plan Study

TRIWEST GROUP

Operational Plan for the Mental Health Institutes in Colorado

March 2001

Submitted to

The State of Colorado

Department of Human Services

Office of Direct Services

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Acknowledgment

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Brief Synopsis for Decision-Makers

This Operational Plan is the culmination of an eight-month study. It is preceded by a series of seven prior reports that form the foundation of the plan and that are included as appendices.

It is recommended that available services within the overall Colorado mental health system be increased and current Institute inpatient programs maintained until community alternatives are developed. Sixty percent (60%) of current capacity represents core Institute inpatient capacity that should not be provided in other settings. Other major recommendations include:

Adolescent Psychiatric Inpatient Services – 30% of current adolescent capacity is unused. Recommendations include funding $1.34 million in community-based adolescent alternative services by closing the 10-bed unlocked Open Adolescent Program at CMHI-Pueblo.

Adult Psychiatric Inpatient Services – Distances from Northern and Western Colorado to CMHI-Pueblo (ranging from 168 to 272 miles) negatively impact clinical care. Local Institute alternative pilots in Northern and Western Colorado are recommended to manage 24 of 33 current allocated beds. Funding would come from downsizing 24 beds at CMHI-Pueblo, resulting in approximately $2.7 million and 68 slots of community-based treatment.

Geriatric Psychiatric Inpatient Services –The same general observations regarding distance for adult services also apply to older adults. Expansion of Northern and Western Colorado pilots to include current geriatric inpatient capacity is recommended.

Financing Recommendations – These include:

- Enhancing Medicaid revenue by $5.1 million annually by changing to cost-based rates and obtaining an IMD waiver.
- Maintaining current funding levels over time through annual adjustments for inflation and population growth.
- Initiating a seven-year transition to community control of funding for 40% of remaining adult capacity and 35% of older adult capacity, resulting in $25.0 million annually in State General Funds, which can leverage $34.5 million and 695 treatment slots of community alternatives.

Governance Recommendations – Initiate an incremental, eight-year process to transition the Institutes toward becoming a quasi-independent part of University of Colorado Hospital (UCH) through five two-year steps (two of which are concurrent):

- Step 1 – Establish that Colorado Psychiatric Health (CPH) can manage and provide Institute services by including it in the Northern Colorado adult inpatient pilot, described above.
- Step 2 – Initiate a CPH/UCH management contract for CMHI-Fort Logan.
- Step 3 – Merge CMHI-Fort Logan operations into University of Colorado Hospital.
- Step 4 – Initiate a CPH/UCH management contract for CMHI-Pueblo civil and general hospital units (concurrent with Step 3).
- Step 5 – Merge CMHI-Pueblo civil and general hospital operations into University of Colorado Hospital.

Executive Summary

The purpose of this Operational Plan is to define the future role of the Colorado Mental Health Institutes (CMHIs or Institutes) in Colorado's public mental health system and guide the future operation of the Institutes. All major civil programs of both Institutes are included, encompassing adolescent, adult, and geriatric psychiatric inpatient programs, the residential treatment center at CMHI-Fort Logan, and the CMHI-Pueblo general hospital. This Operational Plan is the culmination of an eight-month study. The approach was predicated on an iterative, multi-method design. It included data collection, analysis, and development of a series of seven prior reports that form the foundation for the Operational Plan and are included as appendices to the plan.

I. Recommendations for the Ongoing Role of the Institutes

The basic stance of this plan is that changes in the system of care can help establish improved service availability within current levels of State General Fund appropriation, adjusted over time to keep pace with inflation and population growth. Five overall recommendations are offered:

- I-A – Available services within the overall Colorado mental health system should be enhanced through increased leveraging of federal funds (e.g., Medicaid), greater use of more cost-effective community-based programming, and raised funding availability overall. Needed additional funding for community alternatives is estimated at $35 to $43 million annually.

- I-B – Current Institute inpatient programs must be maintained until alternatives are developed, that are adequate in terms of both quantity and quality. The experience of the State of Oregon when it closed its state psychiatric facility in Portland provides a good example of this approach.

- I-C – A core Institute inpatient capacity should be defined as service to those most in need due to either (1) the long-term nature of their condition at a level of acuity needing intensive inpatient services; or (2) the severe acuity of their symptoms such that service in any other setting is not safe, regardless of the length of stay needed. Approximately 60% of current capacity is estimated to represent core capacity.

- I-D – Populations outside of the core mission should be served only if necessary because there is no alternative or because it would be more cost-effective than other alternatives.

- I-E – Many current CMHI consumers could and should be served in more clinically appropriate and cost-effective settings. Analysis suggests that up to 40% of current capacity could be diverted to alternative settings, including acute inpatient and other community-based alternatives.

II. Recommendations for CMHI Program Development

Adolescent Psychiatric Inpatient Services – In the most recent period (7/1/01 through 12/31/00), 30% of the Institutes' 52 adolescent beds overall were unused on average. Extensive analysis of this trend over three years prior supports downsizing of the current 52-bed combined capacity. Recommendations include:

- II-A-1 – Close the 10-bed unlocked Open Adolescent Program at CMHI-Pueblo and use 100% of savings to fund community-based alternatives for adolescents.
- II-A-2 – Fund approximately $1.34 million in community-based adolescent alternative services. Evidence-based models of care should be required, including Multisystemic Therapy (MST).
- II-A-3 – Raise fees charged for third party payers, especially Medicaid.

Adult Psychiatric Inpatient Services – There is consistently high demand for the Institutes' 247 adult beds, with current combined average occupancy at 93.9%. For Northern and Western Colorado, the distance between the CMHCs and CMHI-Pueblo range from 168 to 272 miles. This distance to current Institute beds at CMHI-Pueblo negatively impacts care in multiple ways. Recommendations include:

- II-B-1 (a & b) – Develop local Institute alternative pilots in Northern and Western Colorado. These pilot programs should involve local CMHCs, MHASAs, and inpatient providers to manage 24 of 33 current allocated beds. For Northern Colorado, Colorado Psychiatric Health (the inpatient psychiatric component of University of Colorado Hospital) is recommended to be the inpatient partner, given the governance recommendations below.
- II-B-1-c – Fund the two pilots with start-up transition funds, followed by savings from downsizing the three 32-bed CMHI-Pueblo adult inpatient units (excluding the Circle Program) to 24 beds each (24-bed total downsizing). It is estimated that this will result in $1.9 million in State General Fund savings that could leverage approximately $2.7 million and 68 slots of community-based treatment.

- II-B-1-d – Develop the local Institute alternative pilots through a collaborative, multi-stakeholder proposal process. This should include demonstration of a credible, long-term commitment by local providers to carry out the historical mission of the Institutes, evidence-based approaches such as assertive community treatment (ACT), and specific performance standards.

- II-B-1-e – Fund the initial development of alternatives with one-time funding. A 54-month timeline would allow one-time funds to be repaid prior to full development of community alternatives, resulting in a cost-neutral process.

- II-B-2 – CDHS should work with metro area MHASAs and CMHCs to reverse the three-year trend of increasing percentages of adults with Medicaid served by CMHI-Fort Logan's adult inpatient units.

Child Psychiatric Inpatient Services – There is consistently high demand for the 16-bed Children's Unit at CMHI-Fort Logan, with current average occupancy at 90.6%. Higher rates of involuntary treatment and dangerousness suggest that the acuity level of child disorders treated is increasing. Recommendations include:

- II-C-1 – Increase training and support of staff commensurate with the increasing percentages of child consumers with involuntary and endangering treatment needs.

- II-C-2 – Increase the fees charged to Medicaid sources.

- II-C-3 – Increase collaboration with other child inpatient programs such as The Children's Hospital.

Geriatric Psychiatric Inpatient Services – There is consistently very high demand for the two 30-bed geriatric units at CMHI-Pueblo and the one 25-bed geriatric unit at CMHI-Fort Logan, with current combined average occupancy at 95.4%. The same general observations regarding distance can be made for older adult services as for adult services. The following recommendations are offered:

- II-D-1 – Expand Northern and Western Colorado pilots to include current geriatric inpatient capacity. Several additional issues will need to be addressed, including long-term placements for consumers with co-morbid medical conditions.

- II-D-2 –Increase fees and/or collections as needed for Medicaid recipients at the CMHI-Fort Logan geriatric program.

Medical / Surgical Service (MSS) Unit Inpatient Services – Although usage is up somewhat in the last six months of 2000 for the 20-bed general hospital program at CMHI-Pueblo, occupancy was only 45.6% for that timeframe. Total medical costs on a per civil bed day basis at CMHI-Pueblo were 247% higher than at CMHI-Fort Logan in 1999-00. DOC bed days are down 23% and same day surgeries for DOC consumers are down 77%. The following recommendation is therefore offered:

- II-E-1 – Undertake a zero-based budget development process to include only necessary costs and to develop a budget which reduces costs to levels more comparable to those of CMHI-Fort Logan (adjusted for any documented differences in medical patient severity). The review also should examine the relationship of the MSS Unit to DOC.

Mountain Star Residential Treatment Center (RTC) Services – Use of the 20-bed program at CMHI-Fort Logan has been consistently high since it came up to full capacity in 1997-98. Occupancy was 94% in 1999-00. The following recommendation is offered:

- II-F-1 – Raise fees charged (especially to Medicaid) to better match costs.

III. Financing Recommendations

Key financial findings include an estimated need for approximately $35 to $43 million in additional community spending statewide. Capitation as a mechanism for moving control of Institute funding to the community seemed to have only limited applicability. In addition to the specific subsidies of Medicaid services by State General Funds noted above in every area of Institute psychiatric programming examined, two current CDHS strategies to enhance federal Medicaid revenue were examined. The following recommendations are offered:

- III-A – Enhance Medicaid revenue by an estimated $5.1 million annually through the following mechanisms:
  - III-A-1 – Change Medicaid fees to be based upon a cost-based methodology, as proposed by the Institutes. CDHS estimates that this could increase annual federal revenue and free up $1.4 million in State General Funds for community alternatives.
  - III-A-2 – Continue to pursue an IMD waiver to allow Medicaid payment for some adult inpatient services. CDHS estimates that this could increase annual federal revenue and free up $3.7 million in State General Funds for community alternatives. If the current

waiver request is denied, it is recommended that a waiver request be resubmitted modeled on Arizona's recently successful IMD waiver request.

- III-B – Prevent Institute safety net funding from eroding further by maintaining current funding levels over time through annual adjustments for inflation and population growth.

- III-C – Initiate a seven-year transition to community control of funding for 40% of remaining Institute adult capacity and 35% of remaining older adult capacity, resulting in a combined $25.0 million annually in State General Funds. This 129-bed additional reduction would leverage approximately $34.5 million and 695 treatment slots of community-based alternatives.

IV. Administrative and Governance Recommendations

Administration – Of the 27 states for which data were available, Colorado ranked 21st in the ratio of indirect (administrative) FTE to beds, with a ratio of 0.56 staff to each bed. Additionally, Colorado is one of only two states in which oversight of the state psychiatric hospital is not integrated with oversight of the mental health system. The following recommendation is made:

- IV-A – CDHS should study the split of Institute and mental health system oversight and look for opportunities to consolidate state government authority over the overall mental health system with authority for the Institutes (or any ensuing contract with non-state governmental entities to provide some proportion of current CMHI services).

Governance – The plan's analysis and recommendations regarding administration focus primarily on the governance of the Institutes into the future. There was considerable consensus that a quasi-governmental authority model is needed in order for the Institutes to be able to compete effectively in the current health care marketplace. Such a model provides the advantages of operating outside of the state budgeting system, state personnel system, and state procurement system, as well as the advantages of being able to retain governmental immunity as a quasi-governmental structure (limiting insurance costs), incur debt (by issuing revenue bonds), and undertake joint ventures and mergers.

Creating a new hospital organization and associated administrative entity would not be the most efficient use of funds. Merger with an existing quasi-independent authority offers an alternative that avoids the costs of creating a new authority. The University of Colorado Hospital Authority,

with its statewide mission and experience transitioning from state government, offers a viable vehicle for such a change. Given this, the following recommendations are offered:

- IV-B – Initiate an incremental, monitored process to transition the Institutes toward becoming a quasi-independent part of University of Colorado Hospital (UCH). This is a substantial and possibly controversial recommendation that nevertheless appears to offer the best path to balance the many issues confronting the Institutes. The components of this recommendation offer a multi-step plan that involves additional, detailed planning, evaluation, analysis, and implementation over an eight-year timeframe. Each of the five steps takes two years (steps 3 and 4 are concurrent), and they are contingent upon ongoing analysis and planning. If at any point alternative directions are identified or data emerge suggesting small or major changes to the plan, these should be integrated into the plan and the plan changed accordingly, up to and including its termination. The five steps include:
  - IV-B-1 – Step 1 – Determine that Colorado Psychiatric Health (CPH) can manage and provide Institute services through the Northern Colorado adult inpatient pilot, as described above. (Years 1–2).
  - IV-B-2 – Step 2 – Initiate a CPH/UCH management contract for CMHI-Fort Logan. This second step would involve a management services contract for CMHI-Fort Logan including executive leadership and certain administrative functions (e.g., billing), contracted to CPH/UCH. (Years 3–4).
  - IV-B-3 – Step 3 – Merge CMHI-Fort Logan operations into University of Colorado Hospital as part of the quasi-independent governance structure of CPH, with appropriate steps to incorporate the historic mission of the Institutes. (Years 5–6).
  - IV-B-4 – Step 4 – Initiate a CPH/UCH management contract for CMHI-Pueblo civil and general hospital units. This fourth step would occur concurrent with step three (IV-B-3). Given CMHI-Pueblo's combined civil and forensic mission, incorporating its civil inpatient operations into CPH/UCH poses a unique set of challenges. (Years 5–6).
  - IV-B-5 – Step 5 – Merge CMHI-Pueblo civil and general hospital operations into University of Colorado Hospital as part of the quasi-independent governance structure of CPH, with appropriate steps to incorporate the historic mission of the Institutes. (Years 7–8).

V. Direct Care Staffing Recommendations

Despite ranking in the middle (14th) of 28 states surveyed, Colorado's actual ratio of 1.32 FTE of direct care staff per bed falls in the bottom third of the distribution of the 28 ratios surveyed. To move up to the middle (median) of the range of ratios, Colorado would need to increase staffing by 0.35 FTE per bed, an amount comparable to the current CDHS request to increase by 0.37 FTE per bed. The following recommendations are offered:

- V-A – The CDHS FY2001-02 request for 61.0 additional FTE is endorsed.
- V-B – The dynamic staffing model developed by CDHS is endorsed.

VI. Oversight and Evaluation Recommendations

Oversight Recommendations – The following recommendations are offered to provide dedicated oversight and support from the CMHI management team:

- VI-A-1 – Appoint a commission to oversee implementation of the Operational Plan.
- VI-A-2 – Fill the currently vacant superintendent position for CMHI-Fort Logan to support the Operational Plan.

Evaluation Recommendations – Evaluation should be integrated with each step of the Operational Plan implementation process, in order to determine the advisability of moving to later steps and to further inform and refine the planning process for subsequent steps. Key recommendations related to evaluation include:

- VI-B-1 – CDHS should contract with a single independent evaluator for the entire Operational Plan.
- VI-B-2 – Orient the evaluation toward decision support, not research.
- VI-B-3 – Major points of focus for the evaluation should include development of community alternatives, effectiveness of ongoing Institute programs, and effectiveness of governance changes.
- VI-B-4 – Principles for evaluating Operational Plan implementation should include: multi-modal assessment of implementation effects; multi-method evaluation approaches; stakeholder involvement in multiple components of the study; required participation of involved providers in the evaluation; a multi-year evaluation; targeting the evaluation to specific steps of the Operational Plan; development and incorporation of performance standards and benchmarks; formal mechanisms for the provision of ongoing feedback; and support of ongoing monitoring by CDHS.

Purpose, Background and Approach of the Operational Plan

Purpose of the Operational Plan

The State of Colorado Department of Human Services (CDHS) has contracted to develop an Operational Plan to define the future role of the Colorado Mental Health Institutes (CMHIs or Institutes) in Colorado's public mental health system and guide the future operation of the Institutes. This Operational Plan is the culmination of an eight-month multi-method review and study. Key goals identified by the legislation initiating this Operational Plan and in the Request for Proposals (RFP) defining it included:

- A clear direction for efficient, quality inpatient psychiatric care, based upon analysis of the factors affecting Institute service delivery, including emerging psychotropic medications, and community-based treatment approaches.
- A review and recommendations regarding opportunities for and impacts of privatization.
- Recommendations concerning the appropriate size of the Institutes, taking into consideration anticipated future requirements for bed space and limitations on the availability of State General Funds. These were to include program-specific recommendations.
- Analysis of the fiscal and service impacts of transferring direct funding for the Institutes to the control of community providers.
- A graduated plan that ensures adequate services for persons in need.
- Recommendations regarding direct care staffing levels.

All major programs of both Institutes, excluding the forensics program at CMHI-Pueblo, were to be included in the plan. These include adolescent, adult, and geriatric psychiatric inpatient programs, the residential treatment center at CMHI-Fort Logan, and the CMHI-Pueblo general hospital. CDHS staff had already undertaken a similar review of the forensic program. This Operational Plan encompasses the remaining, primarily civil, inpatient capacities of the Institutes.

Background Leading Up to the Operational Plan

As part of the public mental health system in Colorado, the Institutes have historically served those considered to be most in need of mental health treatment, including adults and older adults with serious and persistent mental illness and children and adolescents with serious emotional disturbances. In particular, the CMHIs have targeted services toward those consumers who cannot be safely served in the community or who are unable to care for themselves in the community given the capacities of the extant outpatient system of care.

Given the important role of the Institutes and the fast-changing context of health care delivery, particularly those changes related to Colorado's Medicaid Mental Health Capitation and Managed Care Program, the future of the Institutes has been a subject of analysis and recommendations over much of the past decade. Leading up to this Operational Plan, several key reports have been issued which provide a contextual foundation for the recommendations in this plan. These reports include:

- The 1993 **Long-Range Plan for Colorado's Public Mental Health System: Integrating Hospital and Community Programs**, by the Colorado Division of Mental Health (DMH).[1]
- The 1996 **Final Report**[2] by the Commission on the Future of the Institutes.
- The Office of the State Auditor's 1996 **Performance Audit: Impact of Managed Care on the State Mental Health Institutes.**[3]
- The 1997 State of Colorado **Mental Health System Strategic Plan**.[4]

These reports have all underscored the importance of the Institutes in serving Colorado citizens with the greatest mental health needs. They have also raised numerous questions regarding the

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[1] Colorado Division of Mental Health. (1993). Long-Range Plan for Colorado's Public Mental Health System: Integrating Hospital and Community Programs. Proposed Implementation Plan for Fiscal Year 1994-95. State of Colorado.

[2] Commission on the Future of the Colorado Mental Health Institutes. (1996). Final Report: Commission on the Future of the Colorado Mental Health Institutes. State of Colorado.

[3] State of Colorado, Office of the State Auditor. (1996). Impact of Managed Care on the State Mental Health Institutes Performance Audit. State of Colorado.

[4] State of Colorado Mental Health Planning and Advisory Council. (1997). State of Colorado Mental Health System Strategic Plan. State of Colorado, Department of Human Services.

appropriate role of the Institutes in a managed system of care, needed capacity given population trends, financing approaches (including capitation), and governance issues.

Approach Used in the Development of the Operational Plan

This Operational Plan is the culmination of an eight-month study. The study includes data collection, analysis, and development of a series of seven reports described below (and included as Appendices to this plan). Each prior report provides analysis of key issues related to the purposes and goals of the evaluation. The approach is predicated on an iterative, multi-method design in which initial hypotheses are identified and refined through multiple iterations based upon different perspectives and sources of information. The primary areas in which data were collected and analyzed for this plan include:

- **Summary of Colorado-Specific Documents** – This involves a review of the prior reports on the Institutes noted above, as well as several additional state government reports focusing on the operation of the Institutes, including the 1998 Open Cases Study, a 1995 study of the Medical / Surgical Services Unit, recent Medicaid Capitation Waivers, CMHC waitlist reports, recent legislative reports, and the Operational Plan for forensic services. This report is provided in Appendix V.

- **Literature Review of State-of-the-Art Practices** – This part of the study provides a review of current literature on state psychiatric hospitals, including overall state hospital trends, changes in patient populations served, downsizing experiences from other states, practice trends, the impact of managed care, and evidence-based community alternatives to state hospital care. A summary of key trends, as well as an annotated bibliography of the 50 most pertinent literature citations is included. This report is provided in Appendix VI.

- **Brief Case Studies of Arizona, Wyoming and Oregon State Psychiatric Hospital Systems** – Hospital leaders in Arizona, Wyoming and Oregon were contacted and key informant interviews conducted to describe the current size and structure of their state psychiatric hospital systems, as well as recent funding, size, and governance trends.

Schematic drawings were developed for Arizona and Wyoming, depicting the flow of funds and persons through the systems. This report is provided in Appendix VII.

- **Focus Group Report** – The data from the first three reports, as well as additional information from CMHI and CDHS databases, were summarized into key points and subjected to an intensive stakeholder process to review, expand on, and help interpret the findings. These materials were used to develop stimulus materials for focus groups (see Appendix IV-B). Nine focus groups were conducted with 123 overall participants. Two were held for adult consumers with experience at the CMHIs (in Delta and Jefferson County), two for family members of adult consumers (in Montrose and Denver), one for parents of child and adolescent consumers (in Denver), one for CMHI direct care and supervisory staff (in Pueblo), one for regional mental health leaders (held in conjunction with a statewide meeting in Denver), one for psychiatrist leaders from across Colorado (in Denver), and one for state government (executive and legislative) human services leaders (in Denver). In all, the stakeholders generated 227 unduplicated themes. The full report is provided in Appendix IV-A.

- **The Future Role of the Mental Health Institutes in Colorado** – Additional analyses of CDHS and CMHI data were then completed, the current overall role for the Institutes described, and a future role proposed. This report begins with a detailed summary of the current population served by the Institutes. It concludes by describing the characteristics of the population recommended to be served by the Institutes in the future, the types of services that should be provided, and general estimates of the size of the population that will require such services. It also includes description and analysis of the potential impact of improved psychotropic medications that may affect the future need for inpatient treatment. This report is provided in Appendix III.

- **Recommendations for the Mental Health Institutes in Colorado** – This report offers specific recommendations regarding the programs, governance and financing of the Colorado Mental Health Institutes, in the context of Colorado's overall public mental health system. These recommendations are grounded in the data and analyses reported in the above-referenced reports. The recommendations incorporate the following: additional analyses of the population served by the Institutes programs; new data describing the capacity of

community-based alternatives to Institute care across Colorado; financial data on CMHI costs and revenue from the last three fiscal years and year to date through December 31, 2000; and legal, financial, and organizational data gathered from key informants regarding the administration and governance of the Institutes. Draft recommendations had been reviewed and revised based upon a final stakeholder process that included Institute leadership, clinical, data, and financial staff; leadership and staff from various offices and departments within CDHS; Joint Budget Committee staff; State Auditors Office staff; University of Colorado Health Sciences Center and Colorado Psychiatric Health leadership; stakeholder representatives from NAMI-Colorado, the Colorado Behavioral Healthcare Council and other members of the Steering Committee for the Institute study; and discussions with the consumer and advocate members of the Colorado Mental Health Services Strategic Planning Committee. This report is provided in Appendix I.

- **Staffing Report** – This report includes a review of work already completed by the CMHIs and CDHS to develop a dynamic staffing model and staffing recommendations grounded in current issues confronting state hospital staff, as well as normative data from other states. Additional data from other state hospital systems and the national literature were used to review and refine these recommendations, as were data from CMHI staff and other focus groups reported upon previously in the **Focus Group Report**. The CDHS recommendations and the new data are combined to create a single set of specific recommendations, including a dynamic staffing model recommended for ongoing use. This report is provided in Appendix II.

The data from these reports form the foundation for this Operational Plan. To keep the focus of the plan clearly upon recommendations for the future of the Institutes, the numerous detailed analyses from the prior reports are referenced, but not recapitulated in the text of the Operational Plan. However, all of the reports are included in the appendices to this plan and referenced by page number to facilitate detailed review of the data underlying each recommendation. The appendices are ordered in reverse order to when they were submitted to CDHS, with the most recent reports coming first.

Operational Plan Recommendations

This Operational Plan focuses upon the future recommendations developed over the last eight months, presenting them in the context of a coordinated plan to achieve the recommended changes and improvements identified through the study. The Operational Plan includes components in the following areas:

- Recommendations for the ongoing overall role of the Institutes, including populations to be served and the projected level of need.
- Recommendations for CMHI program development, by major program type.
- Recommendations for Institute financing.
- Recommendations for Institute administration and governance.
- Recommendations for Institute direct care staffing.
- Recommendations for plan oversight and evaluation.

The plan concludes with an integrated nine-year timeline proposing an approach to staging these recommendations. The timeline is presented by quarter, without reference to a particular start date, in order to accommodate changes to the timeline stemming from the departmental and legislative review process.

It should be noted that the recommendations in this report are interdependent. In particular, recommendations regarding changes in specific Institute programs are dependent on recommendations regarding Institute governance and the financing of both the Institutes and Colorado's overall public mental health system. Specific instances of necessary coordination are noted throughout the Operational Plan. However, all of the recommendations in this report depend on the initial set of overall recommendations related to the overall Colorado mental health system and the ongoing role of the Institutes.

I. Recommendations for the Ongoing Role of the Institutes

The recommendations for the ongoing role of the Institutes begin with an analysis and associated recommendation regarding the overall public mental health system in Colorado. The Institutes serve as a safety net for the overall mental health system. The capacity of the overall system therefore directly affects the role of the Institutes. To the extent that the overall system is functioning well, the role of the Institutes can be minimized and focused upon the populations they best serve. To the extent that the overall system has too little capacity, the Institutes must maximize their capacity to help provide some level of safety and service to those most in need.

Recommendation I-A – Available services within the overall Colorado mental health system should be increased through improved leveraging of federal funds (e.g., Medicaid), increased use of more cost-effective community-based programming, and increased funding availability overall. The basic stance of this report is that changes in the system of care can help establish an improved level of service availability. These changes can largely be funded with current levels of State General Fund appropriation, adjusted over time to keep pace with inflation and population growth. Recommendations throughout this Operational Plan, and especially those in the financing section, were developed to maximize both the amount of funds available and the cost-effectiveness of spending priorities within Colorado's mental health system. Specific opportunities for cost-savings within the Institutes and strategies to leverage additional federal funding are presented with the expectation that any saved funds will be used to fill existing gaps in the mental health system of care. This report is predicated on the central recommendation that any projected cost-savings are warranted only to the extent that such savings be used to better meet the state's goal to provide needed mental health services. In some areas, additional funding beyond current allocations may be needed in order to maintain or improve Colorado's system of mental health care. Current levels of appropriation are defined here as the FY2000 levels of State General Funding allocated to specific programs.

The analysis of population growth, increasing numbers of uninsured Colorado residents, recent funding levels that have not kept pace with inflation or population growth, [5] and a documented lack of community-based alternatives[6] all underscore this recommendation. Furthermore, there is evidence of current overuse and some misuse of the Colorado Mental Health Institutes apparently tied to these trends.[7] Various approaches to estimate the costs of recommended community alternatives point to a needed additional funding level of $35 to $43 million annually.[8]

Recommendation I-B – Most current Institute inpatient programs should be maintained until adequate alternatives are developed, both in terms of quality and quantity. Given the severity of clinical symptoms and the levels of danger to self and others experienced by those persons currently served by the Institutes, Institute programs should be maintained until adequate alternatives are developed. In the case of adolescent inpatient care and medical/surgical services, this plan identifies current inefficiencies that appear to warrant immediate changes in Institute programming. However, most of the changes recommended below require the development of alternative services prior to their implementation. The published literature consistently shows that successful state hospital downsizing and closure initiatives have used extensive planning and implementation periods for enhancing community programs prior to reducing inpatient capacity.[9] States that have not taken time to plan carefully or that did not have strong community-based

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[5] See Appendix III, The Future Role of the Mental Health Institutes in Colorado (Future Role), pages 44-49.
[6] See Appendix I, Recommendations for the Mental Health Institutes in Colorado (Recommendations), pages 76 – 78. Also, Appendix III, Future Role, pages 43-44.
[7] See Appendix III, Future Role, pages 36, 41-42.
[8] See Appendix I, Recommendations, pages 66 and 77.
[9] Key citations include:

Deci, P.A., et al. (1997). Downsizing state operated psychiatric facilities. In S.H. Henggeler, A.B. Santos (Eds.), Innovative approaches for difficult-to-treat populations. Washington, D.C.: American Psychiatric Association. (pp. 371-394).

McDonel, E.C., Meyer, L., and Deliberty, R. (1996). Implementing state-level mental health policy reforms in Indiana: Closing a state-operated psychiatric hospital and passing major mental health reform legislation. *International Journal of Law and Psychiatry*, 19(3/4), 239-264.

Monroe-DeVita, M.B., & Mohatt, D.F. (1999). The state hospital and the community: An essential continuum for persons with severe and persistent mental illness. In W.D. Spaulding (ed.), The role of the state hospital in the twenty-first century. *New Directions for Mental Health Services*, no. *84* (Winter). San Francisco: Jossey-Bass. (pp. 85-98)

programs in place when they downsized their state hospitals, showed worse outcomes.[10] A review of reports and data related to the closing of Institute child and adolescent programs in the late 1990s and input documented in the stakeholder focus groups also underscored the need for community alternatives.[11] The experience of the State of Oregon, when it essentially closed its state psychiatric facility in Portland in the mid-1990s, provides a good example of how a state can efficiently and effectively ensure adequate care and ultimately improve care for populations in need by building alternatives prior to downsizing.[12]

Recommendation I-C – A core Institute inpatient capacity should be defined and maintained over time with direct state funding. This plan recommends that a core, ongoing mission for the Institutes be defined as service to those Colorado residents most in need due to either (1) the long-term nature of their condition at a level of acuity needing intensive inpatient services, or (2) the severe acuity of their symptoms such that service in any other setting is not safe, regardless of the length of stay needed.[13] Service to these two groups will continue to be needed and should be supported and strengthened over time.

Even with adequate community alternatives, many current consumers of Institute inpatient programs will continue to need child, adolescent, adult, and older adult inpatient services. Given their long stays, the proportion of beds used by this population is greater than their proportion of admissions. Based on an analysis of length of stay distributions and other population demographic factors, 60% (+/- 10%) of current capacity is conservatively estimated to be needed once adequate community alternatives are developed.[14] This amount is an estimate, and can be expected to vary as the capacity of community alternatives, statewide population, insurance level of state residents and other demographics change over time. It will also differ by age group.

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[10] DeSisto, M.J., Harding, C.M., McCormick, R.V., Ashikaga, T., & Brooks, G.W. (1997). The Maine-Vermont comparison of the long-term outcome of serious mental illness. *British Journal of Psychiatry*.

[11] See Appendix IV, The Focus Group Report, pages 14 – 16, 37, 40, 45, 52 and 54.

[12] See Appendix VII, Brief Summaries of Other States, for the case example of Oregon. See also Oregon Legislative Assembly, Task Force on Mental Health. December, 1996. Final report and recommendations; Nikkel, B., Deputy Assistant Administrator, Office of Mental Health Services, Oregon Department of Human Services. October, 2000. Personal communication.

[13] See Appendix III, Future Role, pages 34-37.

[14] See Appendix I, Recommendations, page 7.

The approximately 60% of current capacity estimate best fits for adult inpatient consumers. The 1998 Open Cases study found that only 50% of the Institute adult inpatient beds were filled by people who fell into the highest severity group (i.e., those most appropriate for Institute care).[15] Older adults may need a somewhat higher percentage of current capacity. Children and adolescents are likely to need less core capacity as a percentage of current beds, should alternatives be developed.[16] The maintenance of direct state funding for this core capacity (approximately 60% of current capacity) is recommended and underlies many of the more specific recommendations below, especially those regarding community control of Institute funding.

Recommendation I-D – Populations outside of the core mission should be served only to the extent necessary due to a lack of an alternative or because such care is more cost-effective than other alternatives. In addition to the population of consumers falling within the proposed core mission of the Institutes, other sub-populations of current Institute consumers may also be served over time. These sub-populations fall outside of the core mission of the Institutes, but currently the Institutes seem to be their best care alternative. It may be that in the future, alternative, more cost-effective services can be developed, resulting in a decreased need for Institute services for these populations. It also may be that some members of these populations continue to be served most cost-effectively by the Institutes. These populations include persons in need of short-term, acute inpatient care, commonly defined as stays of two weeks or less (half of adolescents, approximately 25% of children, and 30% of adults and older adults appear to fall into this group); persons who must now be treated in the Institutes because of a lack of a more appropriate community-based alternative service; persons with complex, sometimes dangerous disorders that fall outside of the typical scope of mental health diagnoses (e.g., persons with primary dementia, persons with traumatic brain injuries, persons with primary substance abuse

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[15] Bartsch, D.A. and Wackwitz, J.H. (1998). An Open Case Evaluation of State Institute and High Risk Community Consumers: The Potential for Bed and Resource Reallocation, Technical Report. State of Colorado, Mental Health Services, Decision Support Services.

[16] However, the smaller number of children and adolescents served statewide and fewer number of intensive programs may make downsizing of Institute services for youth beyond the current recommendations difficult, as described below.

disorders not best treated in a mental health setting and persons who pose a high level of danger due to their sexual predation behaviors, but who do not seem to suffer from a primary mental illness actively treatable in an inpatient setting); and persons in the custody of the State of Colorado who are in need of residential care and medical/surgical services where such services can be provided most cost-effectively by an Institute program.

While the Institutes may serve more persons than this core group in the future as alternatives are developed, it is recommended that this only be pursued to the extent that the Institutes themselves offer a cost-effective alternative (e.g., acute inpatient care for children and adolescents, Residential Treatment Center [RTC] services, step-down residential services). It is not recommended that the Institutes be downsized by the estimated 40% of current beds used by persons whose needs fall outside the core mission. Instead, it is recommended that up to 40% of current direct state funding eventually move to fund alternatives to the Institutes, primarily through the components proposed in this Operational Plan which systematically move control of much of this funding to the community.

Based upon the analysis of costs of current Institute programs, it may be that many of these alternatives can be provided by the Institutes through services in excess of the 60% of capacity that continues to be underwritten with direct state funds. A good example of this is the current adolescent inpatient program. Currently, less than 12% of adolescent consumers stay over 60 days. On average, only 9% of available beds were filled by persons who have been hospitalized over 60 days (19% by persons who have been hospitalized over 30 days). The remainder of current utilization is acute care, much of which could be provided in other inpatient settings. Most of this acute care is currently purchased by Mental Health Assessment and Service Agencies (MHASAs), the entities holding the regional managed care contracts for the Medicaid Mental Health Capitation and Managed Care Program. This suggests that the community is

willing to use funds in its control to purchase a significant amount of Institute services.[17] A lack of adolescent inpatient programs statewide also supports this ongoing role.

Recommendation I-E – Many current CMHI consumers should be served in more clinically appropriate and cost-effective settings, including community-based alternatives. Since the Institutes do not track data on reason for admission, exact estimates of the number of persons whose presenting problems could be served in alternatives settings are not possible within the scope of this study. Approximately 20% of adolescents, 25% of children, 30% of adults and 50% of older adults currently stay more than 60 days. This offers the best available estimate of the number of persons in need of long-term care. Analysis of these figures, plus the analysis of needed ongoing capacity discussed in Recommendation I-C, suggests that consumers using 40% of current capacity (consumers with shorter lengths of stay use less capacity on a per consumer basis) could be served in alternative settings, including acute inpatient and other community-based alternatives. As the population is increasingly narrowed to a higher percentage of persons with acute and refractory conditions, it will be more challenging to maintain the current treatment focus of the Institutes upon an active, rehabilitation focused treatment milieu.[18]

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[17] The analysis of adolescent inpatient costs and revenues in Appendix I (Recommendations, pages 17-20) shows that current fees charged to MHASAs are below the cost of providing care, which may be influencing current MHASA purchases. However, the cost analysis suggests that if recommended program efficiencies were implemented and the fees charged raised to cover these costs, a competitive rate could still be offered.

[18] See Appendix III, Roles Report, pages 35, 37, and 39 for a discussion of these treatment approaches and references with additional information on successful approaches to managing increasingly refractory patient populations.

II. Recommendations for CMHI Program Development

Specific recommendations are offered in this section for each of the major CMHI programs. They are based upon data from the CMHIs, stakeholder focus groups, follow-up stakeholder interviews and other input, and national key informant and literature sources, as well as analyses of specific program financing. Recommendations are offered for the following programs:

- Adolescent psychiatric inpatient services
- Adult psychiatric inpatient services
- Child psychiatric inpatient services
- Geriatric psychiatric inpatient services
- Medical / Surgical Service (MSS) Unit inpatient services
- Mountain Star Residential Treatment Center (RTC) services

Adolescent Psychiatric Inpatient Services

Currently, the Institutes provide adolescent psychiatric inpatient services through three units: a 10-bed unlocked unit and 20-bed locked unit at CMHI-Pueblo and a 22-bed locked unit at CMHI-Fort Logan. While the number of adolescents served by these programs has been increasing consistently over the past three years and the current year (through 12/31/00), utilization of beds has consistently declined. These declines are primarily due to significantly shorter lengths of stay. Fiscal year to date through 12/31/00, 30% of beds overall go unused on average. Extensive analysis of these trends supports downsizing of the current 52-bed combined capacity.[19] The recommended scope of downsizing was determined by a balancing of estimated

[19] See Appendix I, Recommendations, pages 10-12.

need with the ability to purchase alternative community-based capacity and the impact of downsizing on the functioning of the remaining inpatient units.[20] Recommendations include:

Recommendation II-A-1 – Close the 10-bed unlocked Open Adolescent Program at CMHI-Pueblo and use 100% of savings to fund community-based alternatives for adolescents. Given the documented lack of capacity for community-based alternatives described above, it is recommended that the current 52-bed capacity be downsized to 42 beds by closing the 10-bed unlocked CMHI-Pueblo unit. This would allow a continued capacity sufficient to meet most current needs.[21] This also results in an estimated $1.34 million in savings for community alternatives.[22] An alternative model that maintains the open unit at CMHI-Pueblo and downsizes eight beds at the two locked units was also examined. While this model preserved the current level of inpatient functionality, it only resulted in an estimated $390,000 in savings.[23] Given the need for community-based alternatives, the estimated 43 slots of intensive community-based care that could be leveraged with $1.34 million in State General Funds instead of the estimated 15 that could be leveraged with $0.39 million is seen as justifying the 2-bed additional reduction in Institute inpatient adolescent programming.[24] Planning and implementation of downsizing is expected to take approximately 9 months, as detailed in the timeline at the end of the Operational Plan.

Recommendation II-A-2 – Fund approximately $1.34 million in community-based adolescent alternative services. Closing the 10-bed unit is only warranted to the extent that community-based alternatives are funded. It is recommended that a proposal process be used to develop these alternatives so that local alternatives best incorporate the needs and strengths of different regions of the state. This request for proposals process is expected to take approximately 12 months. The following principles are recommended as part of this effort:

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[20] See Appendix I, Recommendations, pages 14-17.
[21] See Appendix I, Recommendations, pages 15-17.
[22] See Appendix I, Recommendations, pages 21-24.
[23] See Appendix I, Recommendations, page 22.
[24] See Appendix I, Recommendations, page 23-24.

- Regions of the state with higher need for adolescent alternatives should be identified and targeted. The CMHI Alternatives Study currently in progress under contract to CDHS should have detailed results available in April 2001 that can be used to determine areas with fewer adolescent alternatives. Some preference may be given to Northern and Western Colorado given the distance issues confronted by adolescents and their families from those areas using the two Front Range Institute programs. This may help divert some additional current Institute use to more geographically accessible alternatives. However, other regional factors should also be weighed.

- Evidence-based models of care should be required. These would include nationally demonstrated intensive community-based models such as Multisystemic Therapy (MST), as well as local models such as North Range Behavioral Health's Acute Treatment Unit. Given the demonstrated need for services targeting youth with mental health diagnoses within the juvenile justice system,[25] it is particularly recommended that certified MST services be funded. Certified MST services – as opposed to less rigorous, but intensive home-based interventions – are clearly superior in their outcomes for youth with juvenile justice needs compared to alternative interventions.[26]

- The array of payers for persons served by the new services could be the same as those for persons currently served by the adolescent inpatient units in order to maintain current funding levels. However, since CMHI adolescent inpatient capacity will be maintained

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[25] See Appendix I, Recommendations, page 23.

[26] Citations include:

Washington State Institute for Public Policy. (January, 1998). Watching the bottom line: Cost-Effective interventions for reducing crime in Washington. Olympia, WA: Seminar 3162 (pp. 1-6), The Evergreen State College.

Henggeler, S.W., Pickrel, S.G., & Brondino, M.J. (1999). Multisystemic treatment of substance abusing and dependent delinquents: Outcomes, treatment fidelity, and transportability. Mental Health Services Research. 1, 171-184.

Henggeler, S. W., Melton, G. B., Smith, L. A., Schoenwald, S. K., & Hanley, J. H. (1993). Family preservation using Multisystemic treatment: Long-term follow-up to a clinical trial with serious juvenile offenders. Journal of Child and Family Studies, 2, 283-293.

Borduin, C. M., Mann, B. J., Cone, L. T., Henggeler, S. W., Fucci, B. R., Blaske, D. M., & Williams, R. A. (1995). Multisystemic treatment of serious juvenile offenders: Long-term prevention of criminality and violence. Journal of Consulting and Clinical Psychology, 63, 569-578.

sufficient to serve current needs, these funds could be targeted by CDHS to enhance services for the non-Medicaid population. However, including Medicaid recipients allows access to federal funds that can leverage more services overall. Given the tension between these two competing priorities, it is recommended that CDHS use the results of the April 2001 CMHI Alternatives Study to set priorities for payer types.

Recommendation II-A-3 – Raise fees charged to third party payers, especially Medicaid, to adequately cover the cost of care. Although Medicaid revenue appears to be increasing as a percentage of overall revenue for both programs, the percentage of adolescent Medicaid recipients served continues to be dramatically higher than the percentage of Medicaid revenue underwriting program costs. While 85.9% (at CMHI-Fort Logan) and 73.3% (at CMHI-Pueblo) of bed days were utilized by Medicaid recipients in 1999-00, only 45.1% and 42.8% of revenue, respectively, came from Medicaid sources. State General Funds appear to be subsidizing a large percentage of the costs expended for Medicaid recipients. Fees should be raised to cover the per day costs. The plan discussed in the financing section below to shift Medicaid charges to a cost-based methodology would allow for much of this to be accomplished without undue impact on the State Medicaid Program or MHASAs.

Adult Psychiatric Inpatient Services

Currently, the Institutes provide adult psychiatric inpatient services with 247 beds across nine units. CMHI-Pueblo operates 126 beds across three 32-bed adult units and a 30-bed specialized unit for persons with co-occurring mental health and substance abuse disorders (the Circle Program). CMHI-Fort Logan operates 121 beds across five units ranging in size from 21 to 27 beds. There is consistently high demand for these beds, with current combined average occupancy at 93.9%. 212 of these beds (all except for the 30 CMHI-Pueblo Circle Program beds and 5 beds reserved for persons who are deaf or hard of hearing at CMHI-Fort-Logan) are allocated on a regional basis to 17 community mental health center (CMHC) catchment areas. CMHCs manage access to these beds. Although all factors analyzed point to continued high use of these resources and overuse of allocated beds in some cases (especially at CMHI-Pueblo), it is

recommended that a multi-step approach to developing increased community alternatives be pursued with a goal of diverting some unnecessary use of the Institutes and decreasing pressure on current resources.

The initial steps of this plan center on the 33 beds currently allocated to catchment areas in Northern and Western Colorado, areas of the state where the distance to current Institute beds at CMHI-Pueblo negatively impact care in multiple ways.[27] For these six catchment areas, the distance between the CMHC and CMHI-Pueblo range from 168 to 272 miles. Persons in some outlying areas (e.g., northwestern Colorado) must travel much further. Recommendations include:

Recommendation II-B-1 – Develop local Institute alternative pilots in Northern and Western Colorado. These pilot programs will be funded with funds diverted from the CMHI-Pueblo inpatient programs, as described below. Key components of this plan include:

- **Recommendation II-B-1-a – Western Colorado Pilot** – CDHS should implement a proposal process to bring together a coalition of the three Western Colorado CMHCs, the MHASA for this region and at least one local general hospital (with psychiatric inpatient capacity and 27-10 certification) to develop an array of services at levels that can adequately serve at least 12 of the 17 adults currently and typically served at CMHI-Pueblo from the three catchment areas in Western Colorado: Colorado West, Midwestern, and Southwest Colorado. Up to five (5) allocated beds at CMHI-Pueblo will remain for these areas for persons who cannot be served in the community.

- **Recommendation II-B-1-b – Northern Colorado Pilot** – CDHS should implement a proposal process to bring together a coalition of the three Northern Colorado CMHCs, the MHASA for this region and Colorado Psychiatric Health (the inpatient psychiatric component of University of Colorado Hospital) to develop an array of services at levels that can serve at least 12 of the 16 adults currently and typically served at CMHI-Pueblo from the

[27] See Appendix I, Recommendations, pages 28-29, and Appendix III, Roles Report, pages 50-51.

three catchment areas in Northern Colorado: Centennial, Larimer, and North Range Behavioral Health. Up to four (4) allocated beds at CMHI-Pueblo will remain for these areas for persons who cannot be served in the community.

A minor modification to this plan could extend this capacity further. The inpatient beds at CPH could also be made available to more Denver metro area catchment areas willing to trade access to their beds at CMHI-Fort Logan. This would allow Northern Colorado to use both CMHI-Fort Logan and CPH, and offer a similar choice to other Denver metro area catchment areas. If this is feasible, the four remaining long-term beds currently recommended to remain at CMHI-Pueblo could be moved to CMHI-Fort Logan, allowing four more beds to be eliminated at CMHI-Pueblo, additional savings realized, and more treatment slots developed at CPH and alternatives in Northern Colorado.

- **Recommendation II-B-1-c – Fund the two pilots with start-up transition funds, continuing with savings from downsizing the three 32-bed CMHI-Pueblo adult inpatient units (excluding the Circle Program) to 24 beds each (24 bed total downsizing).** It is estimated that downsizing by 24 beds will result in $2.3 million in gross savings.[28] After lost third party revenue is subtracted from this amount, approximately $1.9 million in State General Fund savings will be available to fund alternatives.[29] It is estimated that these funds could leverage approximately $2.7 million in combined State General Fund and third party revenue to purchase 68 slots of community-based treatment in a model that assumes a mix of inpatient, residential and assertive community treatment (ACT) services.[30]

[28] See Appendix I, Recommendations, pages 41-42.
[29] See Appendix I, Recommendations, pages 42-43.
[30] See Appendix I, Recommendations, pages 43-44. ACT services were priced at $7,500 per year, which has been pointed out by some stakeholders to be a lower cost estimate. ACT slots can range as high as $10,000 per slot, which would decrease the amount of alternative slots from 68 to 57.

- **Recommendation II-B-1-d – Develop the local Institute alternative pilots through a collaborative, multi-stakeholder proposal process.** It is recommended that the proposal process require the following components:[31]

  - Partnerships with psychiatric facilities outside of state government. This is primarily a pragmatic recommendation to keep CDHS from having either to develop new facilities and administrative entities or to significantly rehabilitate existing facilities (e.g., the Grand Junction Regional Center, unused units at CMHI-Fort Logan).
  - A community-based partnership. The proposal should be developed by a partnership including MHASAs, CMHCs and hospitals familiar with both the populations typically served and the specific individuals currently served.
  - Consumer and family member involvement and oversight in the design and implementation.
  - Collaborative planning at various levels, including between CMHI and local leadership and clinical staff.
  - A credible, long-term commitment demonstrated by local providers to carry out in a local setting the historical mission of the Institutes to serve those Colorado residents with the greatest needs. CDHS should ensure that the local proposals to carry out these two pilots formally embrace this mission by requiring a specific commitment at the mission level to continue the historical work of the Institutes, as well as a contractual commitment that specifies standards and performance measures.
  - Ongoing care for the historical populations served by the Institutes must be included. The proposals should satisfy CDHS that there is in place a capacity comparable to that of CMHI-Pueblo. The core adult populations of the Institutes in need of long term care due to difficult to treat psychiatric conditions and those with highly acute and dangerous needs should have their care ensured, primarily through the nine (9) continued beds at CMHI-Pueblo for any consumers from these regions that cannot be adequately served in the community. Analysis of length of stay distributions for these six catchment areas suggests that this number of ongoing beds will be sufficient.[32] However, if CDHS can be satisfied by the proposals from these two regions that fewer than nine (9) beds at CMHI-Pueblo are needed (that is, local capacity or capacity at an alternative site such as CMHI-Fort Logan can be developed to safely and appropriately care for more than 24 people over time), this plan would support additional downsizing to increase the scope of the CMHI-Pueblo funds going to local alternatives.
  - Other groups of consumers in need of care currently offered by the Institutes due to a lack of alternatives should also be specified and their needs addressed. Sub-populations of this

[31] See Appendix I, Recommendations, pages 32-36 for more detailed discussion of these proposal components.
[32] See Appendix I, Recommendations, page 33-34.

group appear to include persons in need of short-term, acute inpatient care (commonly defined as stays of two weeks or less – overall, approximately 30% of adult inpatient consumers appear to fall into this group) and those current CMHI consumers served at the Institutes due to a lack of needed local alternatives such as residential care or assertive community treatment services. This also includes consumers with complex, sometimes dangerous conditions falling outside of the typical scope of mental health diagnoses, including persons with primary diagnoses of dementia, traumatic brain injuries, substance abuse disorders, developmental disabilities and those who pose a high level of danger due to their sexual perpetration behaviors, but who do not seem to suffer from a primary mental illness. Treatment of some of these consumers may require additional partnerships with Community Centered Boards (CCBs) for persons with developmental disabilities, substance abuse providers, and others. For Western Colorado, adding the Grand Junction Regional Center to the array of partners could also strengthen that proposal.

- Evidence-based approaches should be proposed. In addition to inpatient care, these could include nationally-demonstrated intensive community-based models such as assertive community treatment (ACT),[33] as well as local models such as North Range Behavioral Health's Acute Treatment Unit. ACT teams in particular could be used to extend in Northern and Western Colorado the current Colorado pilots of intensive community-based care to divert adults with serious mental illness from the correctional system.
- A formal multi-year program evaluation. This will be necessary to assure effectiveness and satisfy stakeholders of appropriate services. CDHS will also need to carefully monitor the implementation of these changes and use evaluation findings to support adjustments or changes to the implementation process. A specific evaluation of the process of change and its outcomes should be included in this effort. Provider participation in the evaluation should also be required. Specific components of such an evaluation are described in the oversight and evaluation section below.
- Specific performance standards should be built into the proposal process and contract, including: (1) At least an initial minimum number of long-term inpatient beds (Eight is suggested based on analysis of current utilization by these six catchments,[34] but the number should be determined jointly between CDHS and representatives of the local

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[33] Citations include:

Clark, R.E. (1997). Financing assertive community treatment. *Administration and Policy in Mental Health*, 25(2), 209-220.

Drake, R.E. et al. (1998). Assertive community treatment for patients with co-occurring severe mental illness and substance use disorder: A clinical trial. *American Journal of Orthopsychiatry*, 68(2), 201-215.

Essock, S.M. et al. (1998). Cost-effectiveness of assertive community treatment teams. American Journal of Orthopsychiatry, 68(2), 179-190.

Monroe-DeVita, M.B., & Mohatt, D.F. (1999). The state hospital and the community: An essential continuum for persons with severe and persistent mental illness. In W.D. Spaulding (ed.), The role of the state hospital in the twenty-first century. *New Directions for Mental Health Services*, no. *84* (Winter). San Francisco: Jossey-Bass. (pp. 85-98).

[34] See Appendix I, Recommendations, page 35.

community. The number should be sufficient to adequately serve current patients, but not so conservative as to stifle local initiative.) and (2) A minimum percentage for uninsured persons served based upon historical benchmarks of uninsured persons from these catchment areas served by the Institutes (data regarding individual Medicaid and Medicare status for CMHI-Pueblo consumers were not available to this study).

- The cost of new services in the community for persons with Medicaid should not be disproportionately borne by CMHCs or MHASAs. Funding for Institute adult inpatient services for Medicaid recipients is not part of the historical base underlying current CMHC contracts or MHASA rates. Estimates of new costs are provided in Appendix I.[35]
- CDHS should reserve the right to seek the desired capacity through a competitive Request For Proposals (RFP) process if a direct contracting process does not sufficiently satisfy the goals described above. A competitive RFP is discouraged given the vulnerable populations involved in this pilot process. Where CDHS has existing relationships with local Northern and Western Colorado organizations that have established clinical relationships with the persons served by the Institutes (e.g., CMHCs, MHASAs), building upon these in a collaborative manner seems preferable to the increased uncertainty of a competitive RFP process. However, if acceptable proposals are not offered to CDHS, a competitive RFP can offer a sound alternative to direct contracting.

The timeline recommended for implementing these recommendations is 27 months. This would involve:

- Three months of planning at the state and local levels.
- Six months to initiate community alternatives.
- Six months to transition 8 beds of current usage to the local level, followed by a reduction of capacity of 8 beds.
- Six months to transition an additional 8 beds of current usage to the local level, followed by a reduction of capacity of 8 additional beds.
- Six months to transition the final 8 beds of current usage to the local level, followed by a reduction of capacity of the 8 final beds.

- **Recommendation II-B-1-e – Fund the initial development of alternatives with one-time funding.** The development of community alternatives prior to the elimination of any current Institutes beds will require additional funds. It is recommended that one-time funds across the three fiscal years necessary to implement this plan be identified. However, extending the

[35] See Appendix I, Recommendations, page 43-44.

timeline from 27 to 54 months[36] would allow one time funds to be repaid prior to full development of community alternatives, resulting in a cost-neutral process over that 54 month period (that is, additional funds expended in the first 39 months would be repaid prior to full development of community alternatives beyond those necessary to close the 24 CMHI-Pueblo beds). See Appendix I for a detailed overview of such a model.[37] This 54 month timeline is included in the integrated timeline section at the end of this plan.

In addition to the two primary advantages of alleviating the negative effects of distance to care for these six catchment areas and providing a first step toward the development of community alternatives, this plan has been designed to include four additional advantages. A full discussion of the advantages and disadvantages of this plan is provided in Appendix I, but the four key additional advantages are as follows:[38]

- The plan will reduce adult unit sizes to more appropriate levels that could improve quality of care. It is generally agreed that units closer in size to 20 beds are preferable for patient care, as opposed to larger units. Although more savings could be achieved by closing an entire unit, this is not recommended given the opportunity to improve care for all adults served in the CMHI-Pueblo program by downsizing to create three 24-bed units.

- Colorado Psychiatric Health (CPH) oversight of Institute services can be piloted. The recommendation for Northern Colorado to specifically partner with Colorado Psychiatric Health (CPH) is related to the governance recommendations described later in the Operational Plan. Given the statewide mission of University of Colorado Hospital and CPH, as well as the experience base of CPH serving public sector populations, this appears to be clinically advantageous. It also offers an opportunity to move step-wise toward a new governance model that could be advantageous for the Institutes as a whole, as described below in the administrative section.

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[36] The Recommendations Report proposed a 45-month period. This has been extended by six months to 51 months to allow more time for the local proposal development process. See the Timeline at the end of the Operational Plan.

[37] Appendix I, Recommendations, pages 43-47.

[38] See Appendix I, Recommendations, pages 30-31 and 48-50.

- Pressure on the allocation system could be reduced. To the extent that Northern and Western Colorado can stay within their bed allocations by serving more consumers locally than the 24 beds of reduced capacity, significant pressure would be reduced on the other catchment areas using CMHI-Pueblo.

- Privatization offers advantages. Privatization offers the opportunity to provide care outside of the state budgeting, personnel and procurement regulations, advantages clearly outlined in the two major previous reports making recommendations on the future of the two Institutes (the 1996 **Performance Audit: Impact of Managed Care on the State Mental Health Institutes**[39] and the 1996 **Final Report**[40] by the Commission on the Future of the Institutes). These advantages are discussed in more detail below in the Administrative section focusing on governance. The mixed, but overall positive, record of success of privatization efforts in Colorado and nationally have been clearly documented in the 1997 report of the Commission of Privatization to the Colorado General Assembly entitled **Promoting a More Competitive Government**. The experience of CDHS in particular managing successful privatization efforts was clearly documented in the report.[41]

Recommendation II-B-2 – CDHS should work with metro area MHASAs and CMHCs to reverse the three-year trend of increasing percentages of adults with Medicaid served by CMHI-Fort Logan's adult inpatient units. The actual number of Medicaid bed days at CMHI-Fort Logan has increased by 28.7% over the last three fiscal years (from 17,756 to 22,857 days). This increase has been driven by all of the CMHI-Fort Logan catchment areas to varying degrees, with the exception of Jefferson County.[42] Given the limited funds available for persons without Medicaid detailed throughout this report, it is recommended that historical levels be reestablished or that some alternative mechanism be developed to reestablish needed care for

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[39] State of Colorado, Office of the State Auditor. (1996).
[40] Commission on the Future of the Colorado Mental Health Institutes. (1996). Final Report: Commission on the Future of the Colorado Mental Health Institutes. State of Colorado.
[41] Commission on Privatization. (September, 1997). Promoting a More Competitive Government: A report to the General Assembly by the Commission on Privatization. State of Colorado, Department of Personnel / General Support Services: Denver, CO.
[42] See Appendix I, Recommendations, page 40.

persons without Medicaid. One important variable noted by the regional mental health leaders focus group (which included MHASA representatives) is the perception of increased demands upon the capitated mental health system that have led to cost-overruns and the need to manage funds more tightly. It is not uncommon for strict management in one system without commensurate management in another, to result in increased use of the less strictly-managed system's resources. The particular consequence needs to be rectified.

Child Psychiatric Inpatient Services

Currently, child psychiatric inpatient services are provided for the entire state through the 16-bed Children's Unit at CMHI-Fort Logan. There is consistently high demand for these beds, with current average occupancy at 90.6%.[43] Most children are served in 30 days or less (53%) and 25% stay more than two months, primarily due to a lack of appropriate discharge placements.[44] The acuity level of child consumers seems to be increasing, based upon increasing rates of involuntary treatment and dangerousness.[45]

Overall, unit size seems appropriate, although the high level of occupancy and increasing acuity underscore the need for increased staffing described below in the staffing component of the Operational Plan. Additionally, while the same general observations regarding travel distances can be made for children's services as for adult services, the number of children in need of such services statewide is insufficient to support a second program outside of the Denver metro area. As a result, proximity in the center of the highly populated Front Range seems most appropriate. To support the ongoing viability and effectiveness of this program, the following recommendations are offered:

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[43] See Appendix III, Roles Report, page 19.
[44] See Appendix III, Roles Report, page 24.
[45] See Appendix III, Roles Report, pages 15-17.

Recommendation II-C-1 – Increase training and support of staff commensurate with the increasing percentages of child consumers with involuntary and endangering treatment needs.

Recommendation II-C-2 – Increase the fees charged to Medicaid sources, given that currently 77.4% of bed days are used by Medicaid recipients and only 60.9% of revenues come from Medicaid sources.[46]

Recommendation II-C-3 – Increase collaboration with other child inpatient programs such as The Children's Hospital, given the low number of child inpatient resources in Colorado and the need to maximize collaboration and possible development of new services.

Geriatric Psychiatric Inpatient Services

Geriatric psychiatric inpatient services are provided through three programs: two 30-bed geriatric units at CMHI-Pueblo and one 25-bed geriatric unit at CMHI-Fort Logan. There is consistently very high demand for these beds, with current combined average occupancy at 95.4%.[47] Half of older adults are served in 30 days or less (51%) and 30% stay more than two months, primarily due to a lack of discharge placements.[48] The acuity level of older adult consumers has been continuously high at CMHI-Pueblo, but is decreasing at CMHI-Fort Logan, based upon increasing rates of involuntary treatment and dangerousness.[49]

The same general observations regarding distance can be made for older adult services as for adult services. Despite the fact that last year CMHCs were allowed to use either Institute's geriatric program as available, over two-thirds of current beds are located at CMHI-Pueblo. Northern and Western Colorado use significantly less geriatric inpatient resources than they do of overall CMHI-Pueblo allocated adult resources (they had only one admission to CMHI-Fort

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[46] See Appendix I, Recommendations, page 52-53.
[47] See Appendix III, Roles Report, page 22.
[48] See Appendix III, Roles Report, page 27-28.
[49] See Appendix III, Roles Report, pages 13-18.

Logan). The six catchment areas in Northern and Western Colorado comprised a combined 16.5% of CMHI-Pueblo geriatric usage in 1998-99 and 21.3% in 1999-00. Usage of adult allocated beds in those same years was 39.1% and 35.3%, respectively.

Analysis of length of stay and diagnostic information, as well as analysis of the distribution of community alternatives and input from stakeholders suggests that needed alternatives for older adult consumers would involve, for many current consumers, secure nursing homes with dedicated mental health expertise. Development of community alternatives to improve the situation for Northern and Western Colorado consumers is therefore seen as more complicated for these older adults. Therefore, the recommendations below are presented as secondary to the more immediately feasible recommendations described above for adult consumers. The following recommendations are offered:

Recommendation II-D-1 – Expand Northern and Western Colorado pilots to include current geriatric inpatient capacity for those areas. This recommendation would allow the pilots proposed above for adult consumers to include geriatric inpatient consumers and associated resources. In addition to the issues detailed for adult services, several additional issues will need to be addressed for these alternatives, including:

- Long-term placements for consumers with co-morbid medical conditions need to be developed. A review with Institute clinical leaders of the longer lengths of stay for older adult consumers (as well as focus group results) suggested that many older adult consumers would need intensive medical and psychiatric oversight not available in a typical nursing home placement. Additionally, the higher incidence of dementia documented for CMHI-Pueblo residents suggests that this issue would also need to be addressed. The geriatric resources of Colorado Psychiatric Health and the behavioral management expertise of the Grand Junction Regional Center would be potential sources of expertise in developing appropriate alternatives for older adult consumers. Additional partnerships with qualified nursing home providers may also be needed.

- The number of consumers who could be impacted by the addition of geriatric resources to the Northern and Western Colorado alternative pilots is difficult to determine, for several

reasons. First, Northern and Western Colorado consumers use far less geriatric inpatient resources on a percentage basis (21.3%) than they do of the allocated and more carefully monitored adult inpatient resources (35.3% – see Table 1 above). At first glance, this would suggest that fewer beds would be available for inclusion in the pilot. However, this may also be a function of the distance issue in that closer Front Range areas are using a significantly higher proportion of these unallocated geriatric resources. Determining appropriate capacity to assign to Northern and Western Colorado is therefore complicated. Past use may disadvantage Northern and Western Colorado; proportionate use would create difficulties for the Front Range areas currently relying on those facilities.

On the lower end, 20% of CMHI-Pueblo geriatric resources would represent 12 beds. On the higher end, 35% of CMHI-Pueblo geriatric capacity (an amount comparable to the adult inpatient allocation for these six catchment areas) would represent 21 beds. Using the per bed savings for adults calculated above as a rough point of comparison ($80,700 per bed annually) and assuming half the beds could eventually be transferred to the community, this would represent $484,000 to $847,000 in additional State General Funding for community alternatives. If leveraged with third party revenue at a rate comparable to the adult inpatient resources, this would result in $587,000 to $1,027,000 in funding for local alternatives, at fiscal year 1999-00 levels.

- Staging the geriatric component after the development of the adult inpatient alternatives may be preferable. This would allow for the development of additional partnerships. Staging implementation 24 months into the adult pilots is depicted in the integrated timeline at the end of the Operational Plan.

- The 12 to 21 bed reduction would allow the size of the current CMHI-Pueblo geriatric units to transition to a more appropriate size in light of the current trend toward smaller inpatient units managing increasingly more difficult consumers. A 12-bed reduction would allow the two 30-bed units to be reduced to two 24-bed units. A 20-bed reduction would allow for two 20-bed units.

Recommendation II-D-2 –Increase fees and/or collections as needed for Medicaid recipients at the CMHI-Fort Logan geriatric program, given that currently 67.6% of bed days are used by Medicaid recipients and only 5.0% of revenues come from Medicaid sources.[50] This discrepancy does not exist for the CMHI-Pueblo program (20.3% of bed days are used by Medicaid recipients and 19.7% of funding comes from Medicaid). Input from CMHI-Pueblo staff may be helpful in resolving this subsidy of care for Medicaid recipients with State General Funds.

Medical / Surgical Service (MSS) Unit Inpatient Services

Medical / Surgical Services (MSS) Unit inpatient services are provided through a 20-bed general hospital program at CMHI-Pueblo. Although usage is up somewhat in the current year from the past two years, occupancy is only 45.6% year to date through 12/31/00.[51] The average daily attendance year to date (9.1 beds) is 37.6% below the average daily attendance of 14.5 beds in 1993-94 (documented in the 1995 **Medical / Surgical Services Study for the Mental Health Institutes at Pueblo and Fort Logan**[52] performed by Deloitte & Touche). The 1995 study also documented the value of MSS Unit services when compared to their cost in the community. The current study also found this. Despite lower utilization, per procedure costs continue to be competitive. However, when total medical costs on a per civil bed day basis at CMHI-Pueblo were compared to those at CMHI-Fort Logan, CMHI-Pueblo costs were 247% higher in 1999-00.[53]

The 1995 study also stressed that the continued viability of the unit depended on continued use and, especially, continued or increasing use by the Department of Corrections (DOC). DOC bed days are down 23% for the current year compared to last year (714 annualized days versus 922

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[50] See Appendix I, Recommendations, page 55-56.
[51] See Appendix I, Recommendations, pages 57-58.
[52] Colorado Department of Human Services, Office of Direct Services (1995). Medical/Surgical Services Study for the Mental Health Institutes at Pueblo and Fort Logan. State of Colorado.
[53] See Appendix I, Recommendations, pages 61-62 for a detailed overview of these comparisons.

last year). Same day surgeries for DOC consumers are down even more sharply. Use through 12/31/00 totaled only 56 surgeries annualized versus 247 the previous year (a drop of 77%). While changes in how same day surgeries are tracked may account for some of this drop, there clearly is decreased DOC use in the current year.[54]

Complicating the development of recommendations regarding these lower levels of use by DOC and overall are the many other uses to which MSS Unit resources are currently applied. While these uses fall outside the services that CMHI-Pueblo includes in its cost reports, the uses are significant and suggest that the MSS Unit serves a broader function than the inpatient bed day and same day surgery data suggest.[55] Also, when a possible downsizing was discussed with unit and CMHI-Pueblo leadership, there were questions raised about the viability of the unit if it were reduced significantly. Furthermore, this unit serves the medical needs of DOC, forensic and civil consumers with acute behavioral and dangerousness issues. These issues are difficult to manage safely in a community setting. Combined, these complicating factors make it difficult to offer specific recommendations regarding changes to the unit within the limitations of this study. The following recommendation is therefore offered:

Recommendation II-E-1 – A zero-based budget development process should be undertaken to include only necessary costs and to develop a budget which reduces costs to levels more comparable to those of CMHI-Fort Logan (adjusted for any documented differences in medical patient severity). The need for efficiencies is clear. Underutilization of current inpatient and surgical resources is apparent and overall medical costs for civil psychiatric inpatient consumers at CMHI-Pueblo are more than double the medical costs for civil psychiatric inpatient consumers at CMHI-Fort Logan. However, it seems equally clear that alternative medical facilities are not readily available due to the high level of danger posed by many current MSS patients, particularly those from DOC and forensic settings, and higher per procedure and per day costs at external facilities. Also, given the co-morbid medical conditions experienced by many inpatient consumers at both Institutes, a strong medical capacity of some sort is critical.

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[54] See Appendix I, Recommendations, pages 57-59 for a more detailed discussion of this trend.
[55] See Appendix I, Recommendations, pages 58-59 for a detailed overview of these alternative uses.

Therefore, a budget process that begins with the core needs served by the unit and that builds a cost basis sufficient only to meet that level of need seems necessary to achieve efficiencies while maintaining this important medical resource. It is also recommended that this process be conducted by an entity external to CDHS in order to maximize the objectivity of the process.

The review should also examine the relationship of the MSS Unit to DOC. Currently, the unit's viability depends to a large degree on DOC revenue. When discussing this year's decrease in DOC usage with CMHI-Pueblo staff, it was observed that DOC sometimes does not use the MSS program if its budget is tight. While this observation could not be verified within the scope of the study, it is certainly the case that varying levels of DOC utilization and associated revenue threaten the continued viability of this unit. Steps to firm up the relationship between the unit and DOC should be examined, ranging from securing more dependable funding to moving the unit more under the control and responsibility of DOC.

Mountain Star Residential Treatment Center (RTC) Services

Residential Treatment Center (RTC) services are provided through the 20-bed Mountain Star program at CMHI-Fort Logan. Use of this program has been consistently high since it came up to full capacity in 1997-98. Occupancy was 94% in 1999-00.[56] Most residents are male, and the percentage of Hispanic and multi-racial residents has increased over time.[57] The major issues related to this program involve reimbursement. While Medicaid reimbursement exceeded direct costs in 1999-00 (an important issue, as the agreement to develop the unit was that new third party revenues would exceed direct costs and thereby partially defray existing overhead),[58] it appears that there is room to increase third party revenue (especially Medicaid receipts) further. In 1999-00, while 96.2% of bed days were used by Medicaid recipients, only 36.3% of revenue

[56] See Appendix III, Roles Report, pages 22-23.
[57] See Appendix III, Roles Report, pages 6 and 8.
[58] See Appendix I, Recommendations, page 63-65.

came from Medicaid sources.[59] While counties cover a portion of the additional costs, this was apparently largely due to the low rate charged for Medicaid treatment services.[60] The following recommendation is offered:

Recommendation II-F-1 – Raise fees charged, especially Medicaid fees, to better match costs. Analysis of current year costs should be completed at year end to determine a rate that more closely matches actual expenses. Although higher charges may increase expenditures in other areas of state government (e.g., child welfare, the state Medicaid program), it is the perspective of this plan that increasing Medicaid revenue allows access to the approximately 50% draw-down of federal funds, an advantage not offered by 100% State General Funding. Additionally, neither exceptionally high nor exceptionally low fees make sense given that state funds underwrite all sources of revenue. Accurate fees seem to be in the best interest of the state in that they accurately allocate costs to various state programs.

Discussions of this issue with CDHS and CMHI stakeholders suggested that the lower rate was not simply a function of cost report data needing to be conveyed to the state Medicaid program (Department of Health Care Policy and Financing). Policy decisions in the CDHS Office of Children, Youth and Families overseeing child welfare functions were seen as the main driver of allowed fees being below costs. This report recommends that CDHS take whatever steps are necessary among its different offices to make more accurate its program cost accounting and maximize federal fund availability.

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[59] See Appendix I, Recommendations, page 64-65.
[60] See Appendix I, Recommendations, page 65.

III. Financing Recommendations

Financing has been addressed throughout the earlier sections of this plan, particularly the low level of mental health funding for persons without insurance, opportunities to increase overall services with targeted reallocation of Institute resources to the community, and apparent instances of subsidizing the care of Medicaid recipients with 100% State General Funds. Overall findings regarding financing were also offered in earlier reports, as well as recommendations regarding the overall financing of the Institutes. These findings include:

- An estimated need for approximately $43 million in additional community spending for mental health services for uninsured persons in Colorado to bring funding for these persons to half the level of funding for persons with Medicaid.[61] When stakeholders reviewed these estimates, it was pointed out that CMHCs had purposely diverted significant amounts of State General Funds to draw down Medicaid funds throughout the 1980s and early 1990s. The implication was that providers were to some degree responsible for the current disparity between Medicaid and non-Medicaid funding. While a review of these issues was beyond the scope of this study, it seems clear that current Medicaid costs per consumer served are not excessive (with planned Medicaid reductions in capitation payments of over $7 million from current levels anticipated for MHASAs next year and focus group input that Medicaid funding is no longer sufficient to pay for needs beyond those of Medicaid consumers). It is also clear that per-consumer Medicaid spending is 435% greater than per-consumer spending for non-Medicaid consumers. Analysis of community alternatives suggested that it would cost $34.7 million annually to develop comparable levels of alternatives for key evidence-based approaches alone (e.g., MST, ACT and similar approaches) statewide.[62]

- Capitation as a mechanism for moving control of Institute funding appears to have only limited applicability. Through the MHASA structure, adding funds to the capitated rates

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[61] See Appendix I, Recommendations, pages 66-67.
[62] See Appendix I, Recommendations, pages 77.

offers a ready-made and sound vehicle for passing funds to the community level for Medicaid recipients currently served by the Institutes. Capitating funds for non-Medicaid consumers does not seem necessary, given the ability to contract through CMHCs and other community providers directly for such services. Additionally, capitation is seen as problematic when applied to populations without clearly defined eligibility parameters or absent comprehensive historical cost data, both of which pertain to non-Medicaid consumers.[63]

- Community control of Institute funding in general was examined.[64] The states of California and Ohio currently have some measure of local control of their state hospital funds. Given the complexity of such approaches, wholesale movement of Institute funding to the local level is seen as contraindicated. Instead, maintaining direct state funding for a core portion of the Institutes and moving to community control only those funds needed to develop community alternatives for current Institute consumers who would be more appropriately served in the community is recommended as the preferred approach for Colorado. While local areas might use hospital alternative funds to purchase some Institute services if more cost-effective, the primary purpose of the movement of funds to the community is the development of local alternatives.

- Medicaid revenues were examined. In addition to the specific subsidies of Medicaid services by State General Funds noted above in every area of Institute psychiatric programming examined, two current CDHS strategies to enhance federal Medicaid revenue were examined. The first is a proposal to shift Institute Medicaid charges to a cost-based methodology from a competitive process. The second was the effort to get a waiver from the current IMD exclusion that currently prohibits payment by Medicaid for most Institute adult inpatient services. CDHS estimates are that these approaches could increase annual federal revenue to the Institutes and thereby free up $1.4 million and $3.7 million, respective to the

[63] See Appendix I, Recommendations, pages 71-72.
[64] See Appendix I, Recommendations, pages 72.

two strategies. These State General Funds could then be allocated for community alternatives.

Based on these analyses, the following recommendations are offered:

Recommendation III-A – Enhance Medicaid revenue by an estimated $5.1 million annually through the following mechanisms:

- **Recommendation III-A-1 – Change Medicaid fees to a cost-based methodology, as proposed by the Institutes.** This is described above.

- **Recommendation III-A-2 – Continue to pursue an IMD waiver to allow Medicaid payment for some adult inpatient services.** If the current waiver request is denied, it is recommended that a waiver request be resubmitted, modeled on Arizona's recently successful IMD waiver request.[65]

Recommendation III-B – Prevent Institute safety net funding from eroding further by maintaining current funding levels over time through annual adjustments for inflation and population growth. Funding for the Institutes and the overall mental health system has not kept pace with population growth and inflation.[66] New advances in psychotropic medications, the realization of efficiencies in the Medicaid mental health system, increased rationing of care through the CMHC system, and increasing efficiency and pressure in the Institutes have largely allowed the system to meet basic needs. However, a period of time in which funding simply remains constant (adjusted for inflation and population growth) would facilitate continued evolution of the system toward enhanced community alternatives and more cost-effective service overall.

Recommendation III-C – Initiate a multi-year transition to community control of funding for 40% of remaining Institute adult capacity and 35% of remaining Institute older adult

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[65] See Appendix I, Recommendations, pages 80-81.
[66] See Appendix III, The Future Role of the Mental Health Institutes in Colorado (Future Role), pages 48-49.

capacity,[67] resulting in a combined $25.0 million annually in State General Funds available to the community by the end of seven years which can leverage an estimated $34.5 million in annual new funding for community alternatives. A significant amount of current Institute capacity appears to be serving consumers who could be served as well or better in community or other alternative settings. In addition, service in community settings is typically less expensive than state hospital inpatient care and can leverage more third party funding in general. To protect the viability of the Institutes, core funding (an estimated 60% of current adult inpatient funding,[68] 65% of current older adult inpatient funding,[69] 85% of current adolescent inpatient funding,[70] and 100% of current child inpatient funding, adjusted over time to keep pace with inflation and population growth) would continue to be provided directly from the state. However, funding associated with care that could be better provided in the community would move to local control. To the extent that additional federal funding (e.g., Medicaid) can be realized for Institute programs, additional resources could be diverted to the community. Key features of this recommendation include:

- Similar requirements to those articulated above in the adult inpatient section for the transition of some CMHI-Pueblo resources to Northern and Western Colorado are recommended. These requirements address maintenance of mission, continued service to the uninsured and those persons most in need of care, a formal program evaluation of the transition, collaboration with consumers and family members, and required use of evidence-based approaches.

- Up-front funding to build alternatives is recommended prior to moving any funds to local control. The community alternatives survey developed referenced above[71] (or a comparable

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[67] This refers to capacity outside of the proposed pilots for Northern and Western Colorado. For adults, 113 beds represents the 24 beds diverted to the Northern and Western Colorado pilots, plus 89 (40%) of the remaining 223 beds. This is 46% of current Institute adult capacity. For older adults, the model described here estimates 16 beds (average of 12 and 21), plus 24 (35%) of the remaining 69 beds. This is 47% of current Institute geriatric capacity.

[68] Not counting the Northern and Western Colorado pilots.

[69] Not counting the Northern and Western Colorado pilots.

[70] The amount remaining following the downsizing proposed above.

[71] See Appendix I, Recommendations, pages 100-101.

approach) should be used in conjunction with a broader evaluation process that incorporates stakeholder perspectives and data from specific consumers served, in order to determine the adequacy of alternatives prior to moving Institute funding to local control. The determination of adequacy should look at both quantitative capacity and the quality of those services.

- A multi-year transition with the following steps is recommended. To be conservative, cost-neutral time frames are described. If new up-front funding could be identified that would not need to be paid back through later savings, these timeframes could be accelerated. The following steps are illustrative and will need to be refined to fit departmental and legislative planning timelines. They are also described in a Gannt chart in the integrated timeline section at the end of the Operational Plan. The step-wise approach includes the following components:

  1. Pilot the approach with Northern and Western Colorado. The plan described earlier for moving some resources to Northern and Western Colorado over a 54 month period would allow for a smaller-scale pilot of this approach. The entire 54 month period would not be needed before moving to the next step. Instead, sufficient time should be allowed to gather and analyze evaluation results to determine if the pilots are successful and also to develop plans needed to support the next step. In the proposed plan,[72] after 24 months 26 local beds and treatment slots would have been developed and 16 would have been in operation for over a year. For the current Operational Plan, 24 months has been defined as the point at which the next step should be able to be taken if implementation is successful. See Table 2 below. Years 1 and 2 are broken down by quarter to detail the development of the Northern and Western Colorado pilots.

  2. The second step would involve extending the Northern and Western Colorado pilots to include geriatric resources. In the 24 months prior to start-up, detailed planning could begin. For an overall cost-neutral development process, 24 months for the entire geriatric transition seems sufficient. Accrued savings from the population-growth increases for

[72] See Appendix I, Recommendations, page 47.

geriatric services can be used to develop the initial geriatric resources in order to keep this extension cost-neutral. See Table 3 below.

3. Once the Northern and Western Colorado adult pilots have been underway for 24 months and if evaluation results are positive, the third step would involve initiation of a statewide transition of 40% of adult inpatient funding for areas outside of Northern and Western Colorado. This transition would involve several steps, similar to those used in the Northern and Western Colorado pilots, but adjusted the 24 month period using information from the formative process evaluation conducted for these pilots. Sub-steps would include:

   a. Fund new community-based alternatives first. As was done in Oregon in the mid-1990s, alternatives should be developed and deemed adequate prior to any shift of control to local entities. This would need to be staged to achieve a cost-neutral implementation. A seven-year model for a cost-neutral implementation (initial funds would be paid back by the end of the second year prior to full development of community alternatives) has been proposed and is presented in Table 2 on the following page. Years 1 and 2 are broken down by quarter to detail the development of the Northern and Western Colorado pilots. See Appendix I for a fuller description of this model and detailed review of its assumptions.[73]

   b. Transfer funds by area of the state after CDHS approval of evaluation findings regarding the adequacy of alternatives in each area. A continued step-wise approach will let those areas that are more prepared move first, while other areas can learn from their experience and prepare for their own transition.

[73] See Appendix I, Recommendations, pages 45-47 and 68-70.

Table 1: Seven-Year Cost-neutral Model for Creation of New Adult Community Alternatives Through CMHI Downsizing

	Quarters 1 - 2	Quarters 3 - 4	Quarters 5 - 6	Quarters 7 - 8	Year 3	Year 4	Year 5	Year 6	Year 7
Available Adult SGF[74]	$26,158,437		$27,563,145		$29,043,286	$30,602,910	$32,246,287	$33,977,912	$35,802,526
Inflation factor	0		2.5%		2.5%	2.5%	2.5%	2.5%	2.5%
Population growth factor[75]	0		2.8%		2.8%	2.8%	2.8%	2.8%	2.8%
SGF - CMHI adult inpatient[76]	$25,835,613		$24,641,354		$24,797,563	$25,387,981	$20,782,719	$18,598,172	$16,295,541
SGF - Adult Comm. Alternatives - Northern & Western Colorado[77]	$ 100,300	$ 389,210	$ 389,210	$ 874,711	$ 1,749,422	$ 1,932,766	$ 1,981,085	$ 2,030,612	$ 2,081,378
SGF spent on Adult Comm. Alternatives - Rest of state	$ -	$ -	$ -	$ -	$ 2,350,000	$ 3,250,000	$ 9,500,000	$13,370,816	$17,425,607
Available SGF less SGF spent	$(100,300)	$ (66,375)	$ 256,459	$ (229,043)	$ 146,301	$ 32,163	$ (17,518)	$ (21,688)	$ -
Cumulative SGF balance	$(100,300)	$(166,675)	$ 89,784	$ (139,259)	$ 7,042	$ 39,206	$ 21,688	$ -	$ -
Remaining CMHI adult beds	247	239	231	223	223	223	178	156	134
% original CMHI adult beds	100%	97%	94%	90%	90%	90%	72%	63%	54%
% non-pilot adult beds	100%	100%	100%	100%	100%	100%	80%	70%	60%
CMHI beds diverted to comm.	0	8	16	24	24	24	69	91	113
% original CMHI adult beds	0%	3%	6%	10%	10%	10%	28%	37%	46%
% non-pilot adult beds	0%	0%	0%	0%	0%	0%	20%	30%	40%
Beds/slots created in comm.[78]	16	26	26	34	137	169	366	481	595
Comm. Spending (SGF+3rd pty)	$ 139,500	$ 541,324	$ 541,324	$ 1,216,574	$ 5,701,596	$ 7,208,343	$15,968,230	$21,420,758	$27,130,887

[74] Based on FY2000 State General Fund (SGF) revenue for both Institute adult inpatient programs, adjusted each year beginning in Year 2 for inflation and population growth.

[75] Average of annual statewide population growth in 1997-98, 1998-99, 1999-00.

[76] Average FY2000 cost per CMHI adult bed (adjusted over time for inflation) multiplied by remaining number of CMHI adult beds.

[77] Estimated SGF available through plan to close 24 beds at CMHI-Pueblo, adjusted over time for inflation

[78] Estimated by dividing SGF spent on community (N&W CO plus rest of state) by average bed/slot SGF cost estimated in earlier model for N&W CO (adjusted over time for inflation)

4. Once the viability of the geriatric components of the Northern and Western Colorado pilots is evaluated, 35% of remaining geriatric resources can be added to the statewide adult resource transition. The model developed to illustrate costs for the adult transition was adapted to estimate savings and available funds for local alternatives given a shift of 35% of remaining Institute geriatric inpatient funding. It is estimated that approximately $5.5 million in additional State General Funding could be transitioned to support community alternatives, leveraging an estimated $7.6 million for community services. Table 3 on the following page presents this model, using the same seven-year time-table that was used for the adult funding transition presented in Table 2. Note that no alternatives are developed until Year 4 and downsizing does not begin until Year 5, to allow for accrued population-growth increases to fund initial geriatric community alternatives to preserve cost-neutrality.

Table 2: Seven-Year Cost-neutral Model for Creation of New Geriatric Community Alternatives Through CMHI Downsizing

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Available Geriatric SGF[79]	$ 7,204,976	$ 7,591,883	$ 7,999,567	$ 8,429,144	$ 8,881,789	$ 9,358,741	$ 9,861,306
Inflation factor	0	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Population growth factor[80]	0	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%
SGF spent on CMHI adult inpatient[81]	$ 7,204,976	$ 7,385,100	$ 7,565,225	$ 6,287,401	$ 5,468,577	$ 4,934,879	$ 4,371,937
SGF spent on Geriatric Community Alternatives - Northern & Western CO[82]	$ -	$ -	$ 480,000	$ 1,300,000	$ 1,332,500	$ 1,365,813	$ 1,399,958
SGF spent on Geriatric Community Alternatives - Rest of state	$ -	$ -	$ -	$ 1,000,000	$ 2,050,000	$ 3,091,631	$ 4,089,411
Available SGF less SGF spent	$ -	$ 206,783	$ (45,657)	$ (158,257)	$ 30,712	$ (33,581)	$ -
Cumulative SGF balance[83]	$ -	$ 206,783	$ 161,125	$ 2,868	$ 33,581	$ -	$ -
Remaining CMHI geriatric beds	85	85	85	69	59	52	45
% of original CMHI geriatric beds	100%	100%	100%	81%	69%	61%	53%
% of non-pilot CMHI geriatric beds	100%	100%	100%	100%	85%	75%	65%
CMHI geriatric beds diverted to comm..	0	0	0	16	26	33	40
% of original CMHI geriatric beds	0%	0%	0%	19%	31%	39%	47%
% of non-pilot CMHI geriatric beds	0%	0%	0%	0%	15%	25%	35%
Geriatric beds/slots created in comm.[84]	0	0	16	75	108	139	168
Geriatric comm. spending (SGF+3rd party)	$ -	$ -	$ 667,598	$ 3,198,908	$ 4,704,480	$ 6,199,543	$ 7,634,775

[79] Based on FY2000 State General Fund (SGF) revenue for both Institute geriatric inpatient programs, adjusted each year beginning in Year 2 for inflation and population growth.

[80] Average of annual statewide population growth in 1997-98, 1998-99, 1999-00.

[81] Average FY2000 cost per CMHI geriatric bed (adjusted over time for inflation) multiplied by remaining number of CMHI geriatric beds.

[82] Estimated SGF available through plan to close 16 beds at CMHI-Pueblo, adjusted over time for inflation

[83] Accrued savings in Years 1 – 3 are due to population-growth increases in Institute geriatric funding saved for community alternatives rather than new Institute beds.

[84] Estimated by dividing SGF spent on community by average bed/slot SGF cost estimated in earlier model for N&W CO (adjusted over time for inflation)

The following additional points are recommended for consideration as CDHS develops plans for transferring current Institute funding to local community alternatives:

- Use a regional, rather than a catchment area approach. Given the need to develop comprehensive local systems of care, larger regions seem preferable to the current 17 different CMHC catchment areas. The eight MHASAs, which were developed for such a purpose, would offer a set of pre-defined regions that the state already works with as separate systems of care. For the metro-Denver area, consolidation of MHASAs should also be considered in order to have a more comprehensive and coordinated set of hospital and community resources.

- Use separate funding mechanisms for Medicaid and non-Medicaid consumers. As noted above, the funds for Medicaid consumers can be added to the current MHASA rates.[85] It has also been observed that formal capitation does not seem feasible at the current time for non-Medicaid consumers. However, performance-based contracts for providing evidence-based local alternatives for non-Medicaid consumers can be entered into with an array of possible providers, including CMHCs, MHASAs and other community providers. To the extent it is deemed advisable, such contracts can also include provisions for managed care approaches including concurrent review and case management.

- Move the governance of the Institutes to an independent, quasi-governmental authority. The following section outlines a plan to move the Institutes to an authority model outside of the state budget, personnel and procurement systems. This step is critical to ensure the viability of the Institutes overall given the current competitive and fast-changing health care market. It will become even more important as the Institutes downsize to fund other community alternatives and begin to compete with other providers for a portion of the funds moved to the control of local providers.

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[85] See Appendix I, Recommendations, page 82.

IV. Administrative and Governance Recommendations

Analysis of administrative issues focused on two areas: the current administrative structure overseeing the Institutes and the larger issue of governance into the future. These are addressed in turn below.

Administration

Two primary areas were analyzed regarding the current administration of the Institutes: overall administrative staffing levels and the structure of CDHS oversight of the Institutes. Administrative staffing levels at the Institutes were analyzed by comparing Colorado's staffing levels to those of other states.[86] No state's administrative staffing level was viewed as a best practice. Instead, comparisons to other states were used as benchmarks against which to place Colorado's level of staffing in context.

Of the 27 states for which data were available, Colorado ranked 21st in the ratio of indirect (i.e., administrative) FTE to beds, with a ratio of 0.56 staff to each bed. Twenty states have higher ratios, six have lower ratios. Ratios range from a high of 1.89 (New Hampshire – ranked first) to 0.08 (Oregon – ranked last) staff to each bed. Colorado's administrative staffing levels overall are lower than those of most states surveyed. This observation does not endorse the specific administrative structure of the Institutes per se. Detailed analysis of workflow and identification of possible administrative efficiencies were beyond the scope of this study. The primary recommendations regarding governance below are of such scope that a complete review of all Institute administrative functions and their efficiency should be incorporated into their implementation.

The second issue reviewed was the structure of Institute oversight within state government.[87] Colorado is one of only two states in which oversight of the state psychiatric hospital is not integrated with oversight of the mental health system. To date this does not appear to have

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[86] See Appendix 1, Recommendations, pages 84-86.
[87] See Appendix 1, Recommendations, pages 86-87.

created significant difficulty, and the current study was itself an example of strong collaboration between the Office of Direct Services and the Office of Health and Rehabilitation Services. This positive relationship appears to be primarily a function of the specific individuals holding leadership positions in both offices and their key staff. It does not appear to be a function of the oversight design per se. Despite the fact that no current adverse effects are evident, the following recommendation is made:

Recommendation IV-A – CDHS should study the split of Institute and mental health system oversight and look for opportunities to consolidate state government authority over the overall mental health system with authority for the Institutes (or any ensuing contract with non-state governmental entities to provide some proportion of current CMHI services). CDHS should evaluate over time the potential advantages of such an opportunity, weighing this against the costs of such a transition. Structures ideally should transcend the individuals holding positions within them, and the current structure does not appear to offer any major advantage to outweigh the ongoing risk of conflicting policy and priorities. It should be noted that this recommendation has not been studied in detail and does not stem from any finding of inefficiency (e.g., potential cost savings) in the current design. Rather, the recommendation simply advocates for structural alignment of these two highly inter-related and mutually dependent policy areas.

Governance

The administrative analysis and recommendation for this study has focused upon the governance of the Institutes into the future. There was considerable consensus that a quasi-governmental authority model is needed for the Institutes to be able to compete effectively in the current health care marketplace. The key reasons underlying this consensus involve the enhanced flexibility to act organizationally outside the confines of the state government structure in terms of budgeting, personnel management, procurement and other matters. The consensus regarding this is evident as follows:

- The 1996 **Performance Audit: Impact of Managed Care on the State Mental Health Institutes**[88] and the 1996 **Final Report**[89] by the Commission on the Future of the Institutes both reviewed in detail the advantages of operating outside of the state budgeting system, state personnel system and state procurement system, as well as the advantages of being able to take on debt and make use of other financial management approaches. As part of state government, the Institutes must operate under conditions that were seen by the Commission and State Auditor as inhibiting the Institutes' ability to respond quickly and appropriately to changes in the health care environment. The State Auditor report noted the ability of an authority to retain governmental immunity as a quasi-governmental structure (reducing insurance costs), incur debt (by issuing revenue bonds), address personnel issues outside of the state personnel system, operate outside of the state's budgeting and appropriations process, and undertake joint ventures and mergers.[90]

- The examples of University of Colorado Hospital and Denver Health Authority, the other two major hospital systems in Colorado that used to be part of a governmental entity, support this notion. Both successfully transferred to a quasi-governmental authority model.

- CMHI staff who participated in the focus groups endorsed the idea of moving governance of the CMHIs to a quasi-governmental authority model, in order to improve the viability of the Institutes and help make a transfer of some funding control to the local level work.[91] In reviewing the governance recommendations presented in Appendix I, numerous stakeholders, including NAMI members, government staff from both the executive branch and legislative services, CMHI leadership, and representatives from CPH leadership and the Chancellor's Office of the University of Colorado Health Sciences Center (UCHSC) all endorsed the value of moving the Institutes to a quasi-governmental authority model.[92]

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[88] State of Colorado, Office of the State Auditor, 1996.
[89] Commission on the Future of the Colorado Mental Health Institutes. (1996). Final Report: Commission on the Future of the Colorado Mental Health Institutes. State of Colorado.
[90] See Appendix V, Summary of Colorado-Specific Documents, pages 7 – 10, for a summary of these two reports.
[91] See Appendix IV, Focus Group Report, page 42 and 45.
[92] See Appendix I, Recommendations, pages 5 and 90.

It appears equally clear that creating a new hospital organization and associated administrative entity would not be the most efficient use of funds. There is increasing concern, at both the executive and the legislative level in Colorado government, regarding the perceived proliferation of administrative entities and structures that seem to take funds away from direct services. Additionally, the cost of a transition and the possible inefficiency of small administrative structures form the primary obstacles in the way of moving forward a new authority model.

Merger with an existing authority offers an alternative that avoids the costs of creating a new authority. While this alternative presents challenges of its own, initial review with CDHS and CMHI leadership, legislative staff, staff in the Attorney General's office, NAMI representatives, other stakeholders, CPH leadership, and the Chancellor's Office of UCHSC suggested cautious endorsement of a step-wise, incremental process to explore this possibility. Specifically, it is recommended that CDHS explore the inclusion of all or some of the Institute programs in the University of Colorado Hospital.

In addition to avoiding the costs of developing a new authority, the University Hospital Authority has developed approaches to dealing with key transition issues. It has successfully developed a personnel system able to accommodate the state constitutional rights of state employees (this issue is discussed in more detail below), developed key support functions such as human resources and purchasing, and incorporated a statewide, public mission within a quasi-governmental authority.

Additionally, the model of Colorado Psychiatric Health's governance within the University of Colorado Hospital structure offers an approach to protecting diverse missions within an integrated health care organization. The primary concern voiced by family members and other stakeholders was the fear that an incorporation of the Institute mission within an existing large general hospital entity would lead to the dilution of that mission and an associated decrease in funding and care for consumers dependent on the Institutes. However, Colorado Psychiatric Health (CPH), the psychiatric services division of University of Colorado Hospital (UCH), offers an existing model that preserves an independent mental health mission within a larger hospital structure. CPH is a part of University of Colorado Hospital and relies on UCH's infrastructure (e.g., human resources, purchasing). However, it has an independent mission within the hospital

and its own superintendent (who is also chair of the UCHSC Department of Psychiatry). Such a model could be adapted for the Institutes to create a quasi-independent structure sufficient to protect the ongoing mission of the Institutes within the larger UCH organization, either as part of CPH or separately. This "firewall" concept would protect the funding and mission of the Institutes within UCH, avoiding fears of being "carved-in" to a general medical organization. The example of Colorado *Access* in its operation of a MHASA within an integrated Medicaid health plan offers an analogous example among current CDHS contractors.

Stakeholders raised concerns regarding this recommendation. One of the concerns was the need for stakeholder involvement and accountability regarding any possible threat to the viability of the Institutes. A major change involving Institute governance will bring with it understandable anxiety as to its impact on the future of the Institutes. This anxiety can be addressed by information, monitoring and involvement. In addition, the complex mission of CMHI-Pueblo offers significant challenges. CMHI-Fort Logan offers a more straight-forward fit with the recommendations below given its single civil psychiatric inpatient mission. The complex mission of CMHI-Pueblo combining civil psychiatric inpatient care with forensic and medical/surgical services raises complex and challenging issues. The legal liability issues and other concerns associated with the forensic mission of CMHI-Pueblo must be examined more closely prior to any decision regarding CMHI-Pueblo's governance. For the recommendations below, only the civil and general hospital components of CMHI-Pueblo are recommended for consideration of transition into UCH, although all approaches should be considered.

Two other important points are raised by a move to a quasi-governmental authority. The first involves Article X, Section 20 of the Colorado Constitution (commonly known as the Taxpayers' Bill of Rights or TABOR). TABOR places restrictions on the amount of total State General Fund and cash funds that can be collected and spent by state government. While the idea of developing the Institutes into a quasi-governmental authority responds to other issues impacting the Institutes' ability to compete effectively (e.g., the state budget and personnel systems), it does not in and of itself affect the TABOR restriction on growth. To do so would require the additional step of classifying the new authority as an "enterprise" or successfully integrating it

within an entity such as UCH whose TABOR exemption predates the TABOR legislation and involves more than just an "enterprise" designation.[93]

The University Hospital Authority is a special purpose authority, which is a political subdivision of the state, is not an agency of state government, and is not subject to administrative control by the University of Colorado regents or any state department or agency. The Authority is not currently included as part of the state for TABOR purposes (see C.R.S. 23-21-503). This Operational Plan does not purport to offer CDHS legal advice regarding this issue and recommends that the department undertake a thorough legal analysis of this and other issues as it plans any level of implementation of these recommendations. However, the following legal issues have been identified:

- Possible impact on UCH's TABOR status: Integrating the Institutes within an existing quasi-governmental authority that is exempt from TABOR such as UCH could potentially impact the existing TABOR exemption of that entity. This impact will need to be examined in collaboration with UCH. This issue has been presented to representatives of UCHSC and CPH leadership. While it has not been subjected to legal review, the issue was not seen as an insurmountable barrier to further consideration of this recommendation.

- Possible advantages of UCH's unique TABOR status: Integrating the Institutes within an existing quasi-governmental authority that is exempt from TABOR could possibly offer the additional level of flexibility of an exemption for the Institutes.

Additionally, any change to a quasi-governmental authority that would impact the status of state employees must comply with stringent state constitutional safeguards to protect the interests of state employees.[94] Furthermore, the employees of the Institutes are the most important clinical and managerial resource of the Institutes, and any plan designed to support the clinical and managerial effectiveness of the Institutes must ensure that the well-being and morale of

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[93] See Appendix I, Recommendations, pages 92-93, for a more detailed discussion of TABOR issues.
[94] See section 13(4) of article XII of the State Constitution.

employees is maximized. The example of University of Colorado Hospital shows that it is possible to effectively respond to these issues in a transition to a quasi-governmental authority. [95]

The focus groups with CMHI staff and CMHI/CDHS leadership suggested strategies for addressing the staffing issues related to a move to an authority.[96] In addition, specific statutory issues must be addressed. While this Operational Plan does not include legal analysis of these matters, key issues for CDHS to review have been identified. The incremental plan proposed below to move the Institutes toward a quasi-governmental authority raises at least two key matters: potential outsourcing and staff transition issues related to establishment of a quasi-governmental authority. These are presented in detail in Appendix I.[97]

To suggest a proposed path that would help the Institutes achieve a higher level of readiness to respond to the current and future health care environment, these recommendations are offered:

Recommendation IV-B – Initiate an incremental, monitored process to transition the Institutes toward becoming a quasi-independent part of University of Colorado Hospital (UCH). This is a substantial and possibly controversial recommendation that nevertheless appears to offer the only path that balances the many issues confronting the Institutes. The components of this recommendation offer a multi-step plan that involves additional, detailed planning, evaluation, analysis and implementation over an eight-year timeframe. Each of the five steps is progressive. If at any point alternative directions are identified or data emerge suggesting small or major changes to the plan, these should be integrated into the plan and the plan changed accordingly, up to and including its termination. The four steps, the timeline for each, their key components and the criteria recommended for use in deciding whether or not to proceed to the next step are presented below:

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[95] See CRS 23-21-507 and Colorado Association of Public Employees v. The Board of Regents of the University of Colorado, Supreme Court of Colorado, December 24, 1990.

[96] See Appendix IV, Focus Group Report, pages 42 and 45 for CMHI staff views and pages 53-55 for CMHI and CDHS leadership views. These are summarized in Appendix I, Recommendations, pages 93-94.

[97] See Appendix I, Recommendations, pages 94-96.

Recommendation IV-B-1 – Establish that Colorado Psychiatric Health (CPH) can manage and provide Institute services through the Northern Colorado adult inpatient pilot. The first step of this governance transition is also a key component of the adult inpatient recommendations described above. As a first step toward possible integration with UCH, Colorado Psychiatric Health, the quasi-independent psychiatric hospital within the University of Colorado Hospital structure, will provide adult inpatient care as the primary allocated adult inpatient resource for Northern Colorado, as described in the detailed plan presented earlier. This would take two years: 12 months to implement the pilot and 12 months of additional monitoring of performance and planning. If performance is acceptable and an acceptable plan can be developed to proceed to the next step, the governance transition plan will continue. If not, the alternatives of developing a separate independent quasi-governmental authority, reverting to the status quo or other alternatives can be pursued for both Institutes.

Recommendation IV-B-2 – Initiate a CPH/UCH management contract for CMHI-Fort Logan. This second step would involve a management services contract for CMHI-Fort Logan including executive leadership and certain administrative functions (e.g., billing), contracted to CPH/UCH. It would take two years to implement the management contract and to monitor sufficiently the performance of CPH/UCH and plan for the next step. If performance is acceptable and an acceptable plan can be developed to proceed to the next step, the governance transition plan will continue. If not, the alternatives of developing a separate independent quasi-governmental authority, reverting to the status quo or other alternatives can be pursued for both Institutes.

Recommendation IV-B-3 – Merge CMHI-Fort Logan operations into University of Colorado Hospital as part of the quasi-independent governance structure of CPH, with appropriate steps to incorporate the historic mission of the Institutes. Given the proximity of CMHI-Fort Logan and building upon the management contract, step three would incorporate CMHI-Fort Logan within University of Colorado Hospital as part of CPH. It would take two years to implement and monitor sufficiently the performance of CPH/UCH and plan for the next step. If performance is acceptable and an acceptable plan can be developed to proceed to the next step, the governance transition plan will continue. If not, the alternatives of developing a separate

independent quasi-governmental authority, reverting to the status quo or other alternatives can be pursued for both Institutes.

Recommendation IV-B-4 – Initiate a CPH/UCH management contract for CMHI-Pueblo civil and general hospital units. This fourth step would occur concurrently with step three (Recommendation IV-B-3). If the CPH/UCH management contract for CMHI-Fort Logan is successful and an adequate plan can be developed for CMHI-Pueblo, a management contract would be implemented for CPH/UCH to provide executive leadership and certain administrative functions for CMHI-Pueblo. Given CMHI-Pueblo's combined civil and forensic mission, incorporating its civil inpatient operations into CPH/UCH poses a unique set of challenges. However, if acceptable facility and governance arrangements can be worked out, CMHI-Pueblo's incorporation into CPH/UCH would complete an overall transition of state civil psychiatric resources into a quasi-governmental authority. It would take two years to implement the management contract and to monitor sufficiently the performance of CPH/UCH and plan for the next step. If performance is acceptable and an acceptable plan can be developed to proceed to the next step, the governance transition plan will continue. If not, the alternatives of developing a separate independent quasi-governmental authority, reverting to the status quo or other alternatives can be pursued for both Institutes.

Recommendation IV-B-5 – Merge CMHI-Pueblo civil and general hospital operations into University of Colorado Hospital under the quasi-independent governance structure of CPH, with appropriate steps to incorporate the historic mission of the Institutes. Building upon the management contract and planning over the six preceding years, CMHI-Pueblo would be incorporated within University of Colorado Hospital under CPH. It would take two years to implement and monitor sufficiently the performance of CPH/UCH. If performance is acceptable, the governance transition would conclude with this step.

Recommendation IV-B-6 – Carefully monitor and evaluate this transition. As with other recommendations in this report, ongoing evaluation and monitoring is recommended. The involvement of an independent evaluator separate from state government and the University of Colorado Hospital would allow for an added measure of objectivity. The evaluation should continue throughout the transition process. In addition, monitoring the effectiveness of each

stage of the implementation plan in terms of consumer outcomes, improved processes and cost-benefits, and measurement of community and stakeholder acceptance also is critical. Key approaches to evaluation and oversight of the Operational Plan are presented below.

V. Direct Care Staffing Recommendations

The national literature identifies significant trends resulting in increased demands on direct care staff at state-run psychiatric facilities, including the increased active treatment requirements of managed care, stringent seclusion and restraint reforms, and increased effort toward assessment and treatment planning as lengths of stay drop.[98] Increased levels of involuntary treatment and dangerousness in the past three years for all CMHI inpatient programs, as well as a general trend toward shorter lengths of stay, also impact necessary staffing levels.[99] The literature also points out that as state hospitals downsize and more services are provided in the community, the people that continue to be served by state hospitals more often will be served involuntarily and will be at higher risk for violence.[100] Ensuring an active, rehabilitation-oriented treatment milieu for these persons requires intensive staffing.

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[98] Citations include:

NASMHPD. (July 11, 1999). HCFA releases new rules on seclusion and restraint. Alexandria, VA: NASMHPD.

National Technical Assistance Center. (Summer, 1999). Seclusion and restraint: Debate gains momentum. Washington, DC: Center for Mental Health Services.

United States General Accounting Office. (September, 1999). Mental health: Improper restraint or seclusion use places people at risk. GA/HEHS-99-176.

Visalli, H., McNasser, G., Johnstone, L., and Lazzaro, C. A. (1997). Reducing high-risk interventions for managing aggression in psychiatric settings. *Journal of Nursing Care and Quality,* 11(3), 54-61.

Visalli, H. and McNasser, G. (August, 1997). Striving toward a best practice model for a restraint-free environment. *Performance improvement, ideas and innovations.* Aspen Publication.

Bellus, S.B., Kost, P.P., and Vergo, J.G. (2000). Preparing long-term inpatients for community re-entry. *Psychiatric Rehabilitation Journal*, 23(4), 359-364.

Scalora, M.J. (1999). No place else to go: The changing role of state hospitals and forensic mental health services. In W.D. Spaulding (ed.), The role of the state hospital in the twenty-first century. *New Directions for Mental Health Services*, no. *84* (Winter). San Francisco: Jossey-Bass. (pp. 59-70).

Spaulding, W.D. (1999). State hospitals in the twenty-first century: A formulation. *New Directions for Mental Health Services*, no. *84* (Winter). San Francisco: Jossey-Bass. (pp. 113-122)

Stuve, P. & Menditto, A.A. (1999). State hospitals in the new millennium: Rehabilitating the "not ready for rehab players." In W.D. Spaulding (ed.), The role of the state hospital in the twenty-first century. *New Directions for Mental Health Services*, no. *84* (Winter). San Francisco: Jossey-Bass. (pp. 35-46).

[99] See Appendix III, Roles Report.

[100] Citations include:

Bachrach, L. (1996). The state of the state mental hospital in 1996. *Psychiatric Services*, 47(10), 1071-1078.

Bachrach, L. (1999). The state of the state mental hospital at the turn of the century. In W.D. Spaulding (ed.), The role of the state hospital in the twenty-first century. *New Directions for Mental Health Services*, no. *84* (Winter). San Francisco: Jossey-Bass. (pp. 7-24)

The focus group data on staffing issues further underscored the observation that current Institute staffing levels are too low. The single highest rated issue discussed in any of the focus groups was the theme of inadequate current staffing levels at the CMHIs. Other specific staffing issues included the views that current staff are overwhelmed and have low morale, that staff are of high quality, and a need for more specific types of staff, including evaluation staff, an activities director and improved access to psychiatrists. [101]

These findings corroborate the concerns underlying a separate staffing analysis completed by CDHS.[102] To better understand how the specific staffing ratios developed by CDHS compare to those in state psychiatric facilities in other states, the current study used the National Association of State Mental Health Program Directors (NASMHPD) State Profiles database. To make comparisons between the staffing approach in Colorado and that of other states. Of the 28 states for which data were available, Colorado ranks 14th in the ratio of direct care FTE to beds in state-operated psychiatric hospitals, with a ratio of 1.32 FTE per bed. Thirteen states have higher ratios, fourteen have lower ratios. Ratios range from a high of 2.53 (Nevada, ranked first) to 0.81 (Utah, ranked 28th).

Looking at the ratios themselves, Colorado has 0.51 FTE per bed more than the lowest ranked state, but has 1.22 FTE less than the highest. Despite ranking in the middle (14th) of the 28 states, Colorado's actual ratio falls in the bottom third of the distribution of the 28 ratios surveyed. To move up to the middle (median) of the range of ratios, Colorado would need to increase to 1.67 FTE per bed, using the NASMHPD model. This is an increase of 0.35 FTE per bed, an amount comparable to the current CDHS request to increase by 0.37 FTE per bed (from 1.02 to 1.39 FTE per bed).

Emery, B.D., Glover, R.W., and Mazade, N.A. (1998). The environmental trends facing state mental health agencies. *Administration and Policy in Mental Health*, 25(3), 337-347.

Fisher, W.H., Simon, L., Geller, J.L., Penk, W.E., Irvin, E.A., and White, C.L. (1996). Case mix in the "downsizing" state hospital. *Psychiatric Services*, 47(3), 255-262.

[101] See Appendix IV, Focus Group Report, page 16.

[102] See Appendix II, Staffing Report, for a detailed review of the CDHS analysis.

Based on comparisons to the focus group data and the current comparisons to other states using NASMHPD data, the CDHS analysis appears sound. A review of the process used to develop the dynamic staffing model used by the CDHS to determine minimum treatment protocols shows it to be a reasonable and adequate mode for calculating non-psychiatric staffing levels. CDHS's use of a time study and focus groups comprised of CMHI clinical staff provided a detailed and specific grounding for calculating staffing levels consistent with the middle range of those from other states. The dynamic model also appears functional and grounded in actual experience specific to the types of populations served by the Colorado Mental Health Institutes.

Based on a thorough review of the CDHS direct care staffing analysis and its associated dynamic staffing model, as well as a comparison of Colorado state hospital staffing levels to those of other states and review of the national literature and focus group results, the Operational Plan offers the following recommendations:

Recommendation V-A – The CDHS FY2001-02 request for 61.0 additional FTE is endorsed. Even with the adolescent and adult downsizing recommendations described above, the 61.0 additional FTE cover less than half of the total FTE needed to bring staffing levels for remaining Institute programs up to a reasonably determined minimum staffing level.[103]

Recommendation V-B – The dynamic staffing model developed by CDHS is endorsed. This model should be used to guide decision-making regarding needed numbers of non-psychiatrist direct care staff as current and additional changes in the Institutes are contemplated. All FTE projections for this Operational Plan employed this model.

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[103] See Appendix II, Staffing Report, for additional detail.

VI. Oversight and Evaluation Recommendations

The recommendations within this Operational Plan are complex and challenging. So is the current situation confronting the Institutes and the overall mental health system in Colorado. Additional support for these recommendations in addition to the existing management resources of CDHS are recommended, given the added burden and data-intensive decisions entailed by the Operational Plan.

Oversight Recommendations

The following recommendations address dedicated oversight and support from the CMHI management team:

Recommendation VI-A-1 – Appoint a commission to oversee the transition recommended by this Operational Plan. A special commission charged to support and guide over time the recommendations of this plan is indicated. The multi-stakeholder steering group for this study offers an established group with relevant experience that could serve as the foundation for such a commission. Given the scope of the Operational Plan, additional membership is recommended, including consumer representatives and representatives from CPH and UCH. Regular participation by legislators and senior members of CDHS also should be considered.

Recommendation VI-A-2 – Fill the currently vacant superintendent position for CMHI-Fort Logan in a manner that supports the Operational Plan. To ensure that the person who will fill the superintendent position for CMHI-Fort Logan is supportive of the Operational Plan, the following steps are recommended:

- Make implementation of the finalized Operational Plan a specific, major component of the job description. An explicit commitment to the Operational Plan finalized by CDHS for the future of the Institutes should be required.
- Include transition management as a major component of the position description.
- Seek a person with relevant experience related to state hospital downsizing, development of community alternatives and implementation of major change initiatives.

- Include representatives of CPH and UCH in the selection process. In addition, the possibility of a joint position with an appointment in the UCHSC Department of Psychiatry should be explored. Experience in both the Institutes and UCHSC will help prepare this leader for the governance transition and provide a base within each organization to support ongoing change.

Evaluation Recommendations

The importance of incorporating ongoing evaluation has been repeatedly stressed throughout the Operational Plan. Evaluation should be integrated with each step of the transition implementation process in order to determine the advisability of moving to later steps and in order to further inform and refine the planning process for subsequent steps. Key recommendations related to evaluation include:

Recommendation VI-B-1 – CDHS should contract with a single independent evaluator for the entire Operational Plan. Use of an independent evaluator is the established practice of CDHS and generally the practice of other states. In other states where significant state hospital transitions have been attempted, formal, independent evaluation appears to have been extremely useful in documenting implementation and assessing its effects.[104] It will be important to ensure that the evaluator is experienced with the broad and complex issues involved in this Operational Plan, including Institute operations, the overall Colorado mental health and human services system, evidence-based inpatient and community-based alternative practices, mental health financing and multi-year evaluation techniques. Given the political and detailed system of care implications of this transition, significant prior experience in Colorado is especially important. It is also recommended that a single evaluator be engaged for the entire Operational Plan, given the interrelated nature of the various plan components and the opportunity to gain efficiencies by not duplicating basic evaluation activities.

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[104] Deci, P.A., et al. (1997). Downsizing state operated psychiatric facilities. In S.H. Henggeler, A.B. Santos (Eds.), Innovative approaches for difficult-to-treat populations. Washington, D.C.: American Psychiatric Association. (pp. 371-394).

Recommendation VI-B-2 – The evaluation should be oriented toward decision support, not research. The purpose of this evaluation is to gather information to support the ongoing decisions of CDHS, the Institutes, and other involved agencies. The focus of the evaluation should center on the utility of the data and findings produced in terms of the specific goals of CDHS for the Operational Plan, rather than a more conceptual research agenda.

Recommendation VI-B-3 – Major points of focus for the evaluation. The focus for the evaluation should attend to three major areas:

- Development of community alternatives: For the Operational Plan to be successful, effective community alternatives must be developed. The evaluation must assess the extent to which community alternatives are developed and implemented with fidelity to the evidence-based models.

- Effectiveness of ongoing Institute programs: The effectiveness of continuing Institute programs should be evaluated to determine whether or not system and policy changes adversely or positively affect consumer outcomes and costs.

- Effectiveness of governance changes: Because of the broad scope and critical implications of this component of the Operational Plan, the evaluation should focus heavily on documenting the governance changes that occur and the effects of those changes on costs, outcomes, and stakeholder perceptions.

Recommendation VI-B-4 – Principles for evaluating Operational Plan implementation. With the above areas in mind, the following principles should be utilized in developing the design and process for evaluating the implementation of the Operational Plan:

- **Recommendation VI-B-4-a – Multi-modal assessment of implementation effects.**[105] CDHS should require its selected evaluator to assess the implementation across multiple

[105] For an example of multi-modal and multi-method evaluation of a major state psychiatric hospital transition project, see: McGrew, J.H., Wright, E.R., & Pescosolido, B.A. (1999). Closing of a state hospital: An overview and framework for a case study. Journal of Behavioral Health Services Research, 26(3), 236-245.

modes or domains of possible effects. At a minimum, each of the following domains should be incorporated:

- Costs of ongoing programs, new programs, the transition process and implementation effects.
- System processes of key implementation changes, including governance, financing, program, and staffing changes. Documentation and evaluation of these factors will help inform future steps and initiatives, for example, development of local community alternatives.
- Fidelity assessment. Effective implementation hinges on the implementation of model, evidence-based community and inpatient programs. The extent to which new programs, especially community alternatives, are implemented with fidelity to evidence-based programs should be evaluated.
- Consumer, family, and provider outcomes. This component of the evaluation will help ensure the quality of care for consumers involved and will help promote quality of care across the implementation process.[106]
- Stakeholder perceptions of implementation effects. This was stressed often by various members of the multi-stakeholder study steering group and is critical to ongoing support of the Operational Plan, as well as sensitivity to its diverse effects.

- **Recommendation VI-B-4-b – Multi-method evaluation approaches should be required.** Because of the many factors involved in implementing the complex system and program changes recommended, the evaluation will need to capture data using multiple quantitative and qualitative approaches. Methods that should be used to capture the quantitative and qualitative data necessary to fully evaluate implementation of the CMHI plan include the following:

  - Quantitative analysis of trends in costs, utilization, and consumer outcomes (e.g., using interrupted time series designs, survival analysis, etc.).
  - Surveys of key stakeholders regarding perceptions of the effects of program and systems changes.

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[106] McGrew, J.H., Wright, E.R., Pescosolido, B.A., & McDonel, E.C. (1999). The closing of central state hospital: Long-term outcomes for persons with severe mental illness. Journal of Behavioral Health Services Research, 26(3), 246-261.

- Focus groups of stakeholders, both to help develop appropriate survey questions and methods, as well as to further elaborate on survey findings.
- Graphic modeling of the changes in the flow of consumers and dollars through the system, in order to effectively depict and communicate changes to multiple stakeholders.
- Case studies of successful and unsuccessful provision of services to consumers and of continuity of care across the inpatient and outpatient systems. Carefully selected and well-documented case studies will help illustrate problems and successes in the Operational Plan implementation. This will be especially important when translating pilot results into statewide implementation activities.

- **Recommendation VI-B-4-c – Stakeholder involvement in multiple components of the study should be incorporated into the evaluation design**. The evaluation should facilitate the participation of multiple stakeholders, both in the design and planning of the evaluation, as well as in the processes of collecting and analyzing data. As noted above, changes in the governance and roles of state psychiatric hospitals often cause anxiety on the part of stakeholders because of the Institutes' critical role in the continuum of care. Involving stakeholders (including consumers and family members) in the evaluation will enhance both the validity of evaluation results and communication among stakeholders regarding the effects of implementation efforts. Stakeholders can be included in evaluation oversight, help design evaluation approaches, refine evaluation questions, help select evaluation instrumentation, develop and administer stakeholder surveys, review and interpret evaluation results, and help present evaluation findings. CDHS should select an evaluator who is skillful and experienced in collaborating with a diverse set of stakeholders. The evaluator should also be required to work with and facilitate a multi-stakeholder evaluation advisory committee.

- **Recommendation VI-B-4-d – Participation of involved providers in the evaluation should be required**. Providers, including the Institutes and any other organizations forming partnerships to provide current Institute or new community alternative services, should be required to actively participate in the evaluation process. This participation would include providing data and collaborating with the evaluation, as well as using evaluation results under CDHS direction to modify their programs as needed. CDHS could help ensure participation by providing modest funding to support the data collection and data provision

roles of providers throughout the evaluation, as well as by selecting an evaluator who has experience and success in collaborating with provider groups in evaluation.

- **Recommendation VI-B-4-e – A multi-year evaluation is recommended.** The evaluation should be multi-year in order to document the short-, mid-, and long-term impacts of the changes. Typically, a five-year evaluation is recommended as a minimum in such circumstances. However, within the nine-year timeframe of the Operational Plan, the first seven years all build upon each other and require ongoing data collection to support decision-making for later steps. The scope of the evaluation can vary year to year, but a multi-year approach is necessary.[107]

- **Recommendation VI-B-4-f – The evaluation should be targeted to the specific steps of the Operational Plan**. CDHS should require the evaluation to be organized around the key steps in the Operational Plan, as finalized by CDHS. The evaluation should be designed to track costs, consumer outcomes, etc., over an extended period, but the evaluation should also be specifically designed to address the unique governance, financing, and program changes inherent in each step of the plan. After each step is completed, the evaluation should be refined to respond to the new directions in which the plan is taken, following an assessment of the successes and shortcomings of the previous steps.

- **Recommendation VI-B-4-g – The evaluation should develop and incorporate performance standards and benchmarks**. The evaluation should assess the extent to which various performance standards are met throughout the implementation process. Specific performance standards, which have been detailed throughout the Operational Plan, should be built into the provider proposal processes described throughout the Operational Plan and subsequent contracts (e.g., minimum percentage for uninsured persons served). These and other performance standards should be tracked throughout the evaluation and ongoing

[107] The five year duration and target budgets are taken from other system-level intervention evaluations, including the federal CMHS System of Care for Children and Adolescents program and the Casey Family Programs well articulated requirements for evaluating their innovative programs. See CMHS program requirements or Pecora, Adams, LeProhn, Paddock, and Wolf (1998).

following the evaluation's conclusion. The performance standards can also be compared to criteria set by CDHS, as well as to national benchmarks for state psychiatric hospital systems.

- **Recommendation VI-B-4-h – The evaluation should include formal mechanisms for the provision of ongoing feedback**. The evaluator should be required to provide CDHS and other stakeholders with frequent, targeted feedback that aids in decision-making. The evaluation design should include formal mechanisms for providing feedback to decision-makers and stakeholders on a regular basis.

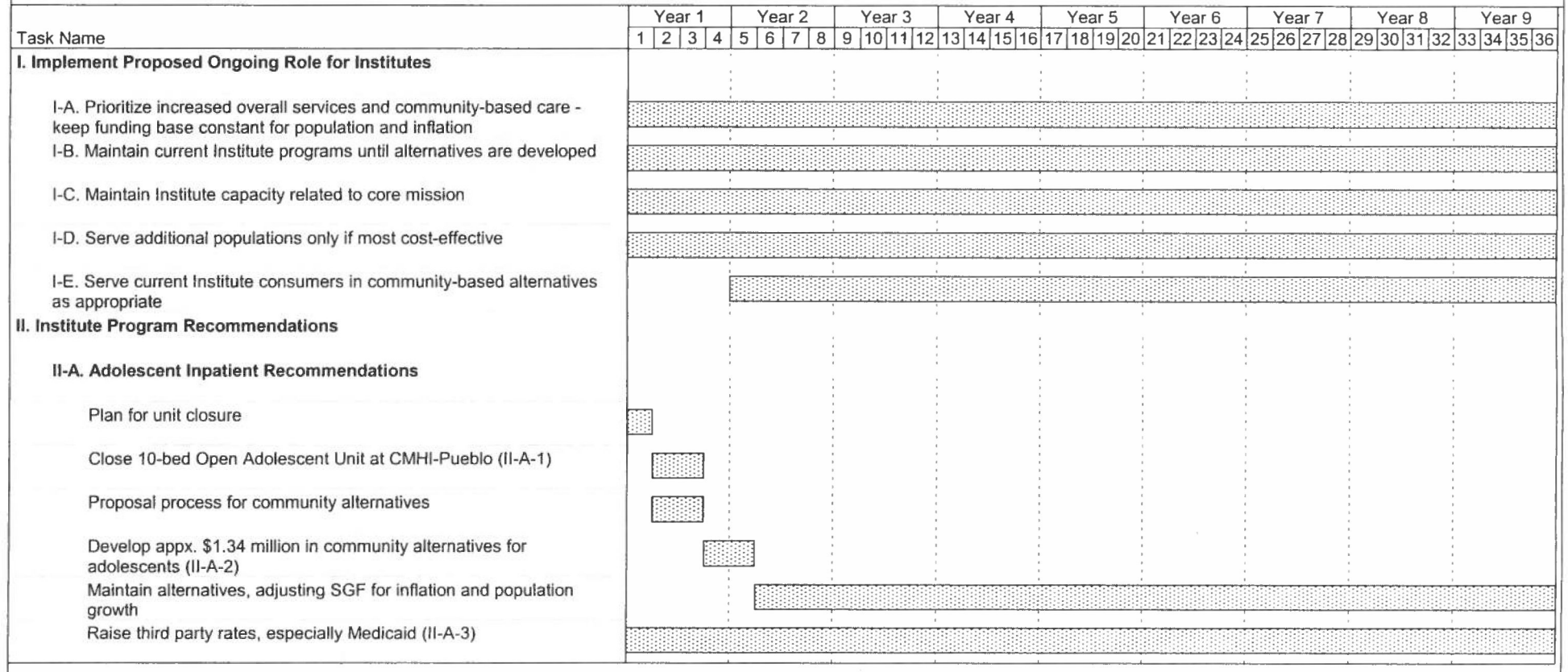
- **Recommendation VI-B-4-i – The evaluation should support the development of ongoing monitoring by CDHS.** Following the multi-year evaluation, data collection protocols, provider-based data collection mechanisms, stakeholder involvement processes, and other decision-support practices developed for the evaluation should be incorporated into ongoing CDHS monitoring processes. The evaluator should have demonstrated experience supporting self-evaluation and developing multi-method, longitudinal evaluation structures within provider organizations.

Nine-Year
Timeline (Gannt)

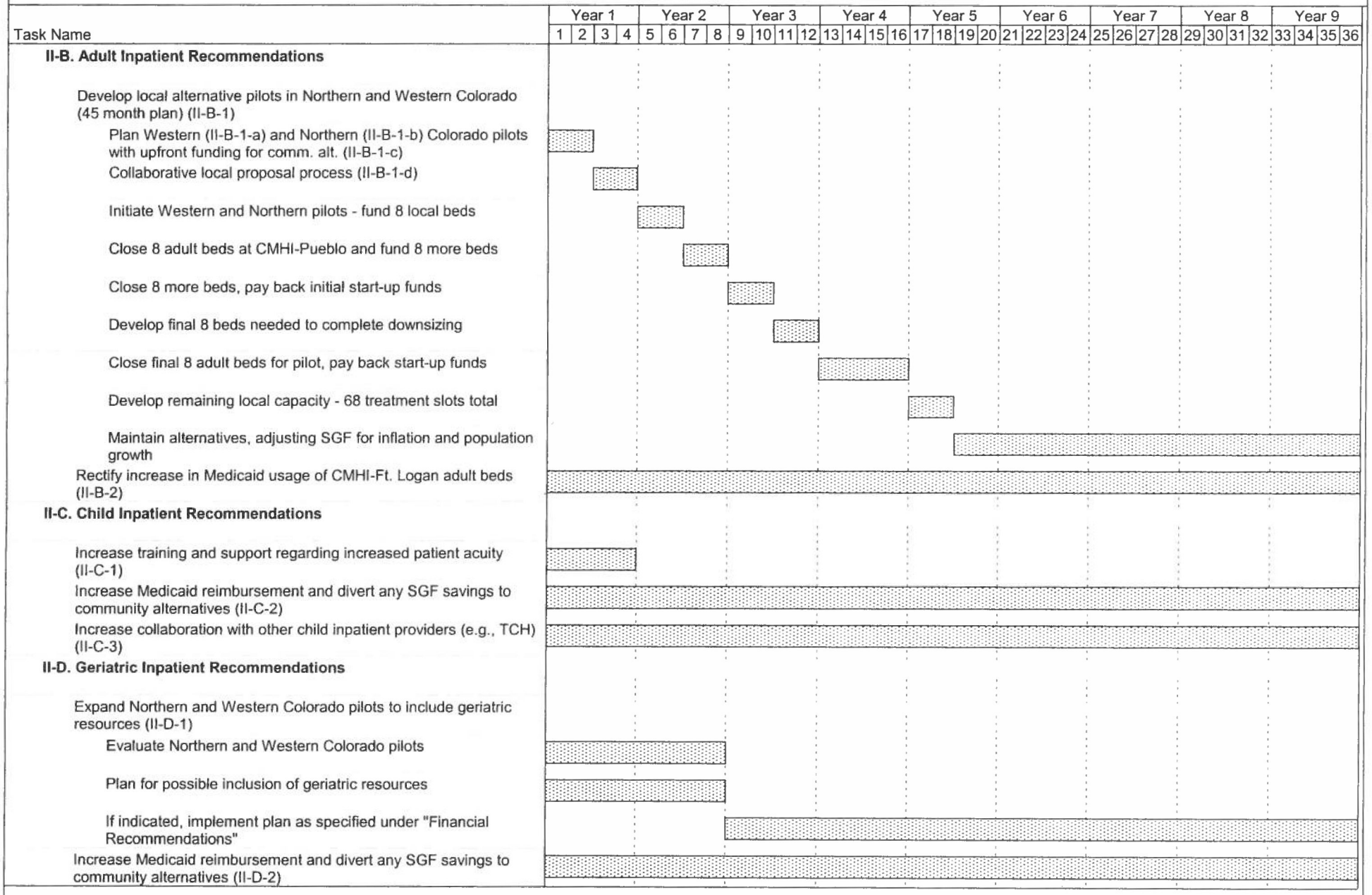
Nine-Year Integrated Timeline

The recommendations presented throughout this report are interrelated and build upon each other. As a result, in addition to the presentation throughout this plan of recommendations by area, an integrated plan is also needed. A Gannt chart has been used to array key recommendations across a nine-year timeframe. Given the complex issues involved and need to finalize the timeframe by CDHS, the timeframe presented here has not been tied to a specific CDHS and legislative timeline. It has been presented by year and quarter and can easily be adapted to specific timelines. In addition, some initial timeframes presented earlier to CDHS in Appendix I differ from the timeframes of the Operational Plan given the need to integrate multiple plan components. Also, timeframes are estimated, especially in years four through nine, and may very well change. Overall, a conservative timeline has been recommended. Timeframes could just as well accelerate as be delayed. The key recommendation of the timeline is the staging and ordering of plan components that it presents.

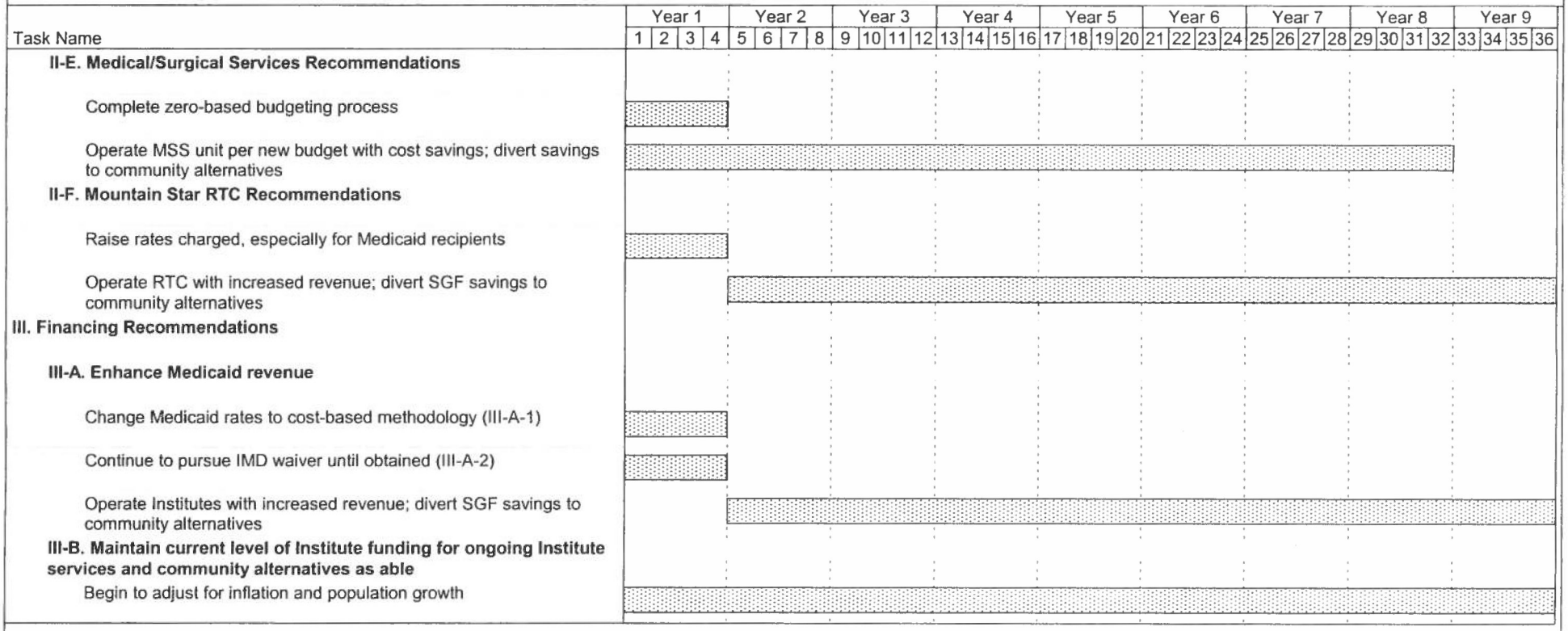
CMHI Nine Year Integrated Plan



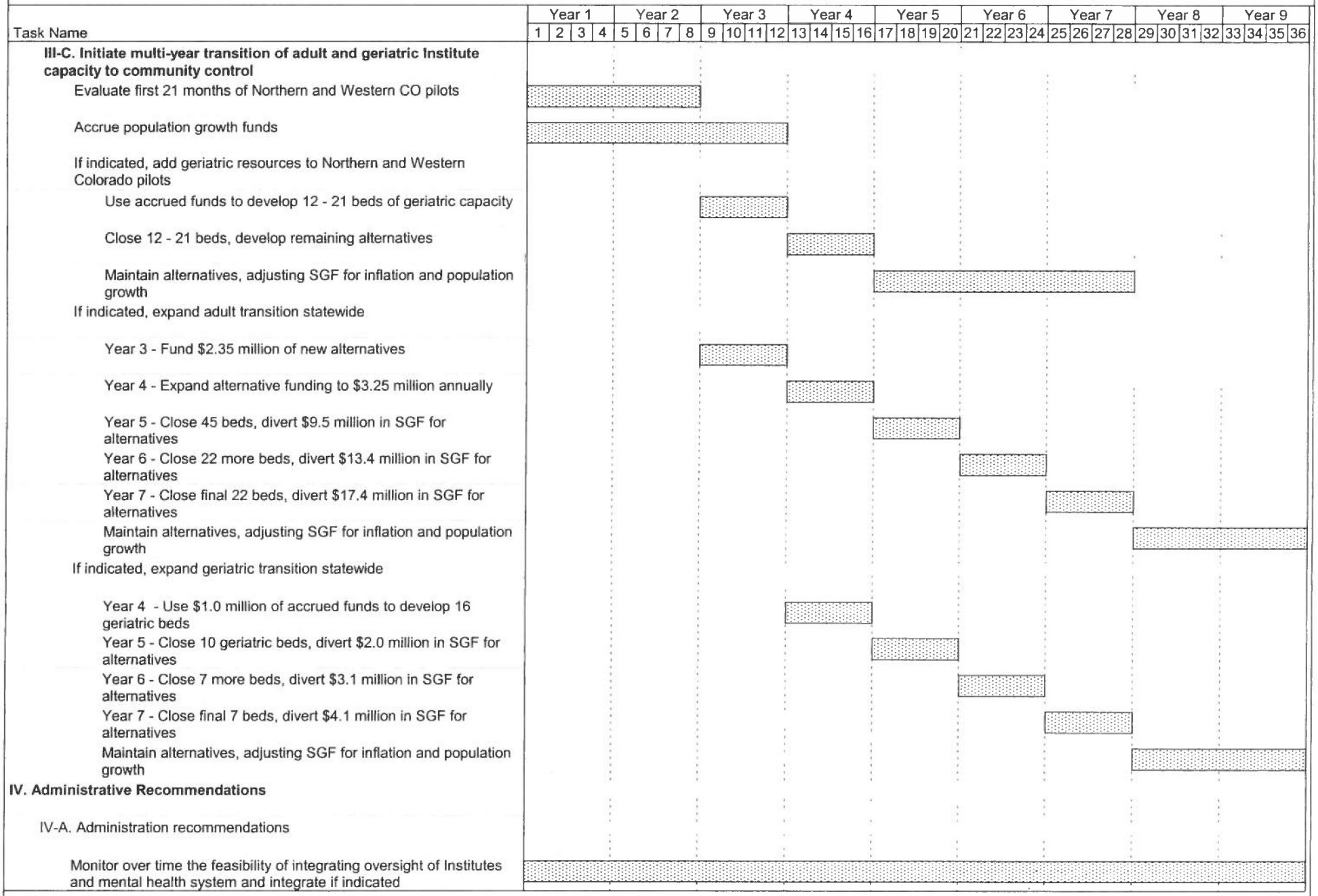
CMHI Nine Year Integrated Plan



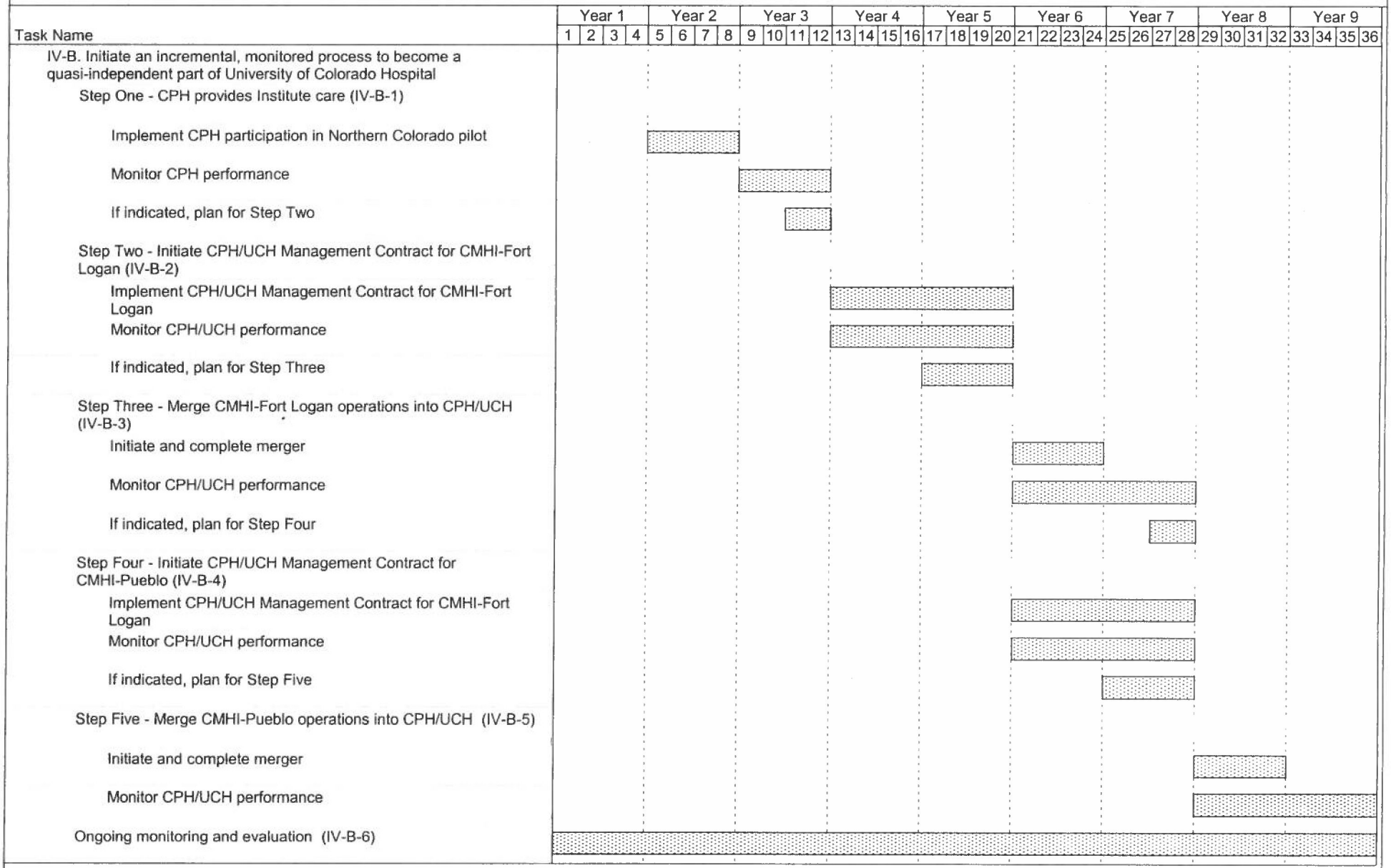
CMHI Nine Year Integrated Plan



CMHI Nine Year Integrated Plan



CMHI Nine Year Integrated Plan



Task Name	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6				Year 7				Year 8				Year 9			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
V. Direct Care Staffing Recommendations																																				
V-A. CDHS FY2001-02 request for 61.0 FTE is endorsed																																				
V-B. CDHS dynamic staffing model is endorsed																																				
VI. Oversight and Evaluation Recommendations																																				
VI-A. Oversight recommendations																																				
Appoint a commission to oversee the transition recommended by this Operational Plan (VI-A-1)																																				
Fill the currently vacant superintendent position for CMHI-Fort Logan in a manner that supports the Operational Plan (VI-A-2)																																				
VI-B. Evaluation recommendations																																				
Contract with single, independent evaluator (VI-B-1)																																				
Orient evaluation toward decision support, not research (VI-B-2)																																				
Focus on community alternatives, ongoing Institute programs, and governance (VI-B-3)																																				
Incorporate the following principles: (VI-B-4)																																				
Multi-modal assessment (VI-B-4-a)																																				
Multi-method evaluation (VI-B-4-b)																																				
Stakeholder involvement in oversight, data collection, analysis, and reporting (VI-B-4-c)																																				
Required participation involved providers (VI-B-4-d)																																				
Multi-year evaluation (VI-B-4-e)																																				
Evaluation targeted to specific steps of Operational Plan (VI-B-4-f)																																				
Develop and incorporate performance standards and benchmarks (VI-B-4-g)																																				
Include formal mechanisms for provision of ongoing feedback (VI-B-4-h)																																				
Support development of ongoing monitoring by CDHS (VI-B-4-i)																																				

APPENDIX I

TRIWEST GROUP

CMHI Operational Plan Study

Recommendations for the Mental Health Institutes in Colorado

Submitted to the State of Colorado Department of Human Services Office of Direct Services

Submitted February 25, 2001

Revised and resubmitted March 15, 2001

Recommendations Report Index of Revisions

This Revised Recommendations Report incorporates the following changes from the original February 25, 2001 report:

- Page 5, phrase "and analysts" removed from last bullet.
- Page 6, Recommendation One: reference to specific dollar amounts added, TABOR reference removed, wording reordered to be clearer.
- Pages 6-8, Recommendations Two – Four: reordered.
- Page 6, Recommendation Two (formerly Three): clarified to include reference to "quantity and quality."
- Page 8, Recommendation Four (formerly Two): language clarified to better explain statistics cited.
- Page 9, language added to clarify 15 month timeline.
- Page 10, bullets 1 through 4: figures updated related to Table 1.
- Page 11, Table 1: figures updated.
- Page 13, Clarified chart.
- Page 13, Table 2: total bed days figure updated.
- Page 13, footnote 12 modified.
- Page 14, typo corrected.
- Page 14, footnote 13 modified.
- Page 15, added new data on sexual perpetrators and victims of sexual abuse.
- Page 22, Table 7: projected savings figure for 10-bed unit closing updated.
- Page 22, process for calculating administrative cost reductions clarified
- Page 24, Table 8: RTC beds figures updated.
- Page 24, footnote 29: clarified algorithm for calculating Medicaid reimbursement.
- Page 25, Table 9: clarified negative clinical effects of closing 10-bed unit.
- Page 32, typo corrected.
- Page 33, clarified bed figures in bullet 3-a-i.
- Page 36, state procurement system disclaimer added.
- Page 37, Table 12: fully loaded figure for CMHI-Pueblo in 1999-00 corrected.
- Page 39, added description of Medicaid IMD exclusion.
- Page 39, footnote 45 moved.
- Page 40, Table 15: column headers corrected.
- Page 41, IMD bullet clarified.
- Page 42, process for calculating administrative cost reductions clarified.
- Page 44, Table 17: available funding less costs figures updated.
- Page 44, process for calculating administrative cost reductions clarified.
- Page 43, Medicare reimbursement calculation approach clarified.
- Page 43, Table 17: footnote 46 added to better explain calculation of available funds.
- Page 45, clarified nature of recommended one-time transition funding in middle of page.
- Page 47, Table 18: row headings clarified.
- Page 54, provided more information on recommendation regarding geriatric LOS differences.

- Page 55, Table 23: 1999-00 figures updated.
- Page 55, Table 24: figures for fully loaded costs updated.
- Page 57, added language to recommendation regarding potential Medicaid reimbursement issues for MSS.
- Page 57, reference to "annual bed days" clarified.
- Page 59, ECT reference clarified.
- Page 59, Table 27: Other SDS figures updated.
- Page 60, Table 28: 2000-01 fully loaded inpatient costs figure updated.
- Page 61, Table 29: fully loaded costs figures updated.
- Page 61, text reordered and table references added prior to Table 30.
- Page 62, added reference to potential impact of CMHI-Fort Logan external hospital costs.
- Page 64, RTC rate discussion expanded, incorrect rate reference removed and new figures from CMHI-Fort Logan added.
- Page 64, Table 32: 1998-99 fully loaded cost figure updated; 1999-00 percent difference figure updated.
- Pages 66-67, Medicaid spending figures updated per 3/15/01 2001-02 JBC figure setting report; related calculations also updated and footnote 77 added.
- Page 70, Table 36: cumulative SGF balance figures updated and table title corrected.
- Page 72, bottom paragraph clarified that Institutes were not included in CMHI Alternatives Study.
- Page 75, Table 38:Inpatient, Emergency Room, and Mobile Crisis figures updated.
- Page 86, typo corrected in first bullet.
- Page 86, recommendation reworded regarding consolidation of ODS and ORHS oversight of Institutes and mental health system; reference to MHS corrected to ORHS.
- Page 87, clarified discussion of administrative recommendations related to ODS and ORHS.
- Page 91, clarified reference to Denver Post article.
- Page 101, replaced "Sercivios" with "Servicios" in first paragraph.

Introduction and Approach

The State of Colorado Department of Human Services (CDHS) has contracted with TriWest Group to conduct a study of its state psychiatric hospitals. The purpose of the study is to perform analyses and develop recommendations for an operational plan to define the future role of the Colorado Mental Health Institutes (CMHIs or Institutes) in Colorado's public mental health system. The final operational plan from the study will be completed in March, 2001 and available for public release sometime thereafter.

At the start of the study, TriWest Group developed an initial conceptual framework related to the role of the Institutes within Colorado's mental health system. This framework addressed program types and models, financing approaches (including capitation), administrative structures, and clinical staffing. This framework was based on the following:

- Review and analysis of existing Colorado-specific studies and planning documents related to the future of the Institutes and community-based programs within Colorado's public mental health system. This initial review also included information from CDHS and CMHI databases.

- Review and analysis of data from other states regarding the organization and delivery of public inpatient psychiatric services. Key points of comparison included number of beds, spending per capita, types of services provided, and plans for future operations.

- Description and analysis of the potential impact of improved psychotropic medications, community-based interventions, and other new treatment technologies that may affect the future need for inpatient treatment.

After these data were summarized, they were subjected to an intensive stakeholder process to review, expand on, and refine the findings. Nine focus groups were conducted with 123 overall participants. Two were held for adult consumers with experience at the CMHIs (in Montrose and Denver), two for family members of adult consumers (in Delta and Jefferson County), one for parents of child and adolescent consumers (in Denver), one for CMHI direct care and supervisory staff (in Pueblo), one for regional mental health leaders (held in conjunction with a statewide meeting in Denver), one for psychiatrist leaders from across Colorado (in Denver), and one for state government (executive and legislative) human services leaders (in Denver).

The stakeholders attending the nine focus groups generated 227 total unduplicated themes. The focus groups also gave input as to how the results of these initial analyses should be used to define the future role of the CMHIs in Colorado's public mental health system. The stakeholder focus groups served a critical function in the overall study and planning process by taking key results from the detailed analyses already completed, weighing them in the context of the current Colorado mental health system's needs and strengths, and helping develop priorities to guide the final recommendations, report development, and operational planning for the CMHIs.

Additional analyses of CDHS and CMHI data were then completed, the current overall role for the Institutes described and a description of a future role developed. All of the information just described has been previously reported to the Colorado Department of Human Services in the following reports:

- ***CMHI Operational Plan Study: Focus Group Background Materials*** – November 6, 2000
- ***CMHI Operational Plan Study: Focus Group Report*** –December 20, 2000 – This is referred to as the ***Focus Group Report*** in the current report.
- ***CMHI Operational Plan Study: The Future Role of the Mental Health Institutes in Colorado*** – January 21, 2001. This is referred to as the ***Future Roles Report*** in the current report.

Another report has been developed concurrent with this report and focuses upon clinical staffing. When referenced in the current report, this will be referred to as the ***Staffing Report***. It focuses upon clinical staffing at the Institutes and concludes with specific staffing recommendations, including a dynamic staffing model for future use and specific staffing impacts related to the program changes described in more detail in this report.

Background for the Current Report

The ***Future Roles Report*** defined a core population who should be served by the Institutes, as well as additional populations who can be served in the absence of more appropriate alternatives. The two sub-populations that were identified as falling within the core mission of the Institutes are populations for whom it is recommended that ongoing state psychiatric hospital services be funded and ensured directly by the State of Colorado. The core populations were defined as those people the Institutes have traditionally served and who are generally recognized as best served in such a facility by the national literature on state psychiatric hospitals. The needs of these two sub-populations are expected to continue at or near their current levels, despite advances in medication and other treatment approaches. Given Colorado's increasing statewide population and without the development of new community-based resources, the level of need could be expected to grow. These two groups include:

- Persons needing longer-term inpatient care (e.g., 60 days or longer). Of persons currently served by the Institutes, 25% of children, 11% of adolescents, 30% of adults and 45% of older adults stay 60 days or longer. There are multiple reasons for such longer stays, including refractory psychiatric conditions that for a few people require stays of many years, treatment of previously untreated acute conditions, complex diagnostic conditions, and intermediate-term medication changes.
- Persons with very acute needs who pose a great danger to themselves or others. Multiple and various factors define this group, both in combination and individually. These include complex diagnoses, issues of sexual predation, high levels of involuntary treatment and

dangerousness, and admissions for diagnostic groups outside the traditional mental health domain including persons with primary organic or traumatic brain disorders (including dementia), persons with profound developmental disabilities and persons with primary substance abuse disorders. Those persons without primary psychiatric diagnoses fall into this group to the extent that their conditions are best treated through the Institutes' intensive inpatient programs. To the extent that persons who pose a danger are in need of only containment to protect the community (e.g., those with chronic, unchanging issues of sexual predation, persons with profound developmental disabilities or persons with brain injuries), they do not fall into this core group.

Other sub-populations of current Institute consumers were also described. These populations fall outside of the core mission of the Institutes, but currently the Institutes seem to be their best care alternative. It may be that in the future, alternative, more cost-effective services can be developed, which may result in a decreased need for Institute services for these populations. It may also be that some members of these populations continue to be served most cost-effectively by the Institutes. These populations include:

- Persons in need of short-term, acute inpatient care, commonly defined as stays of two weeks or less. Half of adolescents, approximately 25% of children, and 30% of adults and older adults appear to fall into this group.

- Persons who must now be treated in the Institutes because of a lack of a more appropriate service that could be cost-effectively delivered in another setting. These include persons in need of local inpatient care, assertive community treatment, intensive home-based family services (such as Multisystemic Therapy) and other alternatives.

- Persons with complex, sometimes dangerous disorders that fall outside of the typical scope of mental health diagnoses and who can be more cost-effectively served in other settings. These include some persons with primary dementia, some persons with traumatic brain injuries, persons with primary substance abuse disorders not best treated in a mental health setting and persons who pose a high level of danger due to their sexual predation behaviors, but who do not seem to suffer from a primary mental illness actively treatable in an inpatient setting.

- Persons in the custody of the State of Colorado who are in need of residential care and medical/surgical services where such services can be provided most cost-effectively by an Institute program.

The analysis of the future role of the Institutes also established the following points to guide the development of specific recommendations regarding future Institute services. In addition to the description of the populations to be served by the Institutes into the future, the following points form much of the empirical basis for the specific recommendations offered to the Colorado Department of Human Services in the current report. They include:

- Increasing need for public mental health services without increased spending for the uninsured – Primarily due to Colorado's fast rate of population growth and the even greater

rate of growth in the number of uninsured Colorado residents, the state's public mental health system is under strain and the Institutes are serving many who could be better served in other settings if such alternatives were available. The state population has grown by over 1 million people in the past decade (a 30.6% increase from 3,294,394 in 1990 to 4,301,261 in 2000)[1] and the 1999 percentage of Colorado residents without insurance jumped to 16.8% from 15.1% in each of the previous two years.[2] While programs with population-based revenue (e.g., Medicaid) have largely kept pace,[3] per capita spending for the uninsured has not. It has fallen in each of the past two years and is currently less than 25% of the rate of spending for persons with Medicaid. Spending per consumer has dropped in recent years for both Medicaid and non-Medicaid consumers in the public mental health system.[4] Differences in clinical severity and functioning based upon the Colorado Client Assessment Record (CCAR) between Medicaid and non-Medicaid consumers in Colorado have shown a statistically higher level of need for Medicaid consumers in each major age group served.[5] However, the difference is very slight for children and adolescents and small for adults and older adults and does not provide a justification for the dramatic differences in funding.

- Some increased pressure on the Institutes – A review of severity and diagnostic data in the ***Future Roles Report*** showed increased dangerousness and involuntary status generally across Institute populations. These data corroborated findings in the ***Focus Group Report*** regarding increased severity. Advances in psychotropic medication and community-based alternatives to Institute care have helped the Institutes manage the state psychiatric hospital needs of Colorado's growing population despite significant downsizing through most of the 1990s and Colorado's increasing population. However, other than in the select inpatient programs described below, occupancy of Institute programs is at or greater than capacity. Overall, current Institute capacity is over-burdened. This appears to be primarily related to low staffing (as reported upon in the ***Staffing Report***). There is also significant strain on the capacity of adult allocated beds, particularly at CMHI-Pueblo.

- Significant gaps in community-based alternatives – Analysis of clinical data comparing consumers served by the Institutes and in the community has shown that many current Institute consumers are very similar to persons successfully served in the community.[6] Analysis of consumer data and focus group input for the current study has reinforced this point. Prior to this report, data have suggested a severe lack of appropriate community-based alternatives to Institute care. An analysis of new data regarding those alternatives is included in the current report and specifically identifies those services which are lacking. More

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[1] 1990, 2000 U.S. Census Count for Colorado.
[2] September, 2000. U.S. Census Bureau.
[3] While the population-based rates of Colorado Medicaid Mental Health Capitation and Managed Care program do account for population growth, the competitive RFP process completed in 2000 saw a significant decrease in rates for the last quarter of FY2001 and into the future. The effects of these rate cuts have yet to be experienced, but they can be expected to exacerbate the current funding situation to some degree.
[4] Barrett, T. December, 2000. Colorado Mental Health Services.
[5] Coen, A. and Ellis, D. February, 2001. Colorado Mental Health Services. Personal communication.
[6] Bartsch, D.A. and Wackwitz, J.H. (1998). An Open Case Evaluation of State Institute and High Risk Community Consumers: The Potential for Bed and Resource Reallocation, Technical Report. State of Colorado, Mental Health Services, Decision Support Services.

detailed information on community alternatives will be forthcoming in a report on the ***CMHI Alternatives Study*** by TriWest Group expected to be completed in April, 2001.

Methodology for the Current Report

This current report offers specific recommendations regarding the programs, governance and financing of the Colorado Mental Health Institutes, in the context of Colorado's overall public mental health system. As discussed above, these recommendations are grounded in the data and analyses reported in the prior three reports (and a fourth concurrent report) submitted by TriWest Group to CDHS. In addition, these recommendations incorporate the following data and input:

- Additional analyses of the population served by the adolescent inpatient programs at CMHI-Pueblo and CMHI-Fort Logan, the adult population at CMHI-Pueblo, and the Medical / Surgical Services unit at CMHI-Pueblo.

- New data describing the capacity of community-based alternatives to Institute care across Colorado.

- Financial data on CMHI costs and revenue from the last three fiscal years and year to date through December 31, 2000.

- Legal, financial, and organizational data gathered from key informants regarding the administration and governance of the Institutes.

- Review of draft recommendations and additional input from stakeholders, including Institute leadership, clinical, data, and financial staff; leadership and staff from various offices and departments within the Colorado Department of Human Services; Joint Budget Committee staff; State Auditors Office staff; University of Colorado Health Sciences Center and Colorado Psychiatric Health leadership; specific review by stakeholder representatives from NAMI-Colorado, the Colorado Behavioral Healthcare Council and other members of the Steering Committee for this Institute study; and discussions with the consumer and advocate members of the Colorado Mental Health Services Strategic Planning Committee.

Given the inter-relationships between the recommendations developed for Institute programs, financing and administration/governance, the recommendations for all three areas have been combined within this single report. The report begins with overall recommendations on the future of the Institutes, then presents specific recommendations in each of the three areas. The recommendations in this report will receive additional review by CDHS, the Steering Committee for the overall study and other representatives of Colorado state government. Specific input will be gathered through a review with the Steering Committee on February 28, 2001. This input may be used to refine and revise the recommendations in this report prior to their submission in the March, 2001 Final Operational Plan which will provide the final and complete set of recommendations and findings for this project.

Overall Recommendations

The recommendations in this report are inter-related. In most cases, recommendations regarding changes in specific CMHI programs are dependent on recommendations regarding Institute governance and the financing of both the Institutes and Colorado's overall public mental health system. Specific instances of inter-dependence are noted throughout this report. However, all of the recommendations in this report depend on the following set of overall recommendations.

Overall Recommendation One – Available services within the overall Colorado mental health system must be increased through increased leveraging of federal funds (e.g., Medicaid), increased use of more cost-effective community-based programming and increased funding availability overall. The basic stance of this report is a conservative view that changes in the system of care can help establish an improved level of service availability and that these changes can largely be funded given current levels of appropriation, adjusted over time to begin to keep pace with inflation and population growth. The analysis of population growth, increasing numbers of uninsured Colorado residents, recent funding levels that have not kept pace with inflation or population growth, and a documented lack of community-based alternatives resulting in overuse and some misuse of the Colorado Mental Health Institutes clearly points to this recommendation. Estimates detailed below for needed additional funding for community alternatives range from $35 to $43 million. The specific recommendations that follow below were developed to maximize the amount of funds and cost-effectiveness of spending priorities within Colorado's mental health system. While specific opportunities for cost-savings within the Institutes and strategies to leverage additional federal funding are presented, this is only to the extent that any saved funds be used to begin to rectify existing gaps in needed mental health services. This report is predicated on the central recommendation that any projected cost-savings are warranted only to the extent that they can be used to better meet the state's goal to provide needed mental health services. In some areas, additional funding beyond current allocations may be needed in order to maintain or improve Colorado's system of mental health care. Current levels of appropriation are defined as the FY2000 levels of state general funding allocated to specific programs, adjusted for projected continued population growth and inflation.

Overall Recommendation Two – Current Institute inpatient programs must be maintained until adequate alternatives are developed, both in terms of quantity and quality. Given the severity of clinical symptoms and the levels of danger to self and others posed, Institute programs should be maintained until alternatives are developed. In the case of adolescent inpatient care and medical/surgical services, this report identifies current inefficiencies that appear to warrant immediate changes in Institute programming. However, most of the changes recommended below require the development of alternative services prior to their implementation. The published literature consistently shows that successful state hospital downsizing and closure initiatives have utilized extensive planning and implementation periods for enhancing community programs prior to reducing inpatient censuses.[7] States that have not

[7] These include: (continued on next page)

taken time to plan carefully or that did not had strong community-based programs in place when they downsized their state hospitals, did not evidence such good outcomes.[8] A review of reports and data related to the closing of Institute child and adolescent programs in the late 1990s and input documented in the stakeholder focus groups also underscored this need. The experience of the State of Oregon when it essentially closed its state psychiatric facility in Portland in the mid-1990s provides a good example of how a state can efficiently and effectively ensure adequate care and ultimately improve care for populations in need by building alternatives prior to down-sizing.[9]

Overall Recommendation Three – A significant number of consumers should continue to be served by Institute inpatient programs. The core mission of the Institutes to serve those Colorado residents most in need due to either the long-term nature of their condition or the severe acuity of their symptoms will continue to be needed and should be supported and strengthened over time. Even in the presence of adequate community alternatives, many current consumers of Institute inpatient programs will continue to need child, adolescent, adult, and older adult inpatient services. Given their long stays, the proportion of beds used by this population is greater than their proportion on a per admission basis. Based on an analysis of the lengths of stay distributions on a high-use day (10/19/00) and a recent day (1/24/01), the number of beds occupied by persons staying 60 days or longer averaged 50% and ranged between 47% and 54% of occupied beds (173 and 191 persons staying over 60 days, respectively). The percentage of beds filled by persons staying 180 days or longer averaged 26% and ranged between 23% and 29% of occupied beds (84 and 103 persons staying over 180 days, respectively). These numbers must be viewed as only approximate, given the small sample of days. Also, some of these persons are likely served by the Institute due to a lack of step-down programs or alternative in other care settings (e.g., sexual perpetrators and persons with primary substance abuse, developmental disability, traumatic brain injury or other organic brain disorders). However, a significant number of persons are currently using the Institutes for longer term care and this can be expected to continue. Using only the centrally tracked data available, the current study was not able to estimate the number of persons who pose a highly acute danger to self or others (reason for admission is not currently tracked outside of individual medical records by the Institutes). Since acuity tends to be highest at the time of admission, it can be assumed that the number of persons in need of such care balances the use of beds by persons

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Deci, P.A., et al. (1997). Downsizing state operated psychiatric facilities. In S.H. Henggeler, A.B. Santos (Eds.), Innovative approaches for difficult-to-treat populations. Washington, D.C.: American Psychiatric Association. (pp. 371-394).

McDonel, E.C., Meyer, L., and Deliberty, R. (1996). Implementing state-level mental health policy reforms in Indiana: Closing a state-operated psychiatric hospital and passing major mental health reform legislation. *International Journal of Law and Psychiatry*, 19(3/4), 239-264.

Monroe-DeVita, M.B., & Mohatt, D.F. (1999). The state hospital and the community: An essential continuum for persons with severe and persistent mental illness. In W.D. Spaulding (ed.), The role of the state hospital in the twenty-first century. *New Directions for Mental Health Services*, no. *84* (Winter). San Francisco: Jossey-Bass. (pp. 85-98)

[8] DeSisto, MJ, Harding, CM, McCormick, R.V., Ashikaga, T., & Brooks, G.W. (1997). The Maine-Vermont comparison of the long-term outcome of serious mental illness. *British Journal of Psychiatry*.

[9] Oregon Legislative Assembly, Task Force on Mental Health. December, 1996. Final report and recommendations; Nikkel, B., Deputy Assistant Administrator, Office of Mental Health Services, Oregon Department of Human Services. October, 2000. Personal communication.

better served in other systems. To be conservative, for the current estimate we assume a net addition to the total number of beds that will continue to be needed. Therefore, for the purpose of developing the current recommendations it is estimated that 60% of current capacity would continue to be needed even when appropriate alternatives are available. The maintenance of direct state funding for 60% of current capacity underlies many of the more specific recommendations below, especially those regarding community control of Institute funding.

Overall Recommendation Four – Many current CMHI consumers should be served in more clinically appropriate and cost-effective settings, including community-based alternatives. Given the lack of centrally tracked data on reason for admission, exact estimates are not possible within the scope of this study. Instead, estimated upper limits are offered and are based on the number of persons staying less than 60 days in the Institutes. We estimate that up to 70% of adults and up to 50% of older adults currently served by CMHI inpatient programs could be served in alternative settings. These are upper limits and the actual number may very well be lower. However, this is the best available estimate of the number of persons who could be served in other settings. This also refers to persons served. Since lengths of stay are shorter for these people, the Institute capacity that could be diverted to the community is more in the range of 40% - 50%. While these numbers include those persons who appropriately need the Institutes for a shorter period of time due to the high acuity of their needs, they exclude the many consumers stays over sixty days due to a lack of step-down services or available services in other systems of care (e.g., chronic sexual perpetrators and persons with severe primary disorders involving developmental disabilities, substance abuse, traumatic brain injuries or other organic brain disorders). Because reason for admission was not available, neither group could be counted definitively. To some degree, the differences in the estimates associated with two groups can be expected to cancel each other out. This recommendation is offered as an approximation of the maximum potential number of consumers who could be served in other settings. Its primary use in the current report is to convey the idea that alternatives in the mental health system and other systems of care could be developed to serve many and perhaps most current CMHI consumers. The specific recommendations which follow in support of this overall recommendation include provisions to more accurately determine the number of consumers and associated amount of current Institute resources potentially impacted.

CMHI Program Recommendations

Specific recommendations are offered in this section for each of the major CMHI programs. They are based upon data from the CMHIs, focus groups and national key informant and literature sources, as well as analyses of specific program financing. In most cases, a single primary recommendation is offered, with alternatives described to highlight the pros and cons of various approaches. Recommendations are offered for the following programs:

- Adolescent psychiatric inpatient services
- Adult psychiatric inpatient services
- Child psychiatric inpatient services
- Geriatric psychiatric inpatient services
- Medical / Surgical Service (MSS) Unit inpatient services
- Mountain Star Residential Treatment Center (RTC) services

Adolescent Psychiatric Inpatient Services Recommendations

For adolescent psychiatric inpatient services, a primary recommendation is offered, as well as an alternative recommendation. While this report recommends the primary recommendation over the alternative, the ultimate choice between the two recommendations depends upon the priorities of the CDHS. The primary recommendation includes the fullest possible reduction of currently unused psychiatric inpatient capacity, a loss of some inpatient functionality for the CMHIs, and significant savings to divert to community-based alternatives for adolescents. The other recommendation results in a smaller reduction of psychiatric inpatient capacity, comparable inpatient functionality to the current arrangement, and 70% less funding available for community-based alternatives. Given the significant need for community alternatives detailed later in this report, TriWest Group recommends the primary recommendation to CDHS.

The primary and alternative recommendations are:

- **Primary adolescent inpatient recommendation** – Increase community-based alternatives by closing the 10 bed open unit at CMHI-Pueblo, leaving two locked units (one each at CMHI-Pueblo and CMHI-Fort Logan) and a need to shift the balance of current CMHI-Pueblo use to CMHI-Fort Logan. Overall adolescent CMHI inpatient capacity would go from 42 to 32 beds, with an estimated $1.34 million in State General Funds available for alternative services in the community.

- **Alternative adolescent inpatient recommendation** – Maintain the 10 bed open unit at CMHI-Pueblo and instead downsize the two locked units by 8 beds total, reducing the 20 bed locked unit at CMHI-Pueblo to 16 beds and the 22 bed CMHI-Fort Logan unit to 18 beds. This would preserve a three unit inpatient continuum with the 10 bed CMHI-Pueblo unlocked unit available for lower intensity cases, the 18 bed CMHI-Fort Logan locked unit available for moderate intensity cases and the 16 bed CMHI-Pueblo locked unit available for the highest intensity cases. Overall CMHI adolescent inpatient capacity would go from 42 to 34 beds, with an estimated $0.39 million in State General Funds available for alternative services in the community.

The timeline recommended for implementing these recommendations is 15 months (one 3-month component, two concurrent 6-month components, one additional 6-month component). This would involve:

- Three months of planning at the state and local levels.

- Six months to complete the downsizing and transition of consumers between programs.

- Six concurrent months to develop a proposal process for developing adolescent alternatives, for local entities to develop proposals, and for successful proposals to be chosen.

- Six months to implement community alternatives.

Analyses Supporting the Recommendations – TriWest Group's development of the primary and alternative recommendations is based upon the following reasons:

Only 70.4% of current capacity is used on average – An analysis of bed days used and occupancy rates for adolescents hospitalized at both Institutes shows a consistent drop in use over the last three full fiscal years that continues through 12/31/00 of the current fiscal year. Key data include:

- Bed days attended have decreased steadily at both Institutes. Compared to 1997-98 levels, combined bed days for adolescents fell 20.6% by 1998-99 and 26.8% by 1999-00. This trend has continued for the first six months of 2000-01, with the current projection for bed days attended at 13,367 (31.5% below the 1997-98 level of 19,525). See the table below.

- Combined occupancy in 1999-00 was 75.1% and fell to 70.4% in the first six months of the current fiscal year. Focus group participants from the CMHIs contended maximum occupancy should be lower on units with shorter lengths of stay, such as the adolescent units. While an occupancy rate in the mid 80% range could be understandable, the current combined occupancy rate of 70.4% is still well below that of any other Institute psychiatric inpatient program. There are more beds available than current demand for their use.

- CMHI-Fort Logan bed days have dropped by 37.6% between 1997-98 and the annualized projection for 2000-01. This trend has continued in the first six months of 2000-01, with an estimated drop in annualized bed days of 6.0% from 1999-00 or 331 bed days annualized. Current occupancy is 64.3%.

- CMHI-Pueblo has had a similar drop in bed days, with annualized 2000-01 days attended 27.1% below the 1997-98 figures. This trend has continued in the first six months of 2000-01, with an estimated drop in annualized bed days of 6.8% from 1999-00 or 595 bed days annualized. Current occupancy is 74.9%.

- Focus group participants noted and data from the Colorado Health and Hospitals Association (CHA) confirm a reduction in overall adolescent inpatient capacity across Colorado (with West Pines and Cleo Wallace both closing units in the past two years). Perhaps related to this, the number of inpatient consumers served by the two Institute adolescent programs has increased in each of the last three years, despite the decrease in bed days. Although the number of cases served has been consistently increasing, a sharper decrease in average length of stay has resulted in overall bed day use declining.

- If capacity were reduced by ten beds (from 52 to 42 combined), occupancy would have been 87.1%. While this would still be lower than other CMHI inpatient programs, it is in line with that of acute inpatient units. With a reduction of only eight beds, occupancy would have been 83.2%.

Table 1: Attendance Over the Past Three Fiscal Years – Adolescent Inpatient Units

	1997-98[10]	1998-99	1999-00	2000-01	With Reduction of 10 Beds	With Reduction of 8 Beds
Institute	**CMHI-Pueblo**					
Bed Days Attended	11,248	9,492	8,798	8,203		
Average Daily Attendance	30.8	26.0	24.0	22.5		
Beds Available	44	30	30	30		
Empty Beds	13.2	4.0	6.0	7.5		
Occupancy Rate	70.0%	86.7%	80.1%	74.9%		
Institute	**CMHI-Fort Logan**					
Bed Days Attended	8,277	6,005	5,495	5,164		
Average Daily Attendance	22.7	16.5	15.0	14.1		
Beds Available	36.6	22	22	22		
Empty Beds	13.9	5.5	7.0	7.9		
Occupancy Rate	63.9%	77.1%	70.9%	64.3%		
Institute	**Combined**					
Bed Days Attended	19,525	15,497	14,293	13,367	13,367	13,367
Average Daily Attendance	53.5	42.5	39.1	36.6	36.6	36.6
Beds Available	80.6	52	52	52	42	44
Empty Beds	27.1	9.5	12.9	15.4	5.4	7.4
Occupancy Rate	66.4%	81.6%	75.1%	70.4%	87.1%	83.2%

Both programs have improved their performance regarding lengths of stay, especially CMHI-Fort Logan – As noted above, the key reason for decreased bed days is the decreasing lengths of stay at both Institutes, especially CMHI-Fort Logan. The decrease in lengths of stay may be related to improved clinical performance by the adolescent units, as well as improvements in community-based care. An analysis of lengths of stay for adolescents hospitalized at both Institutes shows several trends over the past three years:

[10] For 1997-1998 only, bed days were computed by multiplying average daily attendance by 365. For other years, actual counts of bed days provided by the Institutes were used.

[11] Current occupancy was projected using year to date bed days attended as of 12/31/00, dividing them by the number of days elapsed (184) and multiplying them by the total days in the year (365).

- The number of overall adolescent consumers served increased at CMHI-Fort Logan and remained stable at CMHI-Pueblo, growing overall from 540 in 1997-98 to 577 in 1999-00, an increase of 6.9%.

- Overall, lengths of stay have consistently fallen over the past three years at both Institutes. Combined stays of two weeks or less rose from 32.8% of the total in 1997-98 to 53.0% by 1999-00. Combined stays over one month decreased from 46.5% of the total in 1997-98 to only 24.3% by 1999-00. These shorter stays seem to be the primary reason related to lower average daily attendance reported above, as opposed to a decrease in demand for the service.

- Lengths of stay dropped even more dramatically at Fort Logan. Stays of two weeks or less rose from 52.5% of the total in 1997-98 to 68.4% by 1999-00. Stays over one month decreased from 36.1% of the total in 1997-98 to only 15.2% by 1999-00.

Lengths of stay may be difficult to lower further – At first view, the data suggest that CMHI-Pueblo's program may follow the lead of CMHI-Fort Logan and be able to reduce their lengths of stay even further. For the most recent fiscal year, only 32.6% of CMHI-Pueblo cases were discharged in two weeks or less, as opposed to 68.4% at CMHI-Fort Logan. However, two factors weigh against significant further reductions in lengths of stay for either program. First, the metro Denver area catchment areas served by CMHI-Fort Logan have significantly more community alternatives than do those served by CMHI-Pueblo. CMHI staff noted the lack of these alternatives in rural areas of the state and for adolescents in particular.

Second, 30-day readmission rates for adolescents at each Institute show a mixed, but upward trend. At CMHI-Fort Logan, the rate for adolescents fell between 1997-98 and 1998-99 (7.0% and 5.8%, respectively), but rose in 1999-00 (12.5%). At CMHI-Pueblo, the rate rose between 1997-98 and 1998-99 (6.2% and 11.0%, respectively), but fell in 1999-00 (8.5%). Some view 30-day readmission rates as a negative indicator of treatment efficacy, although some also view it as a neutral factor subject to many individualized factors. Viewed as a negative indicator, one could observe that the overall trend over the past three years is upward and hypothesize that this suggests that lengths of stay may be reaching a level that will be hard to lower without a negative impact on care. However, this conclusion cannot be viewed as definitive given the overall variation in rates and questions about the interpretability of such data. CMHI clinical staff have suggested that a rate of 10% is a useful cutoff, with further review indicated should the 30-day readmission rate go above this level. The combined rate for adolescents at both facilities was 10.7% in the most recent year, reinforcing the notion that lengths of stay may not be able to fall further without negative consequences.

Diverting current CMHI-Pueblo use to CMHI-Fort Logan is feasible – Despite its lower occupancy rate, downsizing the CMHI-Fort Logan program does not necessarily follow. First of all, downsizing a program tends to result in less cost-savings than a unit closure given an inpatient unit's fixed staffing and operational costs. For example, staffing patterns are difficult to make proportional to use (i.e., part FTEs are more difficult to fill) and cannot be reduced below a certain level if 24-hour coverage is to be maintained.

Second, it would be feasible and potentially preferable from a continuity of care standpoint to switch some current adolescent inpatient use from CMHI-Pueblo to CMHI-Fort Logan. In early 2000, all catchment areas were notified that they no longer had to use only the particular adolescent inpatient program to which they had historically been assigned. However, nine catchment areas that continued to use CMHI-Pueblo adolescent inpatient services through the remainder of 1999-00 and year to date in 2000-01 are actually closer to CMHI-Fort Logan. The potential impact of switching the adolescent inpatient use of these catchment areas to CMHI-Fort Logan would appear to both improve continuity of care and allow any reduction in capacity to occur at CMHI-Pueblo.

Table 2: CMHCs closer to CMHI-Fort Logan and Use of CMHI-Pueblo Adolescent Units[12]

CMHC	Distance to CMHI-Fort Logan	Distance to CMHI-Pueblo	1999-00 Use of CMHI-Pueblo	2000-01 Use of CMHI-Pueblo
Arapahoe/Douglas Mental Health - Network Englewood, CO	7 miles	109 miles	1.9 beds/day	0.9 beds/day
Aurora Community Mental Health Center - Aurora, CO	9 miles	112 miles	0.8 beds/day	0.3 beds/day
Centennial Mental Health Center - Sterling, CO	130 miles	242 miles	1.2 beds/day	0.6 beds/day
Colorado West Regional Mental Health Center - Glenwood Springs, CO	158 miles	269 miles	2.0 beds/day	1.1 beds/day
Jefferson Center for Mental Health - Arvada, CO	11 miles	121 miles	0.4 beds/day	0.3 beds/day
Larimer Center for Mental Health - Fort Collins, CO	64 miles	176 miles	0.1 beds/day	0.0 beds/day
Mental Health Center of Boulder County - Boulder, CO	31 miles	140 miles	0.3 beds/day	0.1 beds/day
Mental Health Corporation of Denver - Denver, CO	Same city	114 miles	0.0 beds/day	0.2 beds/day
North Range Behavioral Health - Greeley, CO	56 miles	168 miles	0.6 beds/day	0.3 beds/day
Total beds that could be transferred from CMHI-Pueblo to CMHI-Ft. Logan			**7.3 beds/day**	**3.8 beds/day**
Potential Decrease in CMHI-Pueblo Use			16.7 beds/day	18.6 beds/day
Projected occupancy with 20 bed unit			83.5%	93.0%
Potential Increase in CMHI-Ft. Logan Use			22.9 beds/day	18.0 beds/day
Projected occupancy with 22 bed unit			104.1%	81.8%

[12]Miles between cities obtained from Microsoft Expedia Streets and Trips 2000 software.

Two additional catchment areas that used CMHI-Pueblo adolescent inpatient services in 1999-00 and year to date in 2000-01 are farther away from CMHI-Fort Logan than from CMHI-Pueblo. However, a case can be made for diverting some or all of each catchment area's use of adolescent inpatient services from CMHI-Pueblo to CMHI-Fort Logan:

- Although Midwestern MHC in Montrose is closer by road to Pueblo, the time involved in driving is less different given the ability to use Interstate 70 when traveling to Fort Logan (5 hours and 16 minutes to Fort Logan, 4 hours and 39 minutes to Pueblo, a difference of 37 minutes). Given that the road to Fort Logan (I-70) is more reliable, a switch in winter use could be an improvement. Furthermore, a switch in other use would only result in a net change of 37 minutes on average for a 4 and ½ hour drive.

- Pikes Peak MHC is also closer to CMHI-Pueblo than to CMHI-Fort Logan. Again, the driving time is less different (76 minutes to Fort Logan versus 53 minutes to Pueblo, a difference of 24 minutes). However, given the currently planned switch in MHASAs from Colorado Health Networks to *Access* Behavioral Care (ABC) in Denver, there may be efficiencies in utilization management and other oversight for the new MHASA that support increased use of Fort Logan's adolescent program.

The following table shows the mileage differences and potential bed days that could be switched.

Table 3: CMHCs closer to CMHI-Pueblo and Use of CMHI-Pueblo Adolescent Units[13]

CMHC	Distance to CMHI-Fort Logan	Distance to CMHI-Pueblo	1999-00 Use of CMHI-Pueblo	2000-01 Use of CMHI-Pueblo
Midwestern Mental Health Center - Montrose, CO	309 miles	225 miles	0.9 beds/day	0.5 beds/day
Pikes Peak Mental Health Center - Colorado Springs, CO	70 miles	46 miles	4.7 beds/day	5.8 beds/day

Closing the 10 bed open unit at CMHI-Pueblo is feasible – Given an ability to move current utilization of CMHI-Pueblo to CMHI-Fort Logan, CMHI-Pueblo's 10 bed open adolescent unit could be closed. Several additional reasons support this:

- Closing a unit increases the funds available for community-based alternatives. Closing a unit maximizes cost savings, as opposed to unit downsizing. This would free up a significant amount of funding for community-based alternatives. Estimates detailed later in this report show a total of $1.34 million for community services could be realized, over $950,000 more than in the case of an eight (8) bed downsizing across three units. Closing a unit allows for a savings of fixed and variable costs associated with that unit, as opposed to only variable costs. For downsizing, 24 hour staffing requirements create a minimum below which staffing cannot be reduced and staff reductions typically must occur in whole FTE increments.

[13]Miles between cities obtained from Microsoft Expedia Streets and Trips 2000 software.

- Current CMHI-Pueblo use patterns favor the locked unit over the open unit. Stakeholders at CMHI-Pueblo have observed that use of the 10 bed unit has dropped more than use of the 20 bed unit. Additionally, the locked unit allows more flexibility of use for a wider range of inpatient consumer acuity than an open unit.

- Effects on staff are minimized by the current plan to enhance staffing at remaining units. Currently, 20.5 FTE are authorized for the 10 bed open unit. These positions would be eliminated. However, an important mitigating factor is that the current request for a staffing increase on the two remaining adolescent units totals 19.5 FTE (6.8 FTE at CMHI-Pueblo and 12.7 FTE at CMHI-Fort Logan). Additionally, across all units at CMHI-Pueblo, 181.2 total new FTE are proposed. While a closing will still impact staff, it would appear that many if not all current staff would be able to find positions elsewhere within the CMHI system.

Negative effects of closing the 10-bed open unit – There would be negative effects of such a downsizing. They include:

- Having only one physical unit at CMHI-Pueblo reduces the functionality of the units from the current arrangement. Stakeholders have observed a clinical advantage to being able to have two physically separated units in a single program in that inpatient consumers can be separated across units when clinically indicated. This functionality would be lost without a second program. CMHI staff noted that this was a particular difficulty given significant rates of sexual perpetrators and victims of sexual abuse on the units. Year to date at CMHI-Fort Logan (which operates without a second unit), 23.8% (44) of adolescent inpatient consumers were identified as sexual perpetrators at admission and 34.1% (63) presented with histories of sexual abuse. However, coordination between the two programs remaining at CMHI-Pueblo and CMHI-Fort Logan could conceivably address this issue in part.

- During times of peak use (e.g., October), need may exceed capacity. For example, on one day last October (10/19/00), combined census for both units was 46, four more than the proposed bed level of 42. With the proposed configuration, it would not be possible to go over this amount given the physical limitations of facilities housing the two remaining inpatient units. In addition, experience shows that once inpatient capacity is eliminated it is difficult, although not impossible, to replace. Cutting the margin of available beds increases the risk to the state that additional capacity cuts in private facilities may increase the pressure on the remaining bed capacity.

- Potential impact of a transition on current inpatient consumers is possible and must be managed. If any youth were still on the open unit at the time of closure, these youth would have to be transferred to another program. This issue is compounded by the need to switch some current use of CMHI-Pueblo to CMHI-Fort Logan, a process that could take some time. However, given sufficient lead-time (e.g., 90 days), planning should be able to minimize or avoid any consumer transfers. This seems especially likely given that less than 30% of FY1999-00 CMHI-Pueblo adolescent consumers stayed over 60 days and that most intensive

cases are treated on the locked unit. Additionally, the nearby presence of the remaining CMHI-Pueblo unit would help minimize the negative effects of any transfer from the open unit.

Advantages of a three-unit inpatient continuum – CMHI leadership and clinical staff have advocated for an alternative strategy in which a three-tier inpatient continuum is maintained. Under this scenario, 8 beds would be reduced from the two locked units and the 10 bed open unit would remain intact. This would allow for three inpatient levels of care, as follows:

- An intensive 16-bed locked unit at CMHI-Pueblo – The smaller size of this unit from the current 20-bed size and proximity to the 10-bed unlocked unit would allow more functional management of difficult-to-treat adolescent consumers (e.g., sexual perpetrators, those exhibiting violent behavior). Given the increase in involuntary admissions (only 8.4% of adolescent consumers at CMHI-Pueblo were voluntary in 1999-00, versus 16.4% in 1998-99) and increasing presence of dangerousness or grave disability at admission (over 95% of adolescent admissions to both Institutes had some level of dangerousness in 1999-00, versus only 80% and 90%, respectively, at CMHI-Pueblo and CMHI-Fort Logan in 1997-98), specialization of the CMHI-Pueblo unit would allow a continued measure of separation between consumers with the most difficult and violent conditions and those who pose less of a danger or who would be at risk of victimization. Also, the smaller unit size (16 beds) allows for a more manageable intensive capacity. Data defining the number of inpatient consumers who could benefit from this arrangement were not available.

- A medium-intensity 18-bed locked unit at CMHI-Fort Logan – The smaller size of this unit from the current 22-bed size would allow for better management of the needs of consumers with needs in the moderate range of intensity. Given the overall acuity of the population served by the Institutes, this is still a very high level of acuity.

- A less intensive 10-bed unlocked unit at CMHI-Pueblo – This would maintain a capacity more targeted toward less intensive, younger, or otherwise more vulnerable adolescent consumers at CMHI-Pueblo that is physically separated from the more intensive locked unit.

Disadvantages of a three-unit inpatient continuum – Moving to this configuration would maintain some current challenges:

- The need to travel greater distances to CMHI-Pueblo would be maintained for many consumers. If the units move to the sizes proposed and a service model predicated more on specialization of treatment population than geographical proximity, consumers closer to CMHI-Fort Logan would continue to need to use CMHI-Pueblo. In addition, additional consumers closer to one of the units may need to use another unit that is further away because they better fit the consumer profile of that unit. This could compound the travel issues detailed above, as many current users of CMHI-Pueblo are already traveling past the CMHI-Fort Logan unit.

- Downsizing would result in 70% less cost-savings than a unit closure. The calculations underlying this percentage difference are detailed below in the financial analysis of the adolescent inpatient units. The ability to realize savings to divert to increase community-based alternatives would be lower with an eight (8) bed downsizing. In addition to only reducing by 8 instead of 10 beds, unit downsizing results in a lower amount of savings per bed eliminated. Staffing patterns can only be reduced so low if 24-hour minimums are to be maintained and partial staff position reductions are problematic, requiring step-down decreases by full FTEs. In addition, the fixed costs of the unit (e.g., facility costs) cannot be reduced in a down-sizing. As noted above, the eight (8) bed downsizing would yield over $950,000 less in based State General Funds for community alternatives than would the 10 bed unit closing.

Financial Analysis of the Adolescent Inpatient Units

Expenses – The following table presents expenses for both adolescent inpatient programs for the past three complete fiscal years and projected for the current fiscal year. Costs are broken down into direct costs incurred by the units and indirect, allocated costs. Allocated costs have been broken down into more variable patient-related ancillary services such as dietary or professional services and relatively fixed administrative costs including central administration, central facility costs and medical records. Medicare cost reports were used to capture expenses, and they include state government costs from areas of state government outside of the CMHIs, including the Office of Direct Services, Office of Information Technology Services, Office of Operations (facilities management, accountants, procurement), the Executive Directors Office (executive leadership, human resources, budget office) and Statewide Overhead.

Table 4: Adolescent Inpatient Expenses[14]

Fiscal Year	1997-98	1998-99	1999-00	2000-01[15]
Total Costs	**$ 10,478,790**	**$ 8,391,933**	**$ 8,792,195**	**$ 8,906,493**
CMHI-Fort Logan				
Direct	$ 2,041,745	$ 1,501,423	$ 1,600,393	$ 1,621,198
Allocated - Ancillary Patient Services	$ 1,699,353	$ 1,379,248	$ 1,345,402	$ 1,362,892
Allocated – Administrative	$ 923,122	$ 572,037	$ 610,858	$ 618,799
Fully loaded	**$ 4,664,220**	**$ 3,452,708**	**$ 3,556,653**	**$ 3,602,889**
Number of Bed Days Attended	8,277	6,005	5,495	5,164[16]
CMHI-Pueblo				
Direct	$ 3,542,690	$ 3,170,040	$ 3,103,288	$ 3,143,631
Allocated - Ancillary Patient Services	$ 760,237	$ 682,924	$ 986,477	$ 999,301
Allocated – Administrative	$ 1,511,643	$ 1,086,261	$ 1,145,777	$ 1,160,672
Fully loaded	**$ 5,814,570**	**$ 4,939,225**	**$ 5,235,542**	**$ 5,303,604**
Number of Bed Days Attended	11,248	9,492	8,798	8,203[17]

[14] Based on Medicare cost report data

[15] 1999-00 costs increased by 1.3%, the rate of projected expense increase estimated for FY2001 by the Office of Direct Services.

[16] Year to date data through 12/31/01, annualized.

[17] Year to date data through 12/31/01, annualized.

To analyze changes in costs over this time period, overall costs were divided by bed days attended to derive per day costs. These are presented in the following table.

Table 5: Adolescent Inpatient Costs per Day[18]

Fiscal Year	1997-98	1998-99	1999-00	2000-01[19]
CMHI-Fort Logan Costs Per Day				
Direct	$247	$250	$291	$314
Allocated - Ancillary Patient Services	$205	$230	$245	$264
Allocated – Administrative	$112	$95	$111	$120
Fully loaded	**$564**	**$575**	**$647**	**$698**
Costs adjusted for 85% occupancy			$521	$528
Rate charged	**n/a**	**$575**	**$575**	**$625**
Costs divided by rate charged	n/a	100.0%	112.6%	111.6%
CMHI-Pueblo Costs Per Day				
Direct	$315	$334	$353	$383
Allocated - Ancillary Patient Services	$68	$72	$112	$122
Allocated - Administrative	$134	$114	$130	$142
Fully loaded	**$517**	**$520**	**$595**	**$647**
Rate charged	**$403**	**$428**	**$535**	**$548**
Costs divided by rate charged	128.3%	121.6%	111.2%	118.0%

Two primary observations can be made regarding costs:

- Fully loaded per day costs for both programs have been in excess of the rates charged in the past two years. Costs are projected to be 12% over the rate charged at CMHI-Fort Logan and 18% over the rate charged at CMHI-Pueblo.

- If CMHI-Fort Logan occupancy rates were at the 85% level, per day costs would be significantly lower and more comparable to those of CMHI-Pueblo.

[18] Based on Medicare cost report data

[19] 1999-00 costs increased by 1.3%, the rate of projected expense increase estimated for FY2001 by the Office of Direct Services.

Revenue – An analysis of revenue was also completed. This is summarized in the following table.

Table 6: Adolescent Inpatient Revenue Data and Analyses[20]

Fiscal Year	1997-98	1998-99	1999-00	2000-01[21]
CMHI-Fort Logan Revenue				
State General Fund Revenue[22]	n/a	$ 1,613,120	$ 1,777,452	$ 1,701,835
PPOR (education)[23]	n/a	$ 79,271	$ 75,778	$ 58,493
MHASA Revenue	n/a	$ 1,115,493	$ 1,199,590	$ 1,393,419
Other Medicaid Revenue	n/a	$ 394,228	$ 403,544	$ 347,549
Other Third Party Revenue[24]	n/a	$ 250,596	$ 100,289	$ 101,593
SGF percent of revenue	n/a	46.7%	50.0%	47.2%
MHASA/Medicaid Days	5,487	4,666	4,719	n/a
Percent	66.3%	77.7%	85.9%	n/a
MHASA/Medicaid Revenue	n/a	$ 1,509,721	$ 1,603,134	$ 1,740,968
Percent	n/a	43.7%	45.1%	48.3%
CMHI-Pueblo Revenue				
State General Fund Revenue[25]	$ 3,220,881	$ 2,024,959	$ 2,588,090	$ 2,056,109
PPOR (education)[26]	$ 126,829	$ 142,550	$ 168,952	$ 166,634
MHASA Revenue	$ 2,027,036	$ 1,942,936	$ 1,764,383	$ 2,429,930
Other Medicaid Revenue	$ 659,230	$ 657,380	$ 77,529	$ 411,268
Other Third Party Revenue[27]	$ (219,406)	$ 171,400	$ 236,588	$ 239,664
SGF percent of revenue	55.4%	41.0%	49.4%	38.8%
MHASA/Medicaid Days	5,600	5,172	6,447	n/a
Percent	49.8%	54.5%	73.3%	n/a
MHASA/Medicaid Revenue	$ 2,686,266	$ 2,600,316	$ 2,241,912	$ 2,841,198
Percent	46.2%	52.7%	42.8%	53.6%

[20] As reported on Institute Net Revenue Reports, unless otherwise indicated.
[21] Unless otherwise noted, 2000-01 revenue figures are based on projections provided by ODS based on year to date revenue through 12/31/00.
[22] Calculated by subtracting all third party revenue from total costs.
[23] Reported separately by ODS.
[24] 2000-01 ODS projections unavailable; estimated by applying overall cost inflation factor of 1.3% time 1999-00 revenue.
[25] Calculated by subtracting all third party revenue from total costs.
[26] Reported by Ron McPheeters of CMHI-Pueblo.
[27] 2000-01 ODS projections unavailable; estimated by applying overall cost inflation factor of 1.3% time 1999-00 revenue.

The following observations can be made regarding adolescent inpatient revenue:

- Medicaid revenue appears to be increasing over time. The rate of increase has continued upward in the current fiscal year.

- While Medicaid revenue appears to be increasing as a percentage of overall revenue for both programs, the percentage of adolescent Medicaid recipients served continues to be dramatically higher than the percentage of Medicaid revenue underwriting program costs. While 85.9% and 73.3% of bed days were utilized by Medicaid recipients in 1999-00, only 45.1% and 42.8%, respectively, of revenue came from Medicaid sources. State General Funds appear to be subsidizing a large percentage of the costs expended for Medicaid recipients.

- In both downsizing scenarios proposed, no loss of third party revenue is anticipated since current utilization is expected to be maintained and third party revenues earned. However, some third party revenue could be lost during peak times to the extent that both units are full and cannot take new cases.

It is recommended that steps be taken to increase the rates charged for services to Medicaid recipients to minimize any subsidy with 100% State General Funds.

Savings for community alternatives – Both of the recommendation scenarios under consideration would result in cost-savings that should be used to develop community alternatives. The following model was developed in collaboration with the Office of Direct Services (ODS) and incorporates input from Joint Budget Committee analytic staff and the State Auditors Office. It should be noted that this model is approximate and is not a substitute for more detailed cost analyses by the appropriate staff of CDHS and state government. These estimates can be expected to vary by up to 10% in either direction.

Key features of the model include:

- Estimates of direct staff FTE saved – The dynamic staffing model developed by ODS and reviewed and endorsed in the ***Staffing Report*** was used to project the number of staff needed to maintain minimum staffing levels for the current 52 bed capacity and the projected capacity in each of the two scenarios under consideration. The differences were identified as cost savings.

- Projected costs per FTE – The average salary and benefit costs per FTE were taken from the current CMHI Staffing Request analyses. The average was calculated across the various direct care staffing types at the levels requested in the first year of the proposed staffing increase.

- Other direct care costs saved – The CMHI-Pueblo cost reports do not breakdown staffing and other direct costs. The CMHI-Fort Logan cost reports do. In order to estimate the percent of other direct costs that could be saved, the CMHI-Fort Logan direct cost figures for adolescent

inpatient services as a percentage of direct staff costs were applied to the direct staff costs from the FTE estimates to calculate other direct costs as a percentage of direct staff costs. This percentage was used in the unit closing model to estimate the other direct costs that could be saved by closing the 10 bed open unit. Per the guidance of the CMHIs and ODS, no additional direct cost savings were projected for the 8 bed downsizing scenario given that all three units would be maintained.

- Administrative staffing costs saved – ODS provided estimated administrative cost savings based on an FTE-based approach originally developed for unit closures. In keeping with the practice of earlier unit closings at the CMHIs, any FTE identified for a reduction of 0.5 or more was converted to a full FTE reduction (those under 0.5 were not reduced). Given that this model was developed for unit closings and also given the smaller scope of reductions in the eight (8) bed downsizing scenario, per the guidance of the CMHIs and ODS no administrative savings were projected for the downsizing scenario.

- Psychiatrist staffing costs saved – Because they were more readily available and to simplify the model, psychiatrist costs for the adolescent unit at CMHI-Pueblo were used for both estimates. 33.3% of costs were estimated as able to be saved in the 10 bed scenario (10 of 30 total beds) and 13.3% in the eight (8) bed downsizing scenario (8 of 30 total beds).

Table 7: Estimated Savings Available for Community-based Alternatives for Adolescents

	10-Bed Unit Closing	8-Bed Downsizing
Direct staff FTE saved	19.9 FTE	8.1 FTE
Projected savings per FTE	$ 43,782	$ 43,782
Total direct staffing costs saved	$ 871,691	$ 355,506
Other direct costs saved - percentage	22.3%	0.0%
Other direct costs saved (percentage x FTE savings)	$ 194,428	$ -
Administrative staffing costs saved	$ 188,156	$ -
Psychiatrist staffing costs saved	$ 86,925	$ 34,770
Total savings projected	**$ 1,341,200**	**$ 390,276**

It is recommended that CDHS utilize the entire amount of State General Fund savings to fund community-based alternatives for adolescents. The following principles are recommended as part of this effort:

- Regions of the state with higher need for adolescent alternatives should be identified and targeted. The CMHI Alternatives Study currently in progress should have detailed results available in April, 2001, that can be used to determine areas with fewer adolescent alternatives.

- Evidence-based models of care should be required. These would include nationally demonstrated intensive community-based models such as Multisystemic Therapy (MST), as

well as local models such as North Range Behavioral Health's Acute Treatment Unit. Given the input of stakeholders regarding increased pressure on Division of Youth Corrections (DYC) resources, CMHI staff observations of increased use of the Institute adolescent inpatient units by youth with juvenile justice needs, and evidence that youth served by the Institutes are increasingly admitted with adjustment and anxiety disorders that CMHI staff associate with reasons for admission related to behavioral acting out, it is particularly recommended that certified MST services be funded. Certified MST services – as opposed to less rigorous, but intensive home-based interventions – are clearly superior in their outcomes for youth with juvenile justice needs compared to alternative interventions.[28]

- The array of payers for persons served by the new services could be matched to those of persons currently served by the adolescent inpatient units in order to maintain current funding levels. However, given that the current level of CMHI services will be maintained, these funds could be used by CDHS to enhance services for the non-Medicaid population. Particularly in light of the current subsidization of CMHI adolescent inpatient services for Medicaid recipients by State General Funds, CDHS could direct these services toward the populations it deems to be in greatest need.

The following table offers one approach to providing alternatives that would fit with these principles, comparing the amount of community alternatives that could be purchased under each of the competing scenarios. The 10-bed and 8-bed reduction scenarios are each presented, first with a level of Medicaid participation comparable to that of the current payer mix utilizing the adolescent inpatient units at the Institutes and then with only State General Funding. While each scenario creates additional capacity, the 10-bed Medicaid scenario creates over five times the capacity of the scenario with the lowest funding.

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[28] Citations include:

Washington State Institute for Public Policy. (January, 1998). Watching the bottom line: Cost-Effective interventions for reducing crime in Washington. Olympia, WA: Seminar 3162 (pp. 1-6), The Evergreen State College.

Henggeler, S.W., Pickrel, S.G., & Brondino, M.J. (1999). Multisystemic treatment of substance abusing and dependent delinquents: Outcomes, treatment fidelity, and transportability. Mental Health Services Research. 1, 171-184.

Henggeler, S. W., Melton, G. B., Smith, L. A., Schoenwald, S. K., & Hanley, J. H. (1993). Family preservation using Multisystemic treatment: Long-term follow-up to a clinical trial with serious juvenile offenders. Journal of Child and Family Studies, 2, 283-293.

Borduin, C. M., Mann, B. J., Cone, L. T., Henggeler, S. W., Fucci, B. R., Blaske, D. M., & Williams, R. A. (1995). Multisystemic treatment of serious juvenile offenders: Long-term prevention of criminality and violence. Journal of Consulting and Clinical Psychology, 63, 569-578.

Table 8: A Model of Projected Community-based Alternatives Capacity

	10-Bed Reduction Scenario – Medicaid	8-Bed Reduction Scenario – Medicaid	10-Bed Reduction Scenario – No Medicaid	8-Bed Reduction Scenario – No Medicaid
Total SGF available	$ 1,341,200	$ 390,276	$ 1,341,200	$ 390,276
Medicaid percentage	73.3%	73.3%	0.0%	0.0%
Potential Federal Medicaid Reimbursement[29]	$ 982,804	$ 285,987	None	None
Total Funds Available	**$ 2,324,004**	**$ 676,263**	**$ 1,341,200**	**$ 390,276**
MST Slots - $45,000 per year	33	15	22	8
Cost per day	$123.29	$123.29	$123.29	$123.29
Total annual costs	$ 1,485,000	$ 675,000	$ 990,000	$ 360,000
RTC Beds - $82,125 per year	10	0	4	0
Cost per day	$225.00	$225.00	$225.00	$225.00
Total annual costs	$ 821,250	$ 0	$ 328,500	$ 0
Total Cost of Alternatives	**$ 2,306,250**	**$ 675,000**	**$ 1,318,500**	**$ 360,000**
Available funding less costs	$ 17,754	$ 1,263	$ 22,700	$ 30,276
Total Beds and Slots	**43**	**15**	**26**	**8**
Original Beds	10	8	10	8
Net Gain	**33**	**7**	**16**	**0**

[29] Estimated by multiplying the SGF amount x the Medicaid percentage to estimate federal portion that could be drawn down by SGF attributed to Medicaid recipients.

Analysis of Adolescent Inpatient Recommendations

The following table summarizes the issues discussed for each of the two competing primary scenarios and the status quo.

Table 9: Analysis of Adolescent Inpatient Recommendations

	Primary Recommendation Enhance community alternatives by closing 10-bed open unit	**Alternative Recommendation** – Maintain three-tier inpatient capacity with 8-bed savings for community alternatives	**Alternative** – Status quo
Consumer Care Consequences			
Positive	• Creation of 26 to 43 new community alternative treatment slots/beds • Redirecting care to CMHI-Fort Logan will provide a closer care alternative for many currently using CMHI-Pueblo	• Three-tier inpatient continuum allows for enhanced management of acute populations • Creation of 8 to 15 new community alternative treatment slots/beds	• Three-tier inpatient continuum allows for enhanced management of acute populations • Excess capacity may allow for enriched care for some consumers
Negative	• Loss of 10 inpatient beds • Loss of ability to move high need or dangerous patients between two contiguous CMHI-Pueblo units • During times of peak use (e.g., October), need could exceed capacity. For example, on one day last October, combined census was 46 (proposed beds will be 42) • Effects of transition on current patients	• Loss of 8 inpatient beds • Increased travel for patients needing care in one of the specialized treatment settings • During times of peak use (e.g., October), need could exceed capacity. For example, on one day last October, combined census was 46 (proposed beds will be 44) • Effects of transition on current patients	• Risk over time to ongoing financial viability of program could result in precipitous cuts in future

	Primary Recommendation – Enhance community alternatives by closing 10-bed open unit	Alternative Recommendation Maintain three-tier inpatient capacity with 8-bed savings for community alternatives	Alternative Status quo
Mitigating Factors	• Alternative approaches should be examined for providing seasonal overflow capacity in collaboration with another adolescent provider; Children's Hospital has expressed a willingness in Denver to work with CMHI-Fort Logan to develop programming • To the extent possible, the transition should not involve the movement of any current patients; if any moves are contemplated, an individualized plan should be developed in collaboration with the consumer, parents, and other involved agencies	• None identified	• None identified
Staff Consequences			
Positive	• Eliminate current uncertainty over future status of unit given low utilization	• Eliminate current uncertainty over future status of unit given low utilization	• No staffing changes
Negative	• Some current staff may not be able to be offered another acceptable position	• Some current staff may not be able to be offered another acceptable position	• Ongoing uncertainty over future of unit
Mitigating Factors	• Proposed staffing increase for the two locked units (6.8 FTE at Pueblo and 12.7 FTE at Fort Logan) is only 1.1 FTE less than current FTE authorization for the open unit (20.6 FTE)	• If staffing increase is approved, all current staff could fill those new positions	• None identified
Consequences for Community Alternatives			
Positive	• Unit closing results in $1.34 million in State General Fund savings for community alternatives • Maximum savings of associated costs since patients would continue to be served and third party revenue generated • Reduction in per day cost structure for services from both Institutes, but especially CMHI-Fort Logan	• Unit downsizing results in $0.39 million in State General Fund savings for community alternatives • Some reduction in per day cost structure for each Institute	• No transition costs
Negative	• Potential loss of some third party revenue for any patients unable to be served in new arrangement • Financial costs associated with unit closure	• $0.95 million less State General Funds available for community alternatives than with unit closure • Financial costs associated with unit closure	• Continued excess capacity of approximately 25% overall
Mitigating Factors	• None identified	• None identified	• None identified

Adult Psychiatric Inpatient Services Recommendations

For adult psychiatric inpatient services, a primary recommendation is offered with two alternatives. The alternatives are not recommended, but are offered to illustrate the advantages and disadvantages of the primary recommendation. These recommendations include:

- **Primary adult inpatient recommendation**: Downsize the three adult inpatient units at CMHI-Pueblo (excluding the Circle Program unit) by 24 beds total, reducing the size of the three adult inpatient units from 32-bed to 24-bed programs and using the available savings to fund alternative local inpatient and outpatient services as follows:
    - **Adult Inpatient Recommendation 1-A: Western Colorado** – Through a coalition of local CMHCs, the MHASA for this region and at least one local general hospital (with psychiatric inpatient capacity and 27-10 certification), develop an array of services at levels that can adequately serve at least 12 of the 17 adults currently and typically served at CMHI-Pueblo from the three catchment areas in Western Colorado: Colorado West, Midwestern, and Southwest Colorado. Up to five (5) allocated beds at CMHI-Pueblo will remain for these areas.
    - **Adult Inpatient Recommendation 1-B: Northern Colorado** – Through a coalition of local CMHCs, the MHASA for this region and Colorado Psychiatric Health, develop an array of services at levels that can serve at least 12 of the 16 adults currently and typically served at CMHI-Pueblo from the three catchment areas in Northern Colorado: Centennial, Larimer, and North Range Behavioral Health. Up to four (4) allocated beds at CMHI-Pueblo will remain for these areas.
- **Alternative adult inpatient recommendation**: Downsize by 24 beds and move capacity to the local level as in the primary recommendation, but use state government facilities instead of private psychiatric facilities as follows:
    - For Western Colorado, the CMHCs and MHASA would partner with the Grand Junction Regional Center.
    - For Northern Colorado, the CMHCs and MHASA would partner with CMHI-Fort Logan.
- **Alternative adult inpatient recommendation**: Maintain status quo.

The timeline recommended for implementing these recommendations is 27 months. This would involve:

- Three months of planning at the state and local levels.
- Six months to initiate community alternatives.

- Six months to transition 8 beds of current usage to the local level, followed by a reduction of capacity of 8 beds.

- Six months to transition an additional 8 beds of current usage to the local level, followed by a reduction of capacity of 8 additional beds.

- Six months to transition the final 8 beds of current usage to the local level, followed by a reduction of capacity of the 8 final beds.

Analyses Supporting the Recommendations – TriWest Group's development of the primary recommendation was based upon the following reasons:

Distances between CMHI-Pueblo and Northern/Western Colorado are clinically contra-indicated – The overriding reason for proposing a change in the provider of state-funded inpatient services for a portion of the allocated adult beds for Northern and Western Colorado is the impact of distance on care. The following table depicts the tremendous distances that consumers, their family members, and coordinating community-based clinicians must overcome in order to use and effectively coordinate care with the adult inpatient program at CMHI-Pueblo.

Table10 : Distance Between Northern and Western Colorado CMHCs and CMHI-Pueblo[30]

CMHC	Distance to CMHI-Pueblo
Northern Colorado	
Centennial Mental Health Center - Sterling, CO	242 miles
Larimer Center for Mental Health - Fort Collins, CO	176 miles
North Range Behavioral Health - Greeley, CO	168 miles
Western Colorado	
Colorado West Regional Mental Health Center - Glenwood Springs, CO	269 miles
Midwestern Mental Health Center - Montrose, CO	225 miles
Southwest Colorado Mental Health Center - Durango, CO	272 miles

[30] Data on Institutes to which CMHCs admit was obtained from Appendix B of the 2000 CMHI Operational Study RFP. Miles between cities obtained from Microsoft Expedia Streets and Trips 2000 software.

While these distances impact all populations from Northern and Western Colorado served by CMHI-Pueblo, they are more problematic for the adult population. This is due to several reasons:

- The bed allocation system requires use of the more distant CMHI-Pueblo program. The adult population must, for the most part, follow the bed allocation system. Adolescents and older adults have been able for most of the last year to use either of the programs at CMHI-Pueblo or CMHI-Fort Logan.

- Some alternatives are already in place. Additionally, alternative resources are already in place for adolescent and older adult populations that do not exist for adults needing allocated beds. For Western Colorado, St. Mary's Hospital in Grand Junction already serves adolescents. Since a higher percentage of adolescent consumers tend to have Medicaid than adults, this program is already available to many. While St. Mary's already serves many uninsured consumers (24 - 30% of charges, by their report), there is not current funding for additional capacity to divert adults currently using CMHI-Pueblo. For Northern Colorado, Medicaid status allows many children, adolescents, and adults to seek care locally or in the Denver metro area. Given that CMHI-Fort Logan has its capacity allocated to other areas of the state, there is not currently a closer alternative for Northern Colorado adults without funding.

- Capacity is available. There is an opportunity in both areas to create additional capacity for adults. St. Mary's Hospital in Grand Junction and Colorado Psychiatric Health in Denver both report current capacity that is unused and that could be purchased. Alternatively, the Grand Junction Regional Center and CMHI-Fort Logan have current facilities that could be developed.

Use of allocated beds – Currently, CMHI-Pueblo's bed allocation is significantly strained. Percent use for each of the past three fiscal years was calculated dividing average daily census for the year by the bed allocation. Allocations for adult beds at CMHI-Pueblo are presented in the following table. Several observations can be made:

- Overall, the allocation is consistently exceeded. The excess use has ranged from 3% to 12% and was 9% in the most recent year. Five of the twelve areas exceeded their allocation every year; two additional areas exceeded their allocation in two of the three years. Only three areas did not exceed their allocation in any year.

- There is wide variation in percent use from year to year, with percentage swings ranging from 2.8% to 66.7% of the allocation.

- Western and Northern Colorado catchment areas often exceed their allocation. Average use of allocation by the six catchment areas over the past three full years was 34.8 beds, 1.8 beds over their combined allocation of 33 beds.

Table 11: Percent Use of Allocated Beds – CMHI-Pueblo

	Number of allocated beds	1997-98 Use	1998-99 Use	1999-00 Use
Arapahoe/Douglas	12	70.5%	73.3%	71.2%
Centennial	4	124.3%	191.0%	157.0%
Colorado West	9	104.2%	121.6%	88.3%
Larimer	8	104.9%	112.8%	109.2%
Midwestern Colorado	4	103.1%	88.2%	83.8%
North Range Behavioral Health	4	67.5%	88.4%	78.5%
Pikes Peak	23	111.9%	124.8%	131.5%
San Luis Valley	4	97.1%	100.7%	118.2%
Southeastern Colorado	4	81.8%	89.9%	70.3%
Southwest Colorado	4	82.7%	71.4%	111.8%
Spanish Peaks	16	121.4%	131.4%	125.9%
West Central	4	128.2%	119.5%	106.9%
Total	96	102.9%	113.0%	109.0%

Other advantages – In addition to rectifying the problem of distance, this proposal would result in the following additional advantages:

- Privatization offers advantages. Privatization offers the opportunity to provide care outside of the state budgeting, personnel and procurement regulations, advantages clearly outlined in the two major previous reports making recommendations on the future of the two Institutes (the 1996 ***Performance Audit: Impact of Managed Care on the State Mental Health Institutes***[31] and the 1996 ***Final Report***[32] by the Commission on the Future of the Institutes). These advantages are discussed in more detail below in the Administrative section focusing on governance.

- Reducing adult unit sizes to more appropriate levels can improve quality of care. It is generally agreed that units closer in size to 20 beds are preferable for patient care, as opposed to larger units. Although more savings could be achieved by closing an entire 32 bed unit, this is not recommended given the opportunity to improve care for all adults served in the CMHI-Pueblo program.

[31] State of Colorado, Office of the State Auditor, 1996.
[32] Commission on the Future of the Colorado Mental Health Institutes. (1996). Final Report: Commission on the Future of the Colorado Mental Health Institutes. State of Colorado.

- Pressure on the allocation system could be reduced. To the extent that Northern and Western Colorado can begin to stay within their bed allocation by serving more consumers locally than the 24 beds of capacity reduced, significant pressure will be reduced on the other catchment areas using CMHI-Pueblo.

- Colorado Psychiatric Health (CPH) oversight of Institute services can be piloted. The recommendation for Northern Colorado to specifically partner with Colorado Psychiatric Health (CPH) is related to the governance recommendations described later in this report. Given the statewide mission of University of Colorado Hospital and CPH, as well as the experience base of CPH serving public sector populations, this seems clinically sound. It also offers an opportunity to move step-wise toward a governance model that could be advantageous for the Institutes as a whole, as described below in the administrative section of this report. A minor modification to the plan could extend this capacity further. The Institute alternative inpatient beds developed at CPH could be made available to more Denver metro area catchment areas willing to trade access to their beds at CMHI-Fort Logan. This would allow Northern Colorado to use both CMHI-Fort Logan and CPH, and offer a similar choice to other Denver metro area catchment areas. If this is feasible, the four remaining long-term beds currently recommended to remain at CMHI-Pueblo could be moved to CMHI-Fort Logan, allowing four more beds to be eliminated at CMHI-Pueblo, additional savings realized, and more beds at CPH and alternatives in Northern Colorado developed.

Possible disadvantages – While potential advantages exist, several potential disadvantages must also be addressed. These include:

- Effects on staff would be significant, but can be minimized by the current plan to enhance staffing at remaining units. It is estimated below that 25.8 FTE would be eliminated. However, the current request for a staffing increase on the adult units at CMHI-Pueblo totals 37.2 FTE. In total across all units at CMHI-Pueblo, 181.2 total new FTE are proposed. While down-sizing will still impact staff, it would appear that many if not all current staff would be able to find positions elsewhere within the CMHI system.

- Stakeholders are concerned that privatization poses risks to the Institute capacity. Stakeholder concerns about privatization have focused on the lack of familiarity of some private providers with public sector populations, the risk of loss of capacity if the private entity mismanages the contract, and profit motives.

- Stakeholders are concerned about other risks of eroding the safety-net provided by the Institutes. Stakeholders were nearly unanimous in their ongoing support of the need for the Institutes as a place of safety and clinical care for persons who cannot be treated elsewhere due to either their long-term inpatient needs or level of dangerousness. There was concern that scarce funds could be lost or that the service mission could be watered down by moving care outside of the direct administration of state government, thereby reducing service to those most in need.

Plan components to address disadvantages – To address these important issues, the following plan components are recommended. The components are numbered for ease of reference. Taken together, these components should help the transition maximize benefits and minimize any adverse effects:

1. A collaborative proposal should be required. Each region should be asked to develop a joint proposal by the local MHASA, CMHCs, hospital partners, local adult consumers and local family members of adult consumers. The following elements should be included in the proposal:

   a. Partnerships with psychiatric facilities outside of state government are recommended. This is primarily a pragmatic recommendation to keep the state from having either to develop new facilities and administrative entities or to significantly rehabilitate existing facilities (e.g., Grand Junction Regional Center, unused units at CMHI-Fort Logan). Additionally, privatization allows flexibility in budgeting, personnel management and procurement. It also allows CDHS to pilot an oversight model with a small but significant portion of the Institutes' current services and mission.

   b. A public-private partnership is recommended. The proposal should be developed by a partnership including MHASAs, CMHCs and hospitals familiar with both the populations typically served and the specific individuals currently served. In addition, CDHS may want to articulate a preference for non-profit hospitals with a demonstrated commitment to serving their communities and a record of financial strength to better ensure the stability of the privatized resources. It should be noted that this practice of contracting with private, non-profit entities and quasi-governmental authorities such as CPH has a lengthy history in CDHS in general and mental health in particular. This experience base working with CMHCs, MHASAs, University of Colorado Hospital and community hospitals will be critical in guiding CDHS efforts.

   c. Consumer and family member involvement and oversight is recommended. Requiring the participation of adult consumer and family member leaders, organizations and advocates in this process will respond to this important concern articulated in the ***Focus Group Report***, ensuring that the process benefits from the experience, insight and vigilance of these important stakeholders.

   d. Collaborative planning at various levels is recommended, including between CMHI and local leadership and clinical staff. Focus groups with regional mental health leaders and CMHI staff noted the importance of such collaboration, and the national literature underscored the importance of such advance planning.[33] Such collaboration should be included in the requirements for the local proposals.

2. A credible, long-term commitment must be demonstrated to carry out in a local setting the historical mission of the Institutes to serve those Colorado residents with the greatest needs.

[33] These include Deci, P.A., et al., (1997); McDonel, E.C., Meyer, L., and Deliberty, R., (1996); Monroe-DeVita, M.B., & Mohatt, D.F., (1999).

The risk that the role and mission of the Institutes to ensure a safe place for those Colorado residents with the greatest mental health needs could be eroded through privatization was probably the single greatest concern expressed by stakeholders in response to these recommendations in draft form. This is understandable, given the vulnerable populations served by the Institutes. CDHS should ensure that the local proposals to carry out these two local pilots recognize this in a deep way by requiring a specific commitment at the mission level to continue the historical work of the Institutes, as well as a contractual commitment that specifies standards and performance indicators such as those described below.

3. Ongoing care for the historical populations served by the Institutes should be required. The proposals should satisfy CDHS that there will be in place a capacity comparable to that of CMHI-Pueblo, as follows:

   a. Core adult populations of the Institutes should be specified. Those in need of long term care due to difficult to treat psychiatric conditions and those with highly acute and dangerous needs should have their care ensured. Key issues include:

      i. It has been established that some individuals currently cannot be treated in any community setting. This recommendation maintains nine (9) continued beds at CMHI-Pueblo (4 for Northern Colorado and 5 for Western Colorado) for any consumers from these regions that cannot be adequately served in the community.

      ii. As of 1/24/01, the single day census from these six catchment areas at CMHI-Pueblo included three individuals from Western Colorado catchments and one individual from Larimer who had been hospitalized for over one year. Other individuals with shorter lengths of stay may also need to continue to use CMHI-Pueblo due to the acuity of their symptoms or level of dangerousness. While sufficient capacity at CMHI-Pueblo will be maintained for individuals who cannot be served in a local setting, all efforts should be explored to find safe and clinically appropriate placements closer to home. Planning should actively involve these consumers and their families.

      iii. If CDHS can be satisfied by the proposals from these two regions that fewer than nine (9) beds at CMHI-Pueblo are needed (that is, local capacity or capacity at a site such as CMHI-Fort Logan can be developed to safely and clinically appropriately care for more than 24 people over time), this study would support exploring other uses for these beds. Two uses could be explored:

         1. As noted above, some capacity could be used to alleviate pressure on the remaining bed allocation. However, given the combined historical overuse by Northern and Western Colorado catchment areas, if these areas are simply able to operate within their 33-bed allocation, significant pressure will be alleviated.

         2. The other alternative would be to increase the scope of the CMHI-Pueblo downsizing and increase funds going to local alternatives. To the extent that

CDHS can be satisfied that such an expansion of the pilot would be viable for current consumers and over the long term, this would be supported by this study. This study reviewed only centrally aggregated consumer data, so conclusions regarding the number of specific consumers who could be treated locally are subject to revision. The 24-bed downsizing pilot was determined based on a conservative estimate of potential capacity that could be moved to the local level.

b. Other groups of consumers in need of care currently offered by the Institutes due to a lack of alternatives should be specified. Sub-populations of this group appear to include:

   i. Persons in need of short-term, acute inpatient care (commonly defined as stays of two weeks or less) are a key sub-population. Overall, approximately 30% of adult inpatient consumers appear to fall into this group.

   ii. Consumers with complex, sometimes dangerous conditions falling outside of the typical scope of mental health diagnoses also seem to fall into this group, including persons with primary diagnoses of dementia, traumatic brain injuries, substance abuse disorders, developmental disabilities and those who pose a high level of danger due to their sexual perpetration behaviors, but who do not seem to suffer from a primary mental illness. Treatment of some of these consumers may require additional partnerships with Community Centered Boards (CCBs) for persons with developmental disabilities, substance abuse providers, and others. For Western Colorado, substituting the Grand Junction Regional Center or adding it to the array of partners could also strengthen that proposal.

   iii. Those current CMHI consumers served due to a lack of a needed local alternative.

4. Evidence-based approaches should be required. To the extent that Northern and Western Colorado propose models of care in addition to inpatient care, these should be required to be evidence-based. These could include nationally-demonstrated intensive community-based models such as assertive community treatment (ACT),[34] as well as local models such as North Range Behavioral Health's Acute Treatment Unit. ACT teams in particular could be used to extend the current Colorado pilots of intensive community-based care to divert adults with serious mental illness from the correctional system.

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[34] Citations include:

Clark, R.E. (1997). Financing assertive community treatment. *Administration and Policy in Mental Health*, 25(2), 209-220.

Drake, R.E. et al. (1998). Assertive community treatment for patients with co-occurring severe mental illness and substance use disorder: A clinical trial. *American Journal of Orthopsychiatry*, 68(2), 201-215.

Essock, S.M. et al. (1998). Cost-effectiveness of assertive community treatment teams. American Journal of Orthopsychiatry, 68(2), 179-190.

Monroe-DeVita, M.B., & Mohatt, D.F. (1999). The state hospital and the community: An essential continuum for persons with severe and persistent mental illness. In W.D. Spaulding (ed.), The role of the state hospital in the twenty-first century. *New Directions for Mental Health Services*, no. *84* (Winter). San Francisco: Jossey-Bass. (pp. 85-98)

5. A formal program evaluation should be required. It will be critical to measure and document the success or shortcomings of these new approaches. CDHS will need to carefully monitor the implementation of these changes and use evaluation findings to support adjustments or changes to the implementation process. A specific evaluation of the process of change and its outcomes should be included in this effort. Key components should include:

   a. Process variables should be documented to identify successful strategies that might inform future similar initiatives to develop local community alternatives and to avoid problems that might arise.

   b. Outcomes should be monitored to ensure the quality of care for the consumers involved in these pilots and to promote quality of care across the project.

   c. Partnership providers should be required to actively participate in the evaluation process, provide data and collaborate with the evaluation to modify their programs as needed.

   d. The evaluation should be multi-year in order to document the short and mid-term impacts of the changes. Typically, a five-year evaluation is recommended in such circumstances. It is further recommended that this evaluation be conducted by an independent evaluator, apart from CDHS or any of the involved parties.[35]

6. Specific performance standards should be built into the proposal process and contract, including:

   a. A minimum number of long-term inpatient beds should be established. This minimum should be sufficient to adequately serve current patients, but not so conservative as to stifle local initiative. The number should be determined jointly between CDHS and representatives of the local community. A review of two single day census distributions for the two regions, one during October, 2000, (typically the month with highest mental health service utilization) and one in late January, 2001, found 12 and 14 inpatient consumers, respectively, hospitalized for 60 days or more. Given that nine (9) long term inpatient beds at CMHI-Pueblo will remain for these catchment areas, requiring an additional capacity for up to eight (8) additional long term beds (split across each region) would seem to be a reasonable number based on data available to this study. Over time, this minimum could be adjusted if warranted.

   b. A minimum percentage for uninsured persons served should be established. To prevent cost shifts between payers, the current percentage of persons without Medicaid or Medicare should be served by the local resources developed through this process. Given the disproportionately low funding for uninsured persons in Colorado's mental health system documented in the ***Future Roles Report***, there is a particular need to ensure that

[35] The five year duration and target budgets are taken from other system-level intervention evaluations, including the federal CMHS System of Care for Children and Adolescents program and the Casey Family Programs well articulated requirements for evaluating their innovative programs. See CMHS program requirements or Pecora, Adams, LeProhn, Paddock, and Wolf (1998).

services to the uninsured are at least protected and, if possible, enhanced. Additionally, financial analyses below show that the percentage of persons with Medicaid using CMHI-Fort Logan (data were unavailable for CMHI-Pueblo) has increased significantly in recent years. Historical benchmarks, rather than recent instances of possible over use, are recommended.

7. The cost of services for persons with Medicaid should not be unfairly borne by MHASAs. Funding for Institute adult inpatient services for Medicaid recipients is not part of the historical base underlying current MHASA rates. Estimates of new costs to MHASAs are provided below. They should be finalized by CDHS prior to the proposal process and added to the MHASA rates.

8. CDHS should reserve the right to seek the desired capacity through a competitive Request For Proposals (RFP) process if the direct contracting process does not sufficiently satisfy the goals described above. A competitive RFP is discouraged given the vulnerable populations involved in this pilot process, if within the constraints of the state procurement system. Where CDHS has established relationships with local Northern and Western Colorado organizations that have established clinical relationships with the persons served by the Institutes (e.g., CMHCs, MHASAs), building upon these in a collaborative manner seems preferable to the marginally increased uncertainty of a competitive RFP process. However, if acceptable proposals are not offered to CDHS, a competitive RFP can offer a sound alternative to direct contracting.

Financial Analysis of the Adult Inpatient Units

Expenses – The following table presents expenses for the adult inpatient programs at both Institutes for the past three complete fiscal years and projected for the current fiscal year. Costs are broken down into direct costs incurred by the units and indirect, allocated costs. Allocated costs have been broken down into more variable patient-related ancillary services such as dietary or professional services and relatively fixed administrative costs including central administration, central facility costs and medical records. Medicare cost reports were used to capture expenses, and they include state government costs from areas of state government outside of the CMHIs, including the Office of Direct Services, Office of Information Technology Services, Office of Operations (facilities management, accountants, procurement), the Executive Directors Office (executive leadership, human resources, budget office) and Statewide Overhead.

Table 12: Adult Inpatient Expenses[36]

Fiscal Year	1997-98	1998-99	1999-00	2000-01[37]
Total Costs	**$ 27,883,004**	**$ 29,641,591**	**$ 30,676,695**	**$ 31,075,492**
CMHI-Fort Logan				
Direct	$ 6,856,208	$ 7,515,833	$ 7,947,865	$ 8,051,187
Allocated - Ancillary Patient Services	$ 4,784,257	$ 4,957,999	$ 4,718,913	$ 4,780,259
Allocated - Administrative	$ 2,558,304	$ 2,940,337	$ 3,317,266	$ 3,360,390
Fully loaded	**$ 14,198,770**	**$ 15,414,169**	**$ 15,984,044**	**$ 16,191,837**
Number of Bed Days Attended	40,489	41,343	39,345	42,040[38]
CMHI-Pueblo				
Direct	$ 7,911,554	$ 7,940,505	$ 7,922,302	$ 8,025,292
Allocated - Ancillary Patient Services	$ 2,650,024	$ 3,185,702	$ 3,982,883	$ 4,034,660
Allocated - Administrative	$ 3,122,656	$ 3,101,215	$ 2,787,466	$ 2,823,703
Fully loaded	**$ 13,684,234**	**$ 14,227,422**	**$ 14,692,651**	**$ 14,883,655**
Number of Bed Days Attended	42,249	42,576	43,725	43,800[39]

[36] Based on Medicare cost report data

[37] 1999-00 costs increased by 1.3%, the rate of projected expense increase estimated for FY2001 by the Office of Direct Services.

[38] Year to date data through 12/31/01, annualized.

[39] Year to date data through 12/31/01, annualized.

To analyze changes in costs over this time period, overall costs were divided by bed days attended to derive per day costs. These are presented in the following table.

Table 13: Adult Inpatient Costs per Day[40]

Fiscal Year	1997-98	1998-99	1999-00	2000-01[41]
CMHI-Fort Logan Costs Per Day				
Direct	$ 169	$ 182	$ 202	$ 192
Allocated - Ancillary Patient Services	$ 118	$ 120	$ 120	$ 114
Allocated - Administrative	$ 63	$ 71	$ 84	$ 80
Fully loaded	**$ 351**	**$ 373**	**$ 406**	**$ 385**
Rate charged	n/a	$ 355	$ 370	$ 395
Costs divided by rate charged	n/a	105.0%	109.8%	97.5%
CMHI-Pueblo Costs Per Day				
Direct	$ 187	$ 187	$ 181	$ 183
Allocated - Ancillary Patient Services	$ 63	$ 75	$ 91	$ 92
Allocated – Administrative	$ 74	$ 73	$ 64	$ 64
Fully loaded	**$ 324**	**$ 334**	**$ 336**	**$ 340**
Rate charged	$ 310	$ 329	$ 333	$ 350
Costs divided by rate charged	104.5%	101.6%	100.9%	97.1%

Although the fully loaded per day costs for both programs have been below the rates charged in the past two years, over time costs have more consistently exceed rates. Rates should continue to keep full pace with changes in costs.

[40] Based on Medicare cost report data

[41] 1999-00 costs increased by 1.3%, the rate of projected expense increase estimated for FY2001 by the Office of Direct Services.

Revenue – An analysis of revenue was also completed. This is summarized in the following table.

Table 14: Adult Inpatient Revenue Data and Analyses[42]

Fiscal Year	1997-98	1998-99	1999-00	2000-01[43]
CMHI-Fort Logan Revenue				
State General Fund Revenue[44]	n/a	$ 12,764,684	$ 13,791,185	$ 14,475,780
Medicare	n/a	$ 1,785,929	$ 1,221,440	$ 701,761
MHASA Revenue	n/a	$ 389,113	$ 394,781	$ 458,569
Other Medicaid Revenue	n/a	$ 154,624	$ 187,194	$ 161,219
Other Third Party Revenue	n/a	$ 319,819	$ 389,444	$ 394,507
CMHI-Pueblo Revenue				
State General Fund Revenue[45]	$ 11,594,501	$ 11,590,369	$ 12,367,252	$ 12,278,846
Medicare	$ 1,143,985	$ 1,452,976	$ 1,104,441	$ 1,319,599
MHASA Revenue	$ 318,764	$ 491,955	$ 280,915	$ 386,880
Other Medicaid Revenue	$ 258,670	$ 335,920	$ 355,385	$ 306,072
Other Third Party Revenue	$ 368,314	$ 356,202	$ 584,658	$ 592,259

The vast majority (85.3% in 1999-00) of the revenue supporting the adult inpatient programs comes from State General Funds. Medicare is the next largest payer, providing 7.6% of revenue in 1999-00. Medicaid does not pay for state hospital inpatient care for adults ages 21 to 65. This is known as the Institute for Mental Disease or IMD restriction.

Regarding Medicaid, an analysis of changing levels of SSI status at both Institutes conducted for the ***Future Roles Report*** documented rising rates at CMHI-Fort Logan. This was looked at more specifically for the current report. Medicaid bed days were tabulated overall and by catchment area for each of the last three full fiscal years for CMHI-Fort Logan. Similar data were not available for CMHI-Pueblo, as they are not currently tracked for the adult inpatient program there (other than for those few adults for whose care Medicaid does pay – e.g., adults age 18 – 20). Since the SSI trend was not evident at CMHI-Pueblo, the current analysis is not critical there. However, it is recommended that CMHI-Pueblo begin to track payer status for all inpatients, including adults. The data for CMHI-Fort Logan are presented in the following table.

[42] As reported on Institute Net Revenue Reports, unless otherwise indicated.
[43] Unless otherwise noted, 2000-01 revenue figures are based on projections provided by ODS based on year to date revenue through 12/31/00.
[44] Calculated by subtracting all third party revenue from total costs.
[45] Calculated by subtracting all third party revenue from total costs.

Table 15: CMHI-Fort Logan Medicaid Days – Last Three Fiscal Years

Fiscal Year	1997-98	1998-99	1999-00
Number of Overall Days	**40,489**	**41,343**	**39,345**
Medicaid Days	17,756	21,520	22,857
Percent Medicaid	**43.9%**	**52.1%**	**58.1%**
No CMHC Listed	1,362	861	248
Adams County	2,668	3,799	3,623
Aurora	1,423	1,777	2,077
Boulder County	1,560	1,968	2,735
Denver (MHCD/ABC)	6,656	9,063	10,198
Jefferson County	3,937	3,852	3,843

The following observations can be made:

- Medicaid bed days are growing overall and as a percentage of total bed days. Compared to 1997-98, the actual number of Medicaid bed days is up overall 28.7%. As a percentage of total bed days, Medicaid use is up 32.5%.

- Four of the five catchment areas in the Denver Metro area contributed to the increase. Jefferson County did not. Percentage increases between 1997-98 and 1999-00 are as follows:

  - Adams County is up 35.8%.

  - Aurora is up 46.0%.

  - Boulder is up 75.3%.

  - Denver is up 53.2% (combined rate for ABC and MHCD).

- Some of the increases for individual catchment areas may be attributable to improved reporting. As can be seen, over 1300 bed days were not attributed to any catchment area in 1997-98. All but 248 were attributed in 1999-00. This does not affect the overall Medicaid percentages.

As noted for adolescents, increased, uncompensated use of the Institutes for Medicaid recipients over and above historic levels results in a subsidy of the Medicaid program with 100% state funds. For adults, this is over and above historical rates of uncompensated care for Medicaid recipients related to the IMD exclusion discussed in detail below in the financing section. Three recommendations are made:

- The proposal to return the Institutes to cost-based reimbursement for Medicaid should be supported in order to reduce somewhat the incentive of overuse of Institute beds.

- Medicaid reimbursement for IMD inpatient services should continue to be pursued, with additional support from the MHASAs who have increased their percentage use of Institute services. Should the IMD reimbursement proposal included in the most recent Medicaid Waiver request to HCFA not be successful, then it is recommended that a proposal to add IMD inpatient services modeled on the successful proposal submitted by the state of Arizona be developed and submitted to HCFA. This will be examined below in the financing section.

- ODS and Mental Health Services should convene a joint process to examine the increased use by the MHASAs and develop appropriate recommendations. Given the limited funds available for persons without Medicaid detailed throughout this report, it is recommended that historical levels be reestablished or else some alternative mechanism be developed to reestablish care levels for persons without Medicaid. One important variable noted by the regional mental health leaders focus group (which included MHASA representatives) is the perception of increased demands upon the capitated mental health system that have led to cost-overruns and the need to manage funds more tightly. It is not uncommon for an unintentional consequence of strict management in one system without commensurate management in another to result in increased use of the less managed system's resources. The consequence simply needs to be rectified.

Savings for community alternatives – To estimate the savings available through these recommendations to fund community alternatives in Northern and Western Colorado, the following model was developed in collaboration with the Office of Direct Services (ODS), incorporating input from Joint Budget Committee analytic staff and the State Auditors Office. It should be noted that this model is approximate and is not a substitute for more detailed cost analyses by the appropriate staff of CDHS and state government. These estimates can be expected to vary by up to 10% in either direction.

Key features of the model include:

- Estimates of direct staff FTE saved – The dynamic staffing model developed by ODS and reviewed and endorsed in the ***Staffing Report*** was used to project the number of staff needed to maintain minimum staffing levels for the current 96 bed capacity and the projected capacity of 72 (three units of 24 beds each). The difference was identified as cost savings.

- Projected costs per FTE – The average salary and benefit costs per FTE were taken from the current CMHI Staffing Request analyses. The average was calculated across the various direct care staffing types at the levels requested in the first year of the proposed staffing increase.

- Other direct care costs saved – The CMHI-Pueblo cost reports do not breakdown staffing and other direct costs. The CMHI-Fort Logan cost reports do. In order to estimate the percent of other direct costs that could be saved, the CMHI-Fort Logan direct cost figures for adult

inpatient services as a percentage of direct staff costs were applied to the direct staff costs from the FTE estimates to calculate other direct costs as a percentage of direct staff costs. This percentage was used to estimate the other direct costs that could be saved by eliminating the 24 beds.

- Administrative staffing costs saved – ODS provided estimated administrative cost savings based on an FTE-based approach originally developed for unit closures. In keeping with the practice of earlier downsizing at the CMHIs, any FTE identified for a reduction of .5 or more was converted to a full FTE reduction (those under .5 were not reduced). To compensate for the fact that this model was developed to estimate savings from unit closings rather than downsizing, discussions with ODS and CMHI staff yielded a decision to reduce the initial estimate of cost savings in this category by 25%.

- Psychiatrist staffing costs saved – Psychiatrist costs for the adult division at CMHI-Pueblo were used. 25.0% of costs were estimated as able to be saved (24 of 96 total beds).

Table 16: Estimated Savings Available for Community-based Alternatives for Adults in Northern and Western Colorado

Direct staff FTE saved	25.8 FTE
Projected savings per FTE	$ 43,782
Total direct staffing costs saved	$ 1,127,595
Other direct costs saved - percentage	23.2%
Other direct costs saved (percentage x FTE savings)	$ 261,668
Administrative staffing costs saved	$ 721,535
Psychiatrist staffing costs saved	$ 237,121
Total savings projected	**$ 2,347,918**

The following table presents a model for projecting total State General Fund and third party revenue (e.g., Medicaid, Medicare) that would be available to fund the community alternatives in Northern and Western Colorado. It illustrates two scenarios for purchasing community alternatives, one focused on developing residential beds and the other on a mix of residential beds and assertive community treatment. The model makes several assumptions, and they include:

- Total savings was discounted to arrive at the State General Fund portion (since third party revenues earned by the Institutes would be lost when the beds close). This was calculated by multiplying the overall savings times the percent of State General Funds contributed to the CMHI-Pueblo adult inpatient program in 1999-00.

- Since CMHI-Pueblo does not track Medicaid status for adult consumers, an estimate for the percent of adults with Medicaid was developed based on the number of adults at CMHI-Pueblo with SSI benefits (30.1%). This figure was taken from the MHS Orchid Report using 1999-00 data.

- Potential Medicaid revenue was calculated by taking a percentage estimate of the number of Medicaid consumers served by CMHI-Pueblo's adult inpatient program and multiplying it by the amount of State General Funds available. An alternative approach would have applied the estimated Medicaid percentage to the array of services purchased to determine the amount that could be drawn down by these funds. This was a larger amount (by $160,000 to $250,000, depending on the array of services purchased). This was not done in order to attempt to hold MHASAs and the state Medicaid program harmless from this change in policy. However, CDHS may want to explore this or other alternative models for estimating Medicaid funds accessible through this move to community-based care.

- The percentage of persons with Medicare was not reported to the study, so an estimate was made based on the number of adults at CMHI-Pueblo with SSDI benefits (16.0%). This figure was taken from the MHS Orchid Report using 1999-00 data.

- Medicare reimbursement was only calculated for inpatient usage, since Medicare does not reimburse for the outpatient services recommended. Potential Medicare revenue was calculated by a multi-step formula (assuming per diem reimbursement):

  - First, an estimate of services eligible for Medicare reimbursement was made by multiplying the estimated percent of persons with Medicare (16.0%) by the number of overall hospital inpatient days in the community projected (since inpatient care is the primary benefit reimbursed by Medicare).

  - Next, this estimate was refined to take account of the Medicare limitation on hospital reimbursement which does not pay for any episode over 90 days. The number of long-term beds projected based on past utilization by Northern and Western Colorado was determined and 275 days each (365 – 90) were subtracted from the Medicare portion of those long term beds.

  - Finally, the estimated number of reimbursable beds was multiplied by an estimate of the daily charges for both inpatient and physician care. Contacts with local hospital sources identified a total daily charge of $750 ($700 for the inpatient day and $50 per day average for physician charges). These tend to be higher than Institute rates, resulting in additional Medicare reimbursement.

- The cost of purchasing different types of services was then estimated. For inpatient care, an estimate was made based on a survey of key inpatient provider rates. The long term rates were determined as a discount on a normal acute care rate. For ATU and residential care, cost figures provided by Northern and Western Colorado CMHCs and MHASAs were used.

Where multiple figures were provided, an average was calculated. For assertive community treatment, a model program defined in the literature was priced.

- Note that while each scenario creates additional capacity, the assertive community treatment scenario creates more than three times the capacity to serve persons of the scenario focused only on residential care.

Table 17: A Model for Projected Community-based Alternatives Capacity for Adults in Northern and Western Colorado

	ACT + Residential	Residential Only
Total savings from CMHI reductions from Table 16	$2,347,918	$2,347,918
State General Fund portion of savings	$1,937,006	$1,937,006
Estimated Medicaid reimbursement	$583,039	$583,039
Estimated Medicaid (SSI) percentage	30.1%	30.1%
Potential Medicare Reimbursement	$174,000	$174,000
Estimated Medicare (SSDI) percentage	16.0%	16.0%
Estimated Medicare inpatient reimbursement	$750	$750
Total Funds Available[46]	**$2,694,045**	**$2,694,045**
Long Term Inpatient Beds Purchased	**8**	**8**
Cost per day	$450	$450
Total annual costs	$1,314,000	$1,314,000
Acute Inpatient Beds Purchased	**2**	**2**
Cost per day	$500	$500
Total annual costs	$365,000	$365,000
Community ATU Beds Purchased	**4**	**4**
Cost per day	$278	$278
Total annual costs	$405,398	$405,398
Residential Beds Purchased	**10**	**22**
Cost per day	$75	$75
Total annual costs	$273,750	$602,250
ACT Slots - $7,500 per year	**44**	**0**
Cost per day	$20.55	$20.55
Total annual costs	$330,000	$0
Total Cost of Alternatives	**$2,688,148**	**$2,686,648**
Available funding less costs	$5,897	$7,397
Total Beds and Slots	**68**	**36**
Original Beds	24	24
Net Gain	**44**	**12**

[46] Available SGF + estimated Medicaid reimbursement + estimated Medicare reimbursement

The primary challenge to implementation is the need to fund and build community alternatives prior to downsizing at CMHI-Pueblo. The timeline presented at the beginning of this section recommended implementation over 27 months. This involved:

- Three months of planning at the state and local levels.
- Six months to initiate community alternatives.
- Six months to transition 8 beds of current usage to the local level.
- Six months to transition an additional 8 beds of current usage to the local level.
- Six months to transition the final 8 beds of current usage to the local level.

It is recommended that one-time transition funds that do not have to be paid back be identified to allow the implementation to proceed as above. However, in the event that cost-neutrality is required for the transition, careful staging should be able to allow for complete implementation with some initial additional costs that can be made up and paid back with savings within 45 months. The scenario below presents a hypothetical approach to cost-neutral alternative development that would need to be tailored to the actual situation of the regions developing the alternatives. It is presented only for illustrative purposes. The financial calculations for the revised timeline are presented in the table that follows the timeline. The cost-neutral timeline involves:

- Months 0 – 3: Three months of planning at the state and local levels would be undertaken.
- Months 4 – 9: Six months would be taken to initiate community alternatives. In the transition model presented below, this would involve building 8 residential beds with 8 assertive case management (ACT) slots to support the residents. The first 8 consumers would be diverted to the community with no reduction of CMHI-Pueblo capacity. Costs at the end of this period would have exceeded savings by $139,500. Eight (8) CMHI-Pueblo beds would be reduced at the end of this period.
- Months 10 – 15: Six months would be taken to build 8 more beds of community capacity, probably at a higher level of care (given that the next 8 consumers diverted should have a higher level of acuity). In the transition scenario in the table below, two more residential and ACT slots would be created, plus 4 community ATU and 2 long-term inpatient beds. The simple example presented below also assumes that approximately 1/3 of the potential savings would be realized during this period, an estimate that may be high but that does not alter the overall model presented (it would only involve additional time to repay the initial investment). Costs at the end of this period would have exceeded savings by $231,817. Eight (8) additional CMHI-Pueblo beds would be reduced at the end of this period (16 total).

- Months 16 – 21: During the next six months, no new local capacity would be developed and the additional savings from the 16 total reduced CMHI-Pueblo beds would be used to establish a reserve of $124,874.

- Months 22 – 27: Six months would be taken to build 8 more beds of community capacity, probably at a higher level of care. In the transition scenario in the table below, 6 more long-term inpatient beds and 2 acute inpatient beds would be funded. Costs at the end of this period would again exceed savings, by an amount of $193,685. The final 8 CMHI-Pueblo beds would be reduced at the end of this period (24 total).

- Months 28 – 39: No new local capacity would be built over this 12 month period and the additional savings from the total downsizing would be used to pay off the deficit prior to building additional local capacity.

- Months 40 – 45: Remaining local capacity from excess savings would be developed.

This model intentionally ignores some financial variables in order to illustrate more clearly the approach. Before implementation, variables including inflation, population growth, differential levels of savings in early years of downsizing, and the effect of step-wise implementation on third party revenue will all need to be examined in detail. In addition, actual local program costs will need to be identified.

Table 18: A Simplified 45-month Model for Cost-Neutral Implementation

	Months 4 - 9	Months 10 - 15	Months 16 - 21	Months 22 - 27	Months 28 - 33	Months 34 - 39	Months 40 - 45
Six month funds available[47]	**$0**	**$449,007**	**$898,015**	**$898,015**	**$1,347,022**	**$1,347,022**	**$1,347,022**
Alternatives developed							
Long Term Inpatient Beds	**0**	**2**	**2**	**8**	**8**	**8**	**8**
Cost per day	$450	$450	$450	$450	$450	$450	$450
Total six month costs	$0	$164,250	$164,250	$657,000	$657,000	$657,000	$657,000
Acute Inpatient Beds	**0**	**0**	**0**	**2**	**2**	**2**	**2**
Cost per day	$500	$500	$500	$500	$500	$500	$500
Total six month costs	$0	$0	$0	$182,500	$182,500	$182,500	$182,500
Community ATU Beds	**0**	**4**	**4**	**4**	**4**	**4**	**4**
Cost per day	$278	$278	$278	$278	$278	$278	$278
Total six month costs	$0	$202,699	$202,699	$202,699	$202,699	$202,699	$202,699
Residential Beds	**8**	**10**	**10**	**10**	**10**	**10**	**10**
Cost per day	$75	$75	$75	$75	$75	$75	$75
Total six month costs	$109,500	$136,875	$136,875	$136,875	$136,875	$136,875	$136,875
ACT Slots	**8**	**10**	**10**	**10**	**10**	**10**	**44**
Cost per day	$20.55	$20.55	$20.55	$20.55	$20.55	$20.55	$20.55
Total six month costs	$30,000	$37,500	$37,500	$37,500	$37,500	$37,500	$165,000
Total community costs	**$139,500**	**$541,324**	**$541,324**	**$1,216,574**	**$1,216,574**	**$1,216,574**	**$1,344,074**
Total Beds and Slots	16	26	26	34	34	34	68
Beds Reduced	0	8	16	24	24	24	24
Cumulative CMHI savings less community costs	**-$139,500**	**-$231,817**	**$124,874**	**-$193,685**	**-$63,237**	**$67,211**	**$70,159**

[47] This includes both SGF savings and new third party revenue

Analysis of Adult Inpatient Recommendations

The following table summarizes the issues discussed for the primary recommendation and contrasts this with two alternative scenarios, including utilizing state-run facilities (i.e., CMHI-Fort Logan and the Grand Junction Regional Center) and the status quo.

Table 19: Analysis of Adult Inpatient Recommendations

	Primary Recommendation Downsize the three CMHI-Pueblo units by 24 beds and fund privatization pilots for Northern and Western Colorado	**Alternative** Downsize the three CMHI-Pueblo units by 24 beds and fund pilots utilizing public facilities for Northern and Western Colorado	**Alternative** Status quo
Consumer Care Consequences			
Positive	• Redirecting care to local areas will provide a significantly closer care alternative for six catchment areas currently using CMHI-Pueblo • Smaller units at CMHI-Pueblo are closer fit to recommended inpatient treatment models • Development of alternatives should include more appropriate treatment for many consumers • Staff expertise at local facilities and knowledge of local resources should improve the quality of care • The statewide clinical and research expertise of Colorado Psychiatric Health should enhance treatment quality • Potential synergies with other local service providers, including developmental disabilities	• Redirecting care to local areas will provide a significantly closer care alternative for six catchment areas currently using CMHI-Pueblo • Smaller units at CMHI-Pueblo are closer fit to recommended inpatient treatment models • Development of alternatives should include more appropriate treatment for many consumers • Staff expertise at CMHI-Fort Logan and, to a lesser extent, the Grand Junction Regional Center, may be a better fit with the intense needs of many currently served by CMHI-Pueblo • Potential synergies with developmental disabilities expertise at the Regional Center	• No change in care for current consumers • Expertise of CMHI-Pueblo staff in treating Institute populations
Negative	• Effects of transition on current patients, especially longer term patients • Some difficult to treat or highly dangerous patients may be highly challenging or impossible to treat locally	• Effects of transition on current patients, especially longer term patients • Some difficult to treat or highly dangerous patients may be highly challenging or impossible to treat locally	• Continued negative impacts on care due to excessive distance from Northern and Western Colorado

	Primary Recommendation Downsize the three CMHI-Pueblo units by 24 beds and fund privatization pilots for Northern and Western Colorado	Alternative Downsize the three CMHI-Pueblo units by 24 beds and fund pilots utilizing public facilities for Northern and Western Colorado	Alternative Status quo
Mitigating Factors	• To the extent possible, the transition should not involve the movement of any current patients; if any moves are contemplated, an individualized plan should be developed in with the consumer, family members, and other involved agencies • The consumers who cannot be safely or appropriately served in the community should remain at CMHI-Pueblo • The plan can be modified to include the participation of CMHI-Fort Logan by opening the portion of the allocation at CPH to other catchment areas and allowing Northern Colorado catchment areas to use CMHI-Fort Logan; to the extent this is successful, additional Northern Colorado capacity at CMHI-Pueblo could move over time to CMHI-Fort Logan if the CPH capacity expands	• To the extent possible, the transition should not involve the movement of any current patients; if any moves are contemplated, an individualized plan should be developed in with the consumer, family members, and other involved agencies • The consumers who cannot be safely or appropriately served in the community should remain at CMHI-Pueblo	• None identified
Staff Consequences			
Positive	• Smaller unit sizes should increase staff safety and satisfaction due to enhanced efficacy	• Smaller unit sizes should increase staff safety and satisfaction due to enhanced efficacy	• No staffing changes
Negative	• Some current staff may not be able to be offered another acceptable position	• Some current staff may not be able to be offered another acceptable position	• Ongoing uncertainty over future of unit
Mitigating Factors	• The proposed staffing increase for the three remaining adult units at CMHI-Pueblo calls for 37.2 additional direct care FTEs. The proposed total increase on the forensic units is 108.6 additional FTEs. The combined numbers are well in excess of the 25.8 FTE positions that would be eliminated.	• The proposed staffing increase for the three remaining adult units at CMHI-Pueblo calls for 37.2 additional direct care FTEs. The proposed total increase on the forensic units is 108.6 additional FTEs. The combined numbers are well in excess of the 25.8 FTE positions that would be eliminated.	• None identified

	Primary Recommendation Downsize the three CMHI-Pueblo units by 24 beds and fund privatization pilots for Northern and Western Colorado	Alternative Downsize the three CMHI-Pueblo units by 24 beds and fund pilots utilizing public facilities for Northern and Western Colorado	Alternative Status quo
Consequences for Community Alternatives			
Positive	• $1.9 million in State General Funds can be redirected to community alternatives • Providing care outside of the Institutes Medicaid IMD exclusion and charging higher Medicare cost-based rates allows services leveraged by each dollar of State General Funds to increase. This is projected at approximately $0.75 million. • Use of existing facilities minimizes need for new facility development and associated costs	• $1.9 million in State General Funds can be redirected to community alternatives	• No transition costs
Negative	• Financial costs associated with unit downsizing • Financial costs associated with transition, including potential need for bridge funding to start some new programs	• Financial costs associated with unit downsizing • Continued limitations on draw down of additional third party funds (e.g., Medicaid, Medicare) • Significant potential financial costs associated with developing facilities and services at either CMHI-Fort Logan or the Grand Junction Regional Center	• Continued limitations on draw down of additional third party funds (e.g., Medicaid, Medicare)
Mitigating Factors	• If the implementation is spread out over a longer period of time, the transition should be able to be cost-neutral overall despite early deficits.	• Potential IMD waiver for Medicaid in future	• Potential IMD waiver for Medicaid in future
Other Consequences			
Positive	• Involvement of CPH in Northern Colorado pilot allows for incremental step to test larger scale governance changes involving CPH and University of Colorado Hospital • Developing contract through a solicited proposal rather than an RFP allows CDHS to target its purchase without the risks of a competitive RFP	• None identified	• None identified
Negative	• Lack of initial RFP somewhat limits CDHS leverage over the contractor	• None identified	• None identified
Mitigating Factors	• Right to put contract out for bid through RFP seems to preserve a sufficient amount of leverage over the contractors on the part of CDHS	• None identified	• None identified

Child Psychiatric Inpatient Services Recommendations

For child psychiatric inpatient services, program size appears to fit current demand, so clinical and financial efficiencies are the focus of recommendations. Several recommendations are offered:

- Rates charged to Medicaid sources and revenue collected should be examined and rectified, given that Medicaid revenue as a percentage of overall revenue is significantly less than the percentage of bed days used.

- Strategies to cope with increasing percentages of involuntary child inpatient consumers, including training and support to staff should be developed.

- Increased collaboration with other child inpatient programs such as The Children's Hospital is recommended given the low number of child inpatient resources in Colorado and the need to maximize collaboration and possible development of new services.

Analyses Supporting the Recommendations

TriWest Group's development of these recommendations was based upon the analyses reported in the ***Future Roles Report*** and the analysis of financing described below.

Financial Analysis of the Child Inpatient Unit

Expenses – The following table presents expenses for the child inpatient program at CMHI-Fort Logan for the past three complete fiscal years. Costs are broken down into direct costs incurred by the units and indirect, allocated costs. Allocated costs have been broken down into more variable patient-related ancillary services such as dietary or professional services and relatively fixed administrative costs including central administration, central facility costs and medical records. Medicare cost reports were used to capture expenses, and they include state government costs from areas of state government outside of the CMHIs, including the Office of Direct Services, Office of Information Technology Services, Office of Operations (facilities management, accountants, procurement), the Executive Directors Office (executive leadership, human resources, budget office) and Statewide Overhead.

Table 20: Child Inpatient Expenses[48]

Fiscal Year	1997-98	1998-99	1999-00
Direct	$ 1,566,531	$ 1,133,066	$ 1,239,138
Allocated - Ancillary Patient Services	$ 1,089,970	$ 819,654	$ 926,494
Allocated - Administrative	$ 558,011	$ 434,144	$ 490,621
Fully loaded	**$ 3,214,512**	**$ 2,386,864**	**$ 2,656,253**
Number of Bed Days Attended	5,442	4,330	5,137

To analyze changes in costs over this time period, overall costs were divided by bed days attended to derive per day costs. These are presented in the following table.

Table 21: Child Inpatient Costs per Day[49]

Fiscal Year	1997-98	1998-99	1999-00
Direct	$ 288	$ 262	$ 241
Allocated - Ancillary Patient Services	$ 200	$ 189	$ 180
Allocated - Administrative	$ 103	$ 100	$ 96
Fully loaded	**$ 591**	**$ 551**	**$ 517**
Rate charged	n/a	$ 550	$ 600
Costs divided by rate charged	n/a	100.2%	86.2%

Fully loaded per day costs for the program are well within the rates charged in the past year.

[48] Based on Medicare cost report data
[49] Based on Medicare cost report data

Revenue – An analysis of revenue was also completed. This is summarized in the following table.

Table 22: Child Inpatient Revenue Data and Analyses[50]

Fiscal Year	1997-98	1998-99	1999-00
State General Fund Revenue[51]	n/a	$ 908,822	$ 891,777
PPOR (education)[52]	n/a	$ 57,565	$ 71,892
MHASA Revenue	n/a	$ 1,322,056	$ 1,388,330
Other Medicaid Revenue	n/a	$ 55,832	$ 228,512
Other Third Party Revenue	n/a	$ 100,154	$ 147,634
MHASA/Medicaid Days	3,735	2,986	3,975
Percent	68.6%	69.0%	77.4%
MHASA/Medicaid Revenue	n/a	$ 1,377,888	$ 1,616,842
Percent	n/a	57.7%	60.9%

The following observations can be made regarding child inpatient revenue:

- Medicaid revenue appears to be increasing over time.
- While Medicaid revenue may be increasing as a percentage of overall revenue, the percentage of Medicaid recipients served continues to be significantly higher than the percentage of Medicaid revenue underwriting program costs. While 77.4% of bed days were utilized by Medicaid recipients in 1999-00, only 60.9% of revenue came from Medicaid sources. State general funds appear to be subsidizing a significant percentage of the costs expended for Medicaid recipients.

It is recommended that steps be taken to increase the rates charged for services to Medicaid recipients to minimize their subsidy with 100% state funds.

[50] As reported on Institute Net Revenue Reports, unless otherwise indicated.
[51] Calculated by subtracting all third party revenue from total costs.
[52] Reported separately by ODS.

Geriatric Psychiatric Inpatient Services Recommendations

For geriatric psychiatric inpatient services, program size appears to fit current demand, so clinical and financial efficiencies are the focus of recommendations. Two recommendations are offered:

- Increased collaboration between the CMHI-Fort Logan and CMHI-Pueblo programs is recommended to share treatment approaches given the marked differences in lengths of stay documented in the ***Future Roles Report*** between the two programs. In the most recent year, 37.4% of consumers at Pueblo stayed 14 days or less. Only 18.8% of consumers stayed 14 days or less at Fort Logan. Similarly, just under half of older adult inpatient consumers at Pueblo stayed over one month, while nearly three in four stayed over one month at Fort Logan. While reasons have been identified for why some differences should be expected, the differences are dramatic and should be explored further.

- Medicaid revenue at CMHI-Fort Logan needs to be examined in detail and the dramatic difference between bed days used and revenue collected understood and rectified.

Analyses Supporting the Recommendations

TriWest Group's development of these recommendations was based upon the analyses reported in the ***Future Roles Report*** and the analysis of financing described below.

Financial Analysis of the Geriatric Inpatient Units

Expenses – The following table presents expenses for the geriatric inpatient programs at both Institutes for the past three complete fiscal years. Costs are broken down into direct costs incurred by the units and indirect, allocated costs. Allocated costs have been broken down into more variable patient-related ancillary services such as dietary or professional services and relatively fixed administrative costs including central administration, central facility costs and medical records. Medicare cost reports were used to capture expenses, and they include state government costs from areas of state government outside of the CMHIs, including the Office of Direct Services, Office of Information Technology Services, Office of Operations (facilities management, accountants, procurement), the Executive Directors Office (executive leadership, human resources, budget office) and Statewide Overhead.

Table 23: Geriatric Inpatient Expenses[53]

Fiscal Year	1997-98	1998-99	1999-00
Total Geriatric Inpatient Costs	**$ 10,327,774**	**$ 10,523,833**	**$ 10,765,276**
CMHI-Fort Logan	$ 3,270,979	$ 3,129,203	$ 3,411,668
Direct	$ 1,612,325	$ 1,637,226	$ 1,706,279
Allocated - Ancillary Patient Services	$ 1,089,398	$ 863,805	$ 1,009,238
Allocated - Administrative	$ 569,256	$ 628,172	$ 696,151
Fully loaded	**$ 3,270,979**	**$ 3,129,203**	**$ 3,411,668**
Number of Bed Days Attended	8,445	7,594	8,353
CMHI-Pueblo	$ 7,056,795	$ 7,394,630	$ 7,353,608
Direct	$ 3,997,791	$ 4,310,900	$ 4,353,204
Allocated - Ancillary Patient Services	$ 1,542,562	$ 1,506,316	$ 1,633,461
Allocated - Administrative	$ 1,516,442	$ 1,577,414	$ 1,366,943
Fully loaded	**$ 7,056,795**	**$ 7,394,630**	**$ 7,353,608**
Number of Bed Days Attended	19,808	19,085	20,800

To analyze changes in costs over this time period, overall costs were divided by bed days attended to derive per day costs. These are presented in the following table.

Table 24: Geriatric Inpatient Costs per Day[54]

Fiscal Year	1997-98	1998-99	1999-00
CMHI-Fort Logan Costs Per Day			
Direct	$ 191	$ 216	$ 204
Allocated - Ancillary Patient Services	$ 129	$ 114	$ 121
Allocated - Administrative	$ 67	$ 83	$ 83
Fully loaded	**$ 387**	**$ 413**	**$ 408**
Rate charged	n/a	$ 430	$ 430
Costs divided by rate charged	n/a	96.0%	95.0%
CMHI-Pueblo Costs Per Day			
Direct	$ 202	$ 226	$ 209
Allocated - Ancillary Patient Services	$ 78	$ 79	$ 79
Allocated - Administrative	$ 77	$ 83	$ 66
Fully loaded	**$ 357**	**$ 388**	**$ 354**
Rate charged	$ 339	$ 360	$ 391
Costs divided by rate charged	105.3%	107.8%	90.5%

Fully loaded per day costs for both programs were within the rates charged in the past year.

[53] Based on Medicare cost report data
[54] Based on Medicare cost report data

Revenue – An analysis of revenue was also completed. This is summarized in the following table.

Table 25: Geriatric Inpatient Revenue Data and Analyses[55]

Fiscal Year	1997-98	1998-99	1999-00
CMHI-Fort Logan Revenue			
State General Fund Revenue[56]	n/a	$ 2,262,971	$ 2,700,234
Medicare	n/a	$ 533,136	$ 389,075
MHASA Revenue	n/a	$ 243,539	$ 176,478
Other Medicaid Revenue	n/a	$ (48,760)	$ (4,559)
Other Third Party Revenue	n/a	$ 138,317	$ 150,439
Total MHASA/Medicaid Days	4,429	4,640	5,649
Percent	52.4%	61.1%	67.6%
MHASA/Medicaid Revenue	n/a	$ 194,779	$ 171,919
Percent	n/a	6.2%	5.0%
CMHI-Pueblo Revenue			
State General Fund Revenue[57]	$ 4,092,960	$ 4,870,567	$ 4,504,742
Medicare	$ 1,045,587	$ 896,780	$ 978,997
MHASA Revenue	$ 917,197	$ 794,345	$ 871,066
Other Medicaid Revenue	$ 785,776	$ 526,223	$ 577,618
Other Third Party Revenue	$ 215,275	$ 306,715	$ 421,185
Total MHASA/Medicaid Days	1,767	2,793	4,230
Percent	8.9%	14.6%	20.3%
MHASA/Medicaid Revenue	n/a	$ 1,320,568	$ 1,448,684
Percent	n/a	17.9%	19.7%

Note that the CMHI-Pueblo program earns significantly more Medicaid (MHASA and other) as a percentage of overall revenue (19.7% in 1999-00) than the CMHI-Fort Logan program (5.0%). The CMHI-Pueblo revenue is comparable to the percent of bed days used by Medicaid recipients in 1999-00 (20.3%). However, Medicaid recipients used 5,649 bed days at CMHI-Fort Logan in 1999-00, 67.6% of all bed days used. The dramatic difference at CMHI-Fort Logan should be examined and Medicaid rates and collections adjusted accordingly.

[55] As reported on Institute Net Revenue Reports, unless otherwise indicated.
[56] Calculated by subtracting all third party revenue from total costs.
[57] Calculated by subtracting all third party revenue from total costs.

Medical-Surgical Services (MSS) Unit Recommendations

For MSS services, the primary recommendation is that a zero-based budget development process be undertaken to ensure that current costs are necessary and develop a budget which reduces costs. The need for efficiencies is clear. Underutilization of current inpatient and surgical resources is apparent and overall medical costs for civil psychiatric inpatient consumers at CMHI-Pueblo appear to be more than double the medical costs of civil psychiatric inpatient consumers at CMHI-Fort Logan. However, it seems equally clear that alternative medical facilities are not available due to the high level of danger posed by many current MSS patients, particularly those from DOC and forensic settings, and higher per procedure and per day costs at external facilities. A budget process that begins with the core needs served by the unit and that builds a cost basis sufficient only to meet that level of need seems necessary to achieve efficiencies while maintaining this important medical resource. It is also recommended that this process be conducted by an entity external to CDHS in order to maximize the objectivity of the process. This review should specifically consider the extent to which costs for services provided on this unit can or cannot be recovered from Medicaid given the IMD exclusion and the implications of this for cost-effectiveness.

Analyses Supporting the Recommendations – TriWest Group's development of these recommendations was based upon the following reasons.

Analysis of current inpatient use – Looking at annual bed days, use of the Medical / Surgical Unit has consistently and sharply declined over the past decade, from a high average daily attendance of 17 in 1991-92 to an average of just over seven in 1998-99 and 1999-00. Average daily attendance has fallen 37.6% since the time of the 1995 study and the occupancy rate for the last two full fiscal years has been under 40%. However, in the first six months of the past year, utilization has increased. Some of this is attributable to a change in procedure for counting inpatient days used. Beginning in the last four months of 1999-00, scheduled same day surgeries where the person ended up staying overnight began to be counted in the inpatient attendance totals. Consequently, an increase in bed days has occurred year to date in excess of the first six month pace of the last two years. Nevertheless, current use is less than 50% of capacity. These data are presented in the following table.

Table 25: Overview of MSS Inpatient Use

Fiscal Year	1992-93	1993-94	1997-98	1998-99	1999-00	2000-01[58]
Annual Bed Days	3708	5279	3085	2617	2781	3301
Half Year Bed Days				1493	1066	1664
Average Daily Attendance	10.2	14.5	8.5	7.2	7.6	9.1
Available Beds	30	20	20	20	20	20
Occupancy	**33.9%**	**72.3%**	**42.3%**	**35.8%**	**38.1%**	**45.6%**
Additional Use			3.1	3.1	3.8	3.3
Revised Daily Attendance			11.6	10.3	11.4	12.4
Revised Occupancy			**57.9%**	**51.3%**	**56.9%**	**62.2%**

However, these beds have been put to other uses to an increasing extent in recent years. Fiscal year to date through 12/31/00, 3.3 beds on average per day were used for other purposes. 1.5 beds per day were used by forensic patients with high levels of ongoing medical care needs, a function more like a highly secure nursing home. ECT recoveries fill an additional 1.7 beds per day. Overnight recoveries from same day surgeries fill an additional 0.1 beds a day on average. While the value of these uses is difficult to determine and compare to that of the more traditional inpatient bed days, their value is enhanced by the real lack of alternative care facilities for those DOC and psychiatric patients with high levels of acuity or risk of danger. The lack of such a secure alternative puts a premium on the value of care delivered by the MSS unit. However, the 45.6% base occupancy rate and 62.2% revised occupancy rate both indicate potential efficiencies that could be identified through a zero-based review and budgeting process.

Variation in inpatient use – A review of the distribution of daily inpatient attendance across the year shows that on many days more than the average number of beds is used. The table below presents the distribution of daily attendance for the current year through 12/31/00. The data are based on the lower "Average Daily Attendance" figures described above. To that extent, they describe the distribution of core inpatient use of the unit. On 75% of days, 8 to 15 beds are used.

Table 26: Daily Distribution of MSS Inpatient Use for Current Year

Revised Daily Attendance	Occupancy Percentage	Percent of All Days	Cumulative Percent	Revised Daily Attendance	Occupancy Percentage	Percent of All Days	Cumulative Percent
0-1	0-9%	0.0%	0.0%	12-13	60-69%	15.2%	67.9%
2-3	10-19%	0.0%	0.0%	14-15	70-79%	14.7%	82.6%
4-5	20-29%	0.5%	0.5%	16-17	80-89%	9.8%	92.4%
6-7	30-39%	6.5%	7.1%	18-19	90-99%	6.5%	98.9%
8-9	40-49%	22.3%	29.3%	20 and over	100+%	1.1%	100.0%
10-11	50-59%	23.4%	52.7%				

[58] Annualized year to date use through 12/31/00.

Same Day Surgeries – While the number of same day surgeries has increased in the past two years, this increase seems to be largely driven by an increase in ECT procedures. 98.7% of civil psychiatric same day surgeries are ECT procedures. Year to date as of 12/31/01, more ECT procedures (377) had been performed than in all of 1999-00 (372). This increase obscures a five-fold drop in DOC same day surgeries, which tend to be more varied and often more complex than routine ECT procedures. Some of this drop may relate to the change in counting of SDS procedures noted above in which some now are counted as inpatient days. Additionally, the high rate of inpatient ECT should be reviewed to determine the degree of MSS Unit resource used by such a routine procedure. Again, the utilization picture is unclear, but suggests that current utilization is below capacity. These data are presented in the table below.

Table 27: Same Day Surgeries and Clinic Visits

Fiscal Year	1997-98	1998-99	1999-00	2000-01[59]
Overall SDS Procedures[60]	368	386	657	827
DOC SDS			247	56
CMHI SDS			392	758
ECT percentage			94.9%	98.7%
Other SDS			18	13
Daily clinic visits	**12.8**	**16.5**	**16.9**	**13.6**

Other uses of MSS resources – Another primary use of MSS physician and nursing resources are clinic visits on the MSS unit. Of the current year total of 13.6 per day, 5.3 visits a day involve civil psychiatric patients, 4.5 visits a day involve DOC and DYC patients, and 0.1 involve forensic patients. Another 2.5 visits a day on average involve CMHI staff. 0.7 visits a day involve urgent triage for patients and staff. 0.5 involve weekend and after-hour visits. Again, the value of this use is difficult to quantify. It appears that use is being made of the existing resource. However, it cannot be determined based with present data the degree to which that use is needed or instead a function of excess capacity.

Financial Analysis of the MSS Unit

Expenses – The following table presents expenses for the MSS inpatient and same day surgery programs at CMHI-Pueblo for the past three complete fiscal years and projected for the current fiscal year. Costs are broken down into direct costs incurred by the units and indirect, allocated costs. Allocated costs have been broken down into more variable patient-related ancillary services such as dietary or professional services and relatively fixed administrative costs including central administration, central facility costs and medical records. Medicare cost reports were used to capture expenses, and they include state government costs from areas of state government outside of the CMHIs, including the Office of Direct Services, Office of Information

[59] Year to date figures through 12/31/01 divided by 184 days and multiplied by 365 days
[60] FY98, 99 and 00 data is taken from Medicare cost reports

Technology Services, Office of Operations (facilities management, accountants, procurement), the Executive Directors Office (executive leadership, human resources, budget office) and Statewide Overhead.

Table 28: MSS Expenses[61]

Fiscal Year	1997-98	1998-99	1999-00	2000-01[62]
Total MSS Costs	**$ 4,473,596**	**$ 4,389,953**	**$ 4,898,268**	**$ 4,961,945**
Total Inpatient Annual Costs				
Direct	$ 2,051,639	$ 1,917,888	$ 2,106,324	$ 2,133,706
Other Medical Activity Costs	$ 447,461	$ 448,151	$ 562,855	$ 570,172
Other Patient-related	$ 170,836	$ 156,060	$ 174,320	$ 176,586
Administrative	$ 691,996	$ 687,650	$ 679,103	$ 687,931
Fully loaded	**$ 3,361,932**	**$ 3,209,749**	**$ 3,522,602**	**$ 3,568,395**
Total SDS Annual Costs				
Direct	$ 150,544	$ 296,488	$ 305,157	$ 309,124
Other Medical Activity Costs	$ 917,550	$ 805,278	$ 986,544	$ 999,369
Other Patient-related	$ 4,696	$ 6,512	$ 12,657	$ 12,822
Administrative	$ 38,874	$ 71,926	$ 71,308	$ 72,235
Fully loaded	**$ 1,111,664**	**$ 1,180,204**	**$ 1,375,666**	**$ 1,393,550**

[61] Based on Medicare cost report data
[62] FY2001 expenses are estimated by multiplying FY2000 expenses by 101.3%

To analyze changes in costs over this time period, overall costs were divided by bed days attended to derive per day costs. These are presented in the following table.

Table 29: MSS Costs per Day and SDS Costs per Procedure[63]

Fiscal Year	1997-98	1998-99	1999-00	2000-01[64]
MSS Inpatient Costs per Day				
Direct	$ 665	$ 733	$ 757	$ 641
Other Medical Activity Costs	$ 145	$ 171	$ 202	$ 171
Other Patient-related	$ 55	$ 60	$ 63	$ 53
Administrative	$ 224	$ 263	$ 244	$ 207
Fully loaded	**$ 1,089**	**$ 1,227**	**$ 1,266**	**$ 1,072**
Rates charged	$ 975	$ 975	$ 1,199	$ 1,297
SDS Costs Per Procedure				
Direct	$ 409	$ 768	$ 464	$ 374
Other Medical Activity Costs	$ 2,493	$ 2,086	$ 1,502	$ 1,208
Other Patient-related	$ 13	$ 17	$ 19	$ 15
Administrative	$ 106	$ 186	$ 109	$ 87
Fully loaded	**$ 3,021**	**$ 3,057**	**$ 2,094**	**$ 1,684**

The increases in inpatient utilization and same day surgeries noted above have driven down costs per day and costs per procedure.

Another way of examining program costs involves a comparison of overall medical costs incurred for civil inpatient consumers at CMHI-Pueblo and CMHI-Fort Logan. This is presented in the following table. This comparison is presented in the Table 30 below. All medical costs attributable to CMHI civil inpatients were identified from costs reports. For CMHI-Pueblo, these included MSS costs derived for this study according to the number of bed days and procedures used by civil psychiatric inpatients and non-MSS ambulatory and operating room costs allocated in the cost reports to the civil psychiatric inpatient units. For CMHI-Fort Logan, all medical costs are aggregated in the cost reports for the inpatient units in the "Medical Clinic" line.

The analysis in Table 30 shows the medical costs of CMHI-Pueblo civil inpatients to be over double that of CMHI-Fort Logan on a per bed day basis in 1999-00. In 1998-99, the CMHI-Pueblo costs were over four times those of CMHI-Fort Logan. The medical care of CMHI-Pueblo civil psychiatric inpatient consumers appears to cost considerably more than that of CMHI-Fort Logan civil inpatient consumers.

[63] Based on Medicare cost report data
[64] FY2001 expenses are estimated by multiplying FY2000 expenses by 101.3%

Table 30: Overall Medical Costs for Civil Inpatients at CMHI-Pueblo versus CMHI-Fort Logan

	1998-99	1999-00
CMHI-Pueblo Civil Inpatient Medical Costs		
MSS Inpatient costs for civil patients[65]	$ 2,494,700	$ 1,897,468
MSS SDS costs for civil patients[66]	$ 1,779,384	$ 820,793
Non-MSS Ambulatory Costs[67]	$ 431,044	$ 376,214
Non-MSS Operating Room Costs[68]	$ 600,292	$ 382,770
Total CMHI-P Medical Costs for Civil Psychiatric Inpatient Consumers	**$ 5,305,420**	**$ 3,477,245**
Total CMHI-P Psychiatric Inpatient Bed Days	71,153	73,323
All CMHI-FL Medical Costs for Psychiatric Inpatient Consumers[69]	**$ 1,012,820**	**$ 1,130,281**
Total CMHI-FL Psychiatric Inpatient Bed Days	59,272	58,330
Medical Costs Per Bed Day - CMHI-Pueblo	**$ 74.56**	**$ 47.42**
Medical Costs Per Bed Day - CMHI-Fort Logan	**$ 17.09**	**$ 19.38**

Why is this so? Earlier internal and external studies analyzing the cost of purchasing from a community vendor identical services to those provided by the MSS Unit have consistently shown MSS bed day and per procedure costs to be lower than those purchased in the community. However, medical costs are driven by both the cost of services and the demand for services. Demand for services is a complex function of need and accessibility. Persons with equal need may seek differential levels of care if the accessibility of care differs. This is why health plans make use of co-pays and deductibles to discourage persons from seeking care that may be beneficial but which is not seen as needed when compared to its cost.

Given the convenience of service availability at CMHI-Pueblo with its on-site hospital and robust clinic structure, it is likely that demand for services is higher relative to CMHI-Fort Logan. Part of this can be explained by the observation of some stakeholders that an undefined number of cases with significant medical needs is diverted each year from CMHI-Fort Logan to CMHI-Pueblo. Also, CMHI-Fort Logan has more external hospitals to work with in the Denver metro area and has negotiated marginally superior rates than CMHI-Pueblo pays for external consultations. However, it appears likely to be also due to increased use of services on a per patient basis due to the convenient access to these services facilitated by the MSS Unit.

[65] Computed by multiplying bed days attributed to civil inpatients by average bed day cost
[66] Computed by multiplying SDS procedures attributed to civil inpatients by average procedure cost
[67] From Medicare cost report
[68] From Medicare cost report
[69] Medical clinic costs from Medicare cost report, inclusive of outside medical procedures

Mountain Star Residential Treatment Center (RTC) Recommendations

For residential treatment center services, program size appears to fit current demand, so clinical and financial efficiencies are the focus of recommendations. Two recommendations are offered:

- Rates charged need to better match costs; they should not be significantly below or above costs.
- Increased collaboration with other child programs such as The Children's Hospital is recommended given the limited number of child inpatient resources in Colorado and the need to maximize collaboration and possible development of new services; in particular, the need for child RTC services should be examined.

Analyses Supporting the Recommendations

TriWest Group's development of these recommendations was based upon the analyses reported in the ***Future Roles Report*** and the analysis of financing described below.

Financial Analysis of the Mountain Star RTC

Expenses – The following table presents expenses for the RTC program at CMHI-Fort Logan for the past three complete fiscal years. Costs are broken down into direct costs incurred by the units and indirect, allocated costs. Allocated costs have been broken down into more variable patient-related ancillary services such as dietary or professional services and relatively fixed administrative costs including central administration, central facility costs and medical records. Medicare cost reports were used to capture expenses, and they include state government costs from areas of state government outside of the CMHIs, including the Office of Direct Services, Office of Information Technology Services, Office of Operations (facilities management, accountants, procurement), the Executive Directors Office (executive leadership, human resources, budget office) and Statewide Overhead.

Table 31: Mountain Star RTC Expenses[70]

Fiscal Year	1997-98	1998-99	1999-00
Direct	$ 322,590	$ 811,166	$ 881,587
Allocated - Ancillary Patient Services	$ 320,763	$ 1,168,711	$ 1,197,153
Allocated - Administrative	$ 149,266	$ 390,055	$ 417,179
Fully loaded	**$ 792,619**	**$ 2,369,932**	**$ 2,495,919**
Number of RTC Bed Days	1,856	6,569	6,559

[70] Based on Medicare cost report data

To analyze changes in costs over this time period, overall costs were divided by bed days attended to derive per day costs. These are presented in the following table.

Table 32: Mountain Star RTC Costs per Day[71]

Fiscal Year	1997-98	1998-99	1999-00
Direct	$ 174	$ 123	$ 134
Allocated - Ancillary Patient Services	$ 173	$ 178	$ 183
Allocated - Administrative	$ 80	$ 59	$ 64
Fully loaded	**$ 427**	**$ 360**	**$ 381**
Rate	n/a	n/a	$ 175
Percent difference	n/a	n/a	217.7%

The rate charged for RTC services in 1999-00 was less than half the cost of delivering those services. The rate does more than cover the direct costs of operating the unit. Per CMHI-Fort Logan has provided additional information showing the typical amount charged per day is $223.98, consisting of $126.86 in Medicaid RTC treatment billing (Level B), county portion rates per day of $43.51, and excess cost billing of $53.61. Analysis of current year costs should be completed at year end to determine a rate that more closely matches actual expenses, as neither exceptionally high nor exceptionally low rates make sense given that state funds underwrite all sources of revenue. Accurate rates seem to be in the best interest of the state in that they accurately allocate costs to various state programs.

[71] Based on Medicare cost report data

Revenue – An analysis of revenue was also completed. This is summarized in the following table.

Table 33: Mountain Star RTC Revenue Data and Analyses[72]

Fiscal Year	1998-99	1999-00
State General Fund Revenue[73]	$ 1,180,486	$ 1,061,234
PPOR (education)[74]	$ 83,944	$ 91,901
DYC RTC	$ 72,090	$ 69,986
School RTC	$ 201,663	$ 224,042
County RTC	$ 221,724	$ 235,684
MHASA Revenue	$ 49,468	$ 13,731
Medicaid RTC	$ 640,399	$ 892,475
Other Third Party Revenue	$ 4,102	$ (1,233)
State General Fund Percent of Revenue	49.8%	42.5%
MHASA/Medicaid Bed Days	6,034	6,311
Percent	91.9%	96.2%
MHASA/Medicaid Revenue	$ 689,867	$ 906,206
Percent	29.1%	36.3%

Despite the fact that 96.2% of bed days in 1999-00 were used by Medicaid recipients, State General Fund revenue underwrote 42.5% of program costs. The raising of rates charged to better match costs should rectify this problem, at least in part. While focus group data seemed to indicate that the program was a good value for the state, if costs are not accurately represented in rates charged, different CDHS departments will end up subsidizing each other's costs. As all of these costs are incurred by the state, this is not a question of value. It is instead a question of accurate tracking of costs and the ability to predict future need and develop program plans reliably.

[72] As reported on Institute Net Revenue Reports, unless otherwise indicated.
[73] Calculated by subtracting all third party revenue from total costs.
[74] Reported separately by ODS.

Capitation and Financing Recommendations

The analysis of expenses and revenue for each of the specific Institute programs presented in the preceding section identified several areas of concern related to financing that cut across all Institute programs and the Colorado mental health system in general. The following sections summarizes these, as well as other financing issues confronting the Institutes.

Too little funding, particularly for persons without insurance – The following table presents data showing trends in population, the number of uninsured, Medicaid and non-Medicaid persons served in the Colorado public mental health system, and Medicaid and non-Medicaid mental health funding. The estimated growth in the number of uninsured persons in Colorado in the past year was over five times the rate of growth in the statewide population. Growth in the number of non-Medicaid and Medicaid mental health consumers served also rose much faster than population growth in 1998-1999. The decrease in the number of non-Medicaid consumers served in 1999-2000 has been attributed by Colorado Mental Health Services to limited service availability, not a reduction in need.

Table 34: Population and Mental Health Funding Data – Trends Over Last 4 Years[75]

	1997-98	1998-99	1999-00	2000-01
State Population (calendar year)	3,954,452	4,054,340	4,160,842	4,301,261
Percent Change from Previous Year	n/a	2.53%	2.63%	3.37%
Estimated number of uninsured[76]	597,122	612,205	699,021	n/a
Percent Change from Previous Year	n/a	2.53%	14.18%	n/a
Non-Medicaid Consumers Served	37,779	44,135	43,325	n/a
Percent Change from Previous Year	n/a	16.82%	-1.84%	n/a
Medicaid Consumers Served	31,561	35,153	38,948	n/a
Percent Change from Previous Year	n/a	11.38%	10.80%	n/a
Non-Medicaid Mental Health Funding	**$28,800,000**	**$29,541,567**	**$30,190,983**	**$31,260,120**
Per capita spending	$7.28	$7.29	$7.26	$7.27
Per Non-Medicaid Consumer	$762.33	$669.35	$696.85	n/a
Medicaid Mental Health Funding[77]	**n/a**	**$121,236,414**	**$131,428,234**	**$131,113,603**
Per capita spending	n/a	$29.90	$31.59	$30.48
Per Medicaid Consumer	n/a	$3,448.82	$3,374.45	n/a
New funds needed to bring Non-Medicaid level to 50% of Medicaid[78]	**n/a**	**$46,565,268**	**$42,908,040**	**n/a**

[75] Based on data provided by Mental Health Services, CDHS.
[76] Computed by multiplying each year's U.S. Census Bureau rate of uninsured by the state population
[77] Updated per 2001-02 Joint Budget Committee figure setting on 3/14/01.
[78] Computed by multiplying 50% of the per Medicaid consumer spending level by the number of non-Medicaid consumers served, less current funding for non-Medicaid consumers.

Colorado Mental Health Services data comparing the total level of state and federal funding for non-Medicaid (i.e., uninsured) mental health services to Medicaid mental health funding underscores this point, showing Medicaid funding to be nearly five times that of non-Medicaid funding per person served. Differences in clinical severity and functioning based upon the Colorado Client Assessment Record (CCAR) between Medicaid and non-Medicaid consumers in Colorado have shown a statistically higher level of need for Medicaid consumers in each major age group served. However, the difference is very slight for children and adolescents and small for adults and older adults.[79] The largest difference when comparing the two groups across 24 age and severity categories was 12% and all but six differences were under 5%, far below the 435% difference in funding levels. Notice also that per capita non-Medicaid mental health funding has failed to keep up with population growth, let alone inflation.

The implication of these data is that current funding for the Colorado mental health system has not kept up with increasing population levels and an even larger increase in the numbers of persons without insurance. The differences in funding are significant. A rough estimate of the cost of bringing per consumer spending for non-Medicaid consumers to 50% of the per consumer spending of Medicaid consumers suggests a need for additional funding of approximately $40 million annually. This level does not address any needs for persons not currently served by the public mental health system. Using Epidemiological Catchment Area (ECA) study data[80] and the 1999 Colorado population census estimate, Colorado Mental Health Services estimates that upwards of 23,770 adults with serious mental illness are currently not served by the Colorado public mental health system.

Medicaid services provided by the Institutes are subsidized by State General Funds – The percentage of Medicaid revenue compared to the percentage of bed days utilized by Medicaid consumers shows that the percent used is greater than the percent of revenue for all programs that fall outside of the Medicaid IMD exclusion (child, adolescent, and geriatric inpatient and Mountain Star RTC). For adult inpatient populations, the situation is more difficult to quantify in dollars, but where Medicaid status is tracked (CMHI-Fort Logan) the percent use by persons with Medicaid is increasing dramatically. The table below summarizes these trends.

[79] Coen, A. and Ellis, D. February, 2001. Colorado Mental Health Services. Personal communication.
[80] Narrow, Regier, Norquist, Rae, Kennedy, Arons. (2000). Mental health service use by Americans with severe mental illness. Social Psychiatry Psychiatric Epidemiology, 35: 147-155, cited by T. Barrett, December, 2000.

Table 35: Medicaid Bed Days Used Versus Revenue – Last 3 Years

	1997-98	1998-99	1999-00
Child Inpatient			
Medicaid bed days	68.6%	69.0%	77.4%
Medicaid revenue	n/a	57.7%	60.9%
Adolescent Inpatient			
Medicaid bed days	56.8%	63.5%	78.1%
Medicaid revenue	46.2%	49.0%	43.7%
Geriatric Inpatient			
Medicaid bed days	21.9%	27.9%	33.9%
Medicaid revenue	n/a	14.4%	15.1%
Mountain Star RTC			
Medicaid bed days	n/a	91.9%	96.2%
Medicaid revenue	n/a	29.1%	36.3%
Adult Inpatient (CMHI-FL)[81]			
Medicaid bed days	43.9%	52.1%	58.1%
Medicaid revenue	n/a	1.8%	1.9%

CMHI State General Funds can leverage more care if diverted to community – Earlier in this report, models were presented for purchasing community alternative services using current Institute funds for the adolescent and adult inpatient programs. These models highlighted the issue of how many beds and annual slots of treatment could be purchased in the community as opposed to the Institutes for the same amount of funds. The view that services purchased in the community are more economical than those in a hospital setting is widely held and generally centers on the fact that community services tend to cost less on a per day basis than inpatient services. An additional factor involves the ability of State General Funds to leverage additional third party funds, thus increasing the overall amount of funding available to purchase services.

To illustrate the potential impact of these factors to create additional community services with funds currently spent on CMHI adult inpatient services, a financial model was created with the following parameters:

- Community alternatives would be created prior to downsizing any CMHI adult inpatient beds.

- Start-up costs for community alternatives would be reimbursed by future savings from CMHI bed downsizing, yielding a cost-neutral model to the state over a multi-year period.

[81] Only CMHI-Fort Logan track Medicaid status for all adult inpatients.

- Once start-up costs were reimbursed, all State General Funds saved would go to community alternatives.

- Ultimately 40% of CMHI capacity would be diverted to the community.

- Future funding would be kept constant, adjusted for inflation and population growth per TABOR methodology.

This model is presented in the table on the following page. It makes several assumptions regarding inflation and population growth that are detailed in footnotes. It also uses assumptions of the ability to leverage additional third party funds for community alternatives based on the model presented earlier in this report which was developed to estimate the community capacity that could be built in Northern and Western Colorado through downsizing at CMHI-Pueblo.

Table 36: Six Year Cost-neutral Model for Creation of New Community Alternatives Prior to CMHI Downsizing

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Available State General Funds (SGF)[82]	$26,158,437	$27,563,145	$29,043,286	$30,602,910	$32,246,286	$33,977,912
Inflation factor	0	2.5%	2.5%	2.5%	2.5%	2.5%
Population growth factor[83]	0	2.8%	2.8%	2.8%	2.8%	2.8%
SGF spent on CMHI adult inpatient[84]	$24,221,431	$24,207,145	$24,797,563	$22,496,256	$20,141,996	$17,656,945
SGF spent on Community - Northern &Western Colorado[85]	$ 1,937,006	$ 1,985,431	$ 2,035,067	$ 2,085,943	$ 2,138,092	$ 2,191,544
SGF spent on Community - Rest of state	$ -	$ 2,000,000	$ 3,000,000	$ 5,000,000	$ 9,500,000	$14,000,000
Available SGF less SGF spent	$ -	$ (629,431)	$ (789,344)	$ 1,020,711	$ 466,198	$ 129,423
Cumulative SGF balance	$ -	$ (629,431)	$ (1,418,775)	$ (398,064)	$ 68,134	$ 197,557
Remaining CMHI adult beds	223	223	223	198	173	148
Percent of original CMHI adult beds	90%	90%	90%	80%	70%	60%
CMHI adult beds diverted to community	24	24	24	49	74	99
Percent of original CMHI adult beds	10%	10%	10%	20%	30%	40%
Beds/slots created in the community[86]	68	136	168	231	371	505
CMHI adult inpatient spending (SGF+3rd party)	$30,676,695	$28,388,363	$29,080,762	$26,381,958	$23,621,055	$20,706,769
Community spending (SGF+3rd party)	$ 2,694,045	$ 5,543,054	$ 7,002,919	$ 9,855,338	$16,186,600	$22,519,675

[82] FY2000 State General Fund revenue for both Institute adult inpatient programs, adjusted each year for inflation and population growth.
[83] Average of annual statewide population growth in 1997-98, 1998-99, 1999-00.
[84] Average FY2000 cost per CMHI adult bed (adjusted over time for inflation) multiplied by remaining number of CMHI adult beds.
[85] Estimated SGF available through plan to close 24 beds at CMHI-Pueblo, adjusted over time for inflation
[86] Estimated by dividing SGF spent on community (N&W CO plus rest of state) by average bed/slot SGF cost estimated in earlier model for N&W CO (adjusted over time for inflation)

Capitation – The concept of capitation relates to a key question of the RFP for this study, specifically an analysis of the possibility of capitating State General Funds for the Institutes. An important distinction is the meaning of the term "capitation." Technically, capitation refers to a funding approach in which medical costs are tied to a population of specific persons known as members. Rather than paying for specific services, a class of members is defined and an amount of funding allocated to each to create a funding pool to pay for the health care needs of those members seeking services over a given period of time (typically a month). Capitation therefore requires (1) a specifically defined class of members, (2) an estimate of how much their health care costs are likely to be over a given period of time (e.g., annual costs can be divided by 12 to yield monthly costs), and (3) an entity willing to contract for providing any needed care to the class of members in return for the estimated costs. If costs are less than estimated, the entity keeps the difference; if costs exceed the estimate, the entity must pay for the extra services with other funds. This is often referred to as risk.

Capitation is a complex funding approach that has yet to be successfully applied to public mental health populations other than Medicaid recipients.[87] Colorado's Medicaid Mental Health Capitation and Managed Care Program has generally been viewed as successful in providing capitated mental health services to Medicaid recipients. The program clearly meets the three definitional requirements necessary for capitation: a defined class of members (Medicaid recipients), historical data with which to estimate future costs (historical Medicaid fee-for-service data and the last five years of data from the operation of the capitated program), and established entities willing and able to contract for the risk of providing these services (MHASAs).

The situation of non-Medicaid consumers currently does not meet the definitional requirements for capitated funding. There is no way to define a population (other than the statewide population, an approach that has not worked in other states).[88] There are not reliable historical data upon which to estimate the cost of future care and those data which are available suggest significant under-funding. There are also currently no entities identified with which the state could contract to manage the financial risk of such care.

For these reasons, the discussion regarding community control of funding in this report will focus on contractual arrangements through which CDHS could contract with local organizations to provide needed care (perhaps even utilizing managed care approaches such as concurrent review and case management), without necessarily passing on the financial risk of that care. It is possible that for Medicaid persons using Institute services capitation approaches could be developed, and this report has pointed out several instances in which funds could be added to current MHASA rates as a mechanism for earning additional federal Medicaid funds. Institute inpatient services for children, adolescents and older adults, as well as some RTC services are

[87] Most notably, the state of Tennessee has attempted to capitate funding for non-Medicaid mental health consumers. The program is generally regarded as unsuccessful.

[88] Case rates offer one potential approach to capitating funding for groups of consumers that do not have a larger population to which they belong, but this approach has its own complexities. For further discussion of these issues, see McGuirk, F. D., Keller, A. B., & Croze, C. (1995). Blueprints for Managed Care: State Systems and Structure. Rockville, MD: Center for Mental Health Services, U.S. Department of Health and Human Services.

already paid for with capitated Medicaid funds. Additional specific approaches to address this are presented below.

The experience of other states – Key informants in the states of California and Ohio were contacted as part of this study in order to gather information regarding their local control mechanisms for state hospital funding. The overall input from these two states was that community control is a complex issue greatly influenced by a given state's political, funding and service system context. In California, the move to local funding was motivated by both a desire to increase local control over mental health funds and a political situation that sought to limit the state budget by moving funding for the state hospitals to the local level. In general, this continues to be a workable, but cumbersome process in which the state requires a set purchase of state hospital beds each year, but the figures need to be set over a year in advance of the purchase due to the state mandated budget process for the state hospitals. In Ohio, success has also been mixed, due to its own set of contextual and political issues. Overall, the lessons from other states seem to include:

- If possible, begin with small, natural steps rather than rushing to large scale, rapid system change.

- Be cognizant of the realities of the state budgeting process when determining potential mechanisms for locally-controlled purchases of state hospital resources.

Current community alternatives – The RFP for this study required the development of a dynamic model that CDHS could use to determine that adequate alternatives to inpatient care are available in the community prior to the transfer of any Institute funds or consumers to a community provider. TriWest Group has since contracted with Mental Health Services to complete a survey of the quantity and quality of community alternatives to the Institutes currently available in each CMHC catchment area in Colorado. The CMHI Alternatives Study is currently in progress and should yield detailed information to guide CDHS in its decision-making regarding the Institutes and the overall Colorado public mental health system. The survey developed provides Mental Health Services and CDHS with a standardized tool that can be used over time to evaluate the quantity and quality of Institute alternatives. Used in the context of ongoing evaluation and review by CDHS, this offers a dynamic approach to assess community alternatives over time that can be used to determine the adequacy of alternatives prior to any transfer of funds or consumer care to community providers. An overview of the methodology employed in this survey is provided in Attachment I to this report.

For this report, initial figures by region of the state were available regarding the current capacity of various Institute alternatives. Institute resources were excluded from the study, as the focus was on alternatives and Institute resources are detailed elsewhere throughout this report. These are presented in the tables below and used to develop rough estimates of potential need in different parts of the state.[89] For the purposes of this report, individual catchment areas are aggregated into four larger regions in order to understand regional differences across the state.

[89] These data are based on interim analyses that may be refined prior to the completion of this study in April, 2001.

The four areas are:

- Central Front Range – The catchment areas of Adams, Arapahoe/Douglas, Aurora, Boulder, Denver and Jefferson.
- Northern Front Range – The catchment areas of Centennial, Larimer and North Range.
- Southern Front Range – The catchment areas of Pike's Peak, San Luis Valley, Southeastern Colorado, Spanish Peaks, and West Central.
- Western Slope – The catchment areas of Colorado West, Midwestern and Southwestern Colorado.

The first table below shows the number of beds, treatment slots and facilities in each major region of the state.

Table 37: Capacity of Community Alternatives in Colorado Regions

Service Area	Central Front Range	Southern Front Range	Northern Front Range	Western Slope	Total	Units
Hospital Facilities						
Inpatient	**323**	**98**	**46**	**45**	**512**	
Child - Dedicated	24	0	0	0	24	**Beds**
Adolescent - Dedicated	59	8	8	0	75	
Child and Adolescent	7	23	0	0	30	
Total Adult	233	67	38	45	383	
Emergency Room	**9**	**4**	**4**	**1**	**18**	
Child and Adolescent	1	0	0	0	1	**Facilities**
Adult	0	2	0	0	2	
All ages	8	2	4	1	15	
Community Mental Health						
ATU	**72**	**62**	**16**	**26**	**176**	
Child and Adolescent	4	0	0	8	12	**Beds**
Adult	68	62	16	18	164	
Residential - 24 Hour Awake Staff	**107**	**87**	**34**	**0**	**228**	**Beds**
Adult – High Intensity Comm. Tx.	**825**	**95**	**95**	**10**	**1025**	**Slots**
Intensive Family Treatment	**738**	**45**	**44**	**33**	**861**	**Slots**
Intensive Case Management	**1883**	**139**	**0**	**210**	**2232**	**Slots**
Day Treatment – Child	**375**	**0**	**40**	**29**	**444**	**Slots**
Day Treatment – Adults	**242**	**35**	**245**	**11**	**533**	**Slots**
Mobile Crisis	**7**	**3**	**3**	**2**	**15**	
All ages	3	2	3	2	10	**Providers**
Child and Adolescent	2	1	0	0	3	
Adult and Older Adult	2	0	0	0	2	
Daytime Respite	**3**	**1**	**0**	**0**	**4**	**Providers**
Overnight Respite	**2**	**2**	**0**	**0**	**4**	
Other Systems						
RTC	**775**	**292**	**20**	**32**	**1119**	**Beds**
Nursing Homes w/ MH Services	**20**	**26**	**1**	**13**	**60**	**Facilities**
Other Housing	**1543**	**668**	**217**	**299**	**2727**	**Slots**

Population differences across the state complicate comparisons between regions. The following table presents the same data, standardized per 100,000 residents.

Table 38: Capacity of Community Alternatives in Colorado Regions per 100,000 Residents[90]

Service Area	Central Front Range	Southern Front Range	Northern Front Range	Western Slope	Total	Units
Hospital Facilities						
Inpatient	**13.8**	**11.2**	**9.0**	**10.2**	**12.3**	
Child - Dedicated	1.0	0.0	0.0	0.0	0.6	
Adolescent - Dedicated	2.5	0.9	1.6	0.0	1.8	**Beds**
Child and Adolescent	0.3	2.6	0.0	0.0	0.7	
Total Adult	10.0	7.7	7.4	10.2	9.2	
Emergency Room	**0.38**	**0.46**	**0.78**	**0.23**	**0.43**	
Child and Adolescent	0.04	0.00	0.00	0.00	0.02	**Facilities**
Adult	0.00	0.23	0.00	0.00	0.05	
All ages	0.34	0.23	0.78	0.23	0.36	
Community Mental Health						
ATU	**3.1**	**7.1**	**3.1**	**5.9**	**4.2**	
Child and Adolescent	0.2	0.0	0.0	1.8	0.3	**Beds**
Adult	2.9	7.1	3.1	4.1	3.9	
Residential - 24 Hour Awake Staff	**4.6**	**10.0**	**6.6**	**0.0**	**5.5**	**Beds**
Adult – High Intensity Comm. Tx.	**35.4**	**10.9**	**18.5**	**2.3**	**24.6**	**Slots**
Intensive Family Treatment	**31.6**	**5.2**	**8.6**	**7.5**	**20.7**	**Slots**
Intensive Case Management	**80.7**	**15.9**	**0.0**	**47.6**	**53.6**	**Slots**
Day Treatment – Child	**16.1**	**0.0**	**7.8**	**6.6**	**10.7**	**Slots**
Day Treatment – Adults	**10.4**	**4.0**	**47.6**	**2.5**	**12.8**	**Slots**
Mobile Crisis	**0.31**	**0.34**	**0.58**	**0.45**	**0.36**	
All ages	0.13	0.23	0.58	0.45	0.24	**Providers**
Child and Adolescent	0.09	0.11	0.00	0.00	0.07	
Adult and Older Adult	0.09	0.00	0.00	0.00	0.05	
Daytime Respite	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**Providers**
Overnight Respite	**0.1**	**0.2**	**0.0**	**0.0**	**0.1**	
Other Systems						
RTC	**33.2**	**33.4**	**3.9**	**7.3**	**26.9**	**Beds**
Nursing Homes w/ MH Services	**0.9**	**3.0**	**0.2**	**2.9**	**1.4**	**Facilities**
Other Housing	**66.2**	**76.4**	**42.2**	**67.8**	**65.5**	**Slots**

[90] Using 1999 population estimates from the Colorado Department of Local Affairs, based on U.S. Census data.

Primary areas of difference across the state involve the following:

- The Central Front Range and Western Slope have more adult inpatient resources per capita.
- The Central and Southern Front Range have more child and adolescent inpatient resources per capita.
- For RTC and Day Treatment, the Central Front Range has the most resources, but the Southern Front Range also has a large number of RTC beds per capita. RTC resources are not inclusive of all RTCs across the state, but instead only those which are known to CMHCs as part of the public mental health system.
- ATU resources are more prevalent per capita in the Southern Front Range and on the Western Slope.
- The Southern Front Range has the most residential programs providing 24 hour staffing per capita. The Western Slope has none. Residential facilities with less intensive staffing were included in the housing category.
- The Central Front Range has a much more developed array of intensive community-based treatment options per capita, including high intensity community treatment teams for adults (e.g., assertive community treatment teams and comparable resources), intensive family treatment (e.g., home based services, Multisystemic Therapy teams), and intensive case management.
- The Northern Front Range has by far the most day treatment capacity for adults per capita. The Central Front Range has less, perhaps due to the increased numbers of intensive community-based treatment resources there. The Southern Front Range and Western Slope have few day treatment resources for adults per capita.
- Only the Central and Southern Front Range have daytime and overnight respite providers.
- The Southern Front Range and Western Slope have more nursing home providers per capita with some level of specialized mental health services.
- The Northern Front Range has fewer housing resources per capita than other areas of the state.

When the CMHI Alternatives Study is complete, the data can be used to develop more detailed analyses of the adequacy of various community alternatives to Institute services. The more detailed data can also be used to estimate more specifically the cost of developing adequate alternatives across the state. For the purposes of this study, the initial data presented above were used to estimate the costs of developing adequate levels of those service types deemed to be

evidence-based. These include service types such as assertive community treatment[91] and Multisystemic Therapy[92] that have been shown in various studies to offer superior, cost-effective treatment outcomes. Treatment approaches that have been viewed as successful in Colorado such as Acute Treatment Unit (ATU) services were also included in the analysis.

There are not currently published benchmarks with which to determine how much capacity of a given service should be available for a given population. Because of this, estimates were made using comparisons between different areas of the state. Two models were developed for estimating costs:

- The first estimates the cost of bringing the other three areas of the state to at least the level of per capita capacity of the Central Front Range, an area generally viewed in the focus groups as having better access to evidence-based care than the rest of the state.

- The second model takes into account the fact that no area of the state is viewed as currently having sufficient capacity across the board. For this model, costs are estimated for bringing each region of the state up to the level of the region with the most capacity in each evidence-based treatment area. Because differences in the array of services in a given area also impact needed levels of specific services (e.g., if there are less inpatient resources, more ATUs may be needed), this approach may very well over-estimate costs.

The table below presents the evidence-based service types included, estimated annual and unit costs, and the estimated costs of developing increased capacity with each of the two cost models. The first model estimates a cost of approximately $16.1 million and the second a cost of $34.8 million annually.

Table 39: Estimated Costs for Developing Evidence-based Capacity Statewide

Evidence-based Approaches	Units	Annual Cost	Unit Cost	To At Least Central Front Range	To Highest Region's Level
ATU		-	-	-	-
Child and Adolescent	Beds	$109,500	$ 300.00	$ 260,728	$ 6,954,862
Adult		$ 91,250	$ 250.00	$ 0	$ 11,975,351
High Intensity Comm. Tx. - Adult	Slots	$ 7,500	$ 20.55	$ 3,352,844	$ 3,352,844
Intensive Family Treatment	Slots	$ 15,000	$ 41.10	$ 6,852,179	$ 6,852,179
Intensive Case Management	Slots	$ 5,000	$ 13.70	$ 5,639,165	$ 5,639,165
TOTAL		-	-	**$ 16,104,916**	**$ 34,774,401**

[91] Clark, R.E., (1997); Drake, R.E. et al., (1998); Essock, S.M. et al., (1998); Monroe-DeVita, M.B., & Mohatt, D.F. (1999).

[92] Washington State Institute for Public Policy, (January, 1998); Henggeler, S.W., Pickrel, S.G., & Brondino, M.J., (1999); Henggeler, S. W., Melton, G. B., Smith, L. A., Schoenwald, S. K., & Hanley, J. H., (1993).; Borduin, C. M., Mann, B. J., Cone, L. T., Henggeler, S. W., Fucci, B. R., Blaske, D. M., & Williams, R. A., (1995).

Focus group findings – Stakeholder perspectives regarding the potential transfer of control of CMHI funding to local communities fell into two broad groups clearly differentiated by stakeholder type. In general, Front Range family members of adult consumers and CMHI staff reacted negatively to this possibility. Regional mental health leaders and adult consumers reacted more favorably, but with some reservations. The Western Slope family member group was more in the middle, with concerns regarding the idea, but a sense that developing alternatives closer to where persons live would be preferable to the status quo. The issue was not raised by the psychiatrist, parent or state leadership groups.

Key concerns related to this issue and rated as "most important" on average included:

- That the CMHIs would become destabilized and lose capacity.
- The potential loss of the CMHIs.
- That such a transfer would dilute the state's responsibility for the care of persons with mental illness.
- That more people will end up in the correctional system and other inappropriate institutions.
- That more people will end up homeless.

These concerns underscore the importance of ensuring the ongoing mission of the Institutes and their viability. None of these issues seem to follow necessarily from a transfer of control of some funding to the local level. They center on a fear that current Institute resources will be lost predicated on the very important needs currently met by the Institutes and the scarcity of alternative resources and overall funding.

The focus groups also identified potential benefits of increased community control (all rated as "most important"):

- That mental health services in general would become more responsive.
- That CMHI services would become more responsive.
- More regionally decentralized care.
- More creative and efficient use of mental health resources.

However, regional mental health leaders were concerned that such a transfer of control might be accompanied by problematic additional changes that would negate its potential benefits, including the promotion of unrealistic expectations at the state level to resolve multiple existing problems with this single set of limited funds and a reduction in overall mental health funding (both rated as "most important").

The ***Focus Group Report*** also identified strategies that could help sustain the viability of the CMHIs in the event of a transfer of funding control to the local level. Many ideas were generated, including the following themes rated as "most important":

- The need to build evaluation and accountability into any transfer of control of CMHI funds to the local level.
- The importance of increasing overall mental health funding to allow development of community alternatives.
- The importance of preserving direct state funding for core inpatient safety net capacity.
- The need to protect dedicated state facilities for persons without Medicaid and with Medicaid.
- Several items related to the importance of adequate planning and collaboration between the CMHIs, MHASAs, and other human service agencies.

A hypothetical version of a possible transition plan was also discussed and critiqued in detail by the focus group of CMHI, CDHS and other state government executive and legislative staff representatives. Participants were presented with a hypothetical plan to develop enhanced community-based alternatives, create a quasi-governmental authority for ongoing CMHI services, and then shift the majority of funding to the local level. The plan involved an implementation timetable of four years and funded the building of community alternatives and established their effectiveness prior to the transfer of any funds to the local level. Additionally, only funding for Institute services outside the core mission of the Institutes to serve persons with long-term, highly acute needs was identified for eventual transfer to local control.

Participants were asked to rate their level of endorsement of the hypothetical recommendations at two different points in the group. Participants initially rated the recommendations prior to any discussion or suggested improvements. The mean rating was the lowest level of endorsement of ratings available (mean rating of 3.29). After discussing the recommendations and identifying ways to improve them, participants again rated them. The rating was based on the level of endorsement assuming that changes also recommended by each participant were made to the plan. The mean rating increased two levels to 2.03, solidly within the second highest range of endorsement and a clear positive endorsement. CMHI staff consistently rated the plan lower than other participants.

Several critiques and ideas for improvements were made regarding this component of the plan. Those specific suggestions rated "most important" included:

- The desire to maintain direct state funding for populations broader than a core inpatient capacity for persons with refractory psychiatric needs or who otherwise cannot be served in the community.

- Requiring state evaluation and sign off regarding the adequacy of local inpatient alternatives prior to moving funds to the community.

- The importance of addressing inadequate services for high need consumers apart from the CMHIs.

- The idea of requiring a buy back of a minimum amount of CMHI services by local entities.

- The need to take into account the costs of fixed overhead when calculating the cost of ongoing CMHI services.

- Limiting the funds transferred to the community to only those associated with services to Medicaid recipients.

Participants also noted the importance of building flexibility into the out-year components of the plan.

Strategies to increase Medicaid revenue for the Institutes – Two strategies have been developed at the state level to enhance Medicaid revenue for the Institutes and thereby free up State General Funds to build additional community alternatives. The first strategy involves changing the payment mechanism for Institute services from competitively set rates to cost-based reimbursement. Currently, inpatient consumers in the Medicaid fee-for-service system (persons new to Medicaid) are paid for at a cost-based rate. Inpatient consumers enrolled in the Medicaid Mental Health Capitation and Managed Care Program are paid for with competitively set rates. The Institutes estimate that approximately $1.4 million in additional federal revenue could be generated through this change (in addition to the required state match).

Given the current subsidization of Medicaid costs for Institute services with 100% State General Fund revenue documented earlier in this report, this plan seems timely. In addition to recapturing Medicaid revenue more proportionate to actual Medicaid costs in the Institutes, it will also remove a mechanism that could lead to additional decreases in Medicaid rates. While competition can be useful in its place, it does not make sense to have one state program compete with another in a manner than decreases access to federal funds. These new funds would be added to current MHASA rates in order to hold MHASAs harmless.

Another strategy proposed is that of gaining a waiver of the current federal restriction on using Medicaid funds to pay for state hospital inpatient care for adults ages 21 to 65. This is known as the Institute for Mental Disease or IMD restriction. This was proposed by CDHS in its most recent Medicaid Waiver request, but early feedback suggests that this proposed change may not be accepted. The recently announced IMD waiver approval for Arizona does leave some hope that Colorado's request may yet be successful. If approved, the proposal is estimated to yield an additional $3.7 million annually in federal funding for the Institutes (in addition to the required state match). As with the other plan, these new funds would be added to current MHASA rates in order to hold MHASAs harmless.

Financing Recommendations

Based on the above findings, TriWest Group offers the following financing recommendations for the Institutes:

Financing recommendation one – Develop additional funding to increase the level of service for uninsured persons – This recommendation involves not just the Institutes, but the entire state public mental health system, given the many areas of inter-relatedness between the two. The analyses discussed above suggest that upward of $40 million annually would need to be added to the public mental health system to make mental health services for the uninsured more comparable to Medicaid services. In addition to the $5.1 million in additional funding sought by CDHS's current Medicaid-focused proposals ($1.7 plus $3.4 million), the following strategies are recommended:

- Review all Medicaid rates to ensure that they truly reflect the actual costs of operating the program. Every area of Institute programming reviewed above showed current Medicaid reimbursement to be significantly beneath costs. While the proposal to move to cost-based reimbursement should correct for this, care needs to be taken to ensure that the rates are truly reflective of actual Institute costs.

- If the current IMD waiver request is not successful, submit as soon as possible a revised waiver request modeled on that of the state of Arizona.

- Identify and explore new federal mandates such as the Olmstead ruling that can serve as a rationale for increasing state expenditures on mental health care for the uninsured.

Financing recommendation two – Initiate a multi-year transition to community control of funding for the 40% of current Institute capacity not related to the Institute's core mission – As described above, the Institutes are currently serving a high percentage of consumers who appear to be able to be as adequately or better served in community or other alternative settings. In addition, service in community settings is typically less expensive than inpatient care and can leverage more third party funding in general. To protect the viability of the Institutes, core funding would continue to be provided directly from the state. However, funding associated with care that could be better provided in the community would move to local control. Key features of this recommendation include:

- Similar requirements to those articulated above for the move of CMHI-Pueblo resources to Northern and Western Colorado are recommended, regarding maintenance of mission, continued service to the uninsured and those persons most in need of care, a formal program evaluation of the transition, collaboration with consumers and family members, and required use of evidence-based approaches.

- Up front funding to build alternatives is recommended prior to moving any funds to local control. The community alternatives survey or a comparable approach should be used in conjunction with a broader evaluation process that incorporates stakeholder perspectives and

data from specific consumers served to determine the adequacy of alternatives prior to moving them to local control. The determination of adequacy should look at both quantitative capacity and the quality of those services.

- A multi-year transition with the following steps:
  - Pilot the approach with Northern and Western Colorado. The plan described earlier for moving some resources to Northern and Western Colorado over a 27 month period would allow for a smaller-scale pilot of this approach. The entire 27 month period would not necessarily be necessary prior to movement to the next step. Rather, sufficient time should be allowed to gain evaluation results and develop plans needed to support the next step.
  - Fund new community-based alternatives. As was done in Oregon in the mid-1990s, alternatives should be developed and deemed adequate prior to any shift of control to local entities. This would start with the Northern and Western Colorado initiatives, and can be expanded as appropriate.
  - Transfer funds by area of the state after CDHS approval of the adequacy of alternatives in each area. A continued step-wise approach will let those areas more prepared move first, while other areas can learn from their experience and prepare for their own transition.
- Use a regional approach, rather than a catchment area approach. Given the need to develop comprehensive local systems of care, larger regions seem preferable to a focus on the 17 different CMHC catchment areas. MHASAs would offer a set of broader areas that the state already views as separate systems of care. For the metro-Denver area, consolidation of MHASAs for this purpose should also be considered.
- Use separate funding mechanisms for Medicaid and non-Medicaid consumers. As with the plan developed by CDHS for implementing an IMD waiver, the funds for Medicaid consumers can be added to the current MHASA rates. For non-Medicaid consumers, formal capitation is not feasible. However, performance-based contracts for providing evidence-based care to these populations can be entered into with an array of possible providers, including CMHCs, MHASAs and other non-profit providers. To the extent it is deemed advisable, these can include provisions for managed care approaches including concurrent review and case management.

Analysis of Financing Recommendations

Fiscal and service impacts – These recommendations are expected to achieve the following impacts:

- Improve care for those consumers currently served by the Institutes who appear to be able to be more appropriately served in their home communities by the creation of up to five (5) beds in the community for every adult CMHI bed closed

- Leverage additional federal and third party revenue through the Medicaid strategies reviewed and by transferring some direct funding for the Institutes to the control of community providers

Strategies for sustaining the financial viability of the Institutes – There are two key strategies recommended to sustain and perhaps improve the viability of the Institutes in such a scenario. These include:

- Maintaining direct funding for the core services of the Institutes. This will ensure an ongoing base of funding for the core mission of the Institutes to serve those in need of long-term or highly acute care.

- Move the governance of the Institutes to an independent, quasi-governmental authority. The following section outlines a plan to move the Institutes to an authority model outside of the state budget, personnel and procurement systems. This step is critical to ensure the viability of the Institutes overall given the current competitive and fast-changing health care market. It will become even more important when the Institutes need to begin to compete with other providers for a portion of their funds.

Administrative Recommendations

TriWest Group's analysis of administrative issues focused on two areas: the current administrative structure overseeing the Institutes and the larger issue of governance into the future. These are addressed in turn below.

Administration – Two primary areas were analyzed regarding the current administration of the Institutes: overall administrative staffing levels and the structure of CDHS oversight of the Institutes.

Administrative staffing levels at the Institutes were analyzed through a comparison of Colorado's staffing levels to those of other states. It should be noted that no state's administrative staffing level can be identified as a best practice. Instead, comparisons to other states should be used as benchmarks against which to place Colorado's level of staffing in context.

Additionally, the primary data underlying this analysis come from the National Association of State Mental Health Program Directors (NASMHPD) and its national mental health data tracking system. Data from the NASMHPD State Profiles database was used to make comparisons between Colorado and other states. The data reported from different states vary somewhat in this system and should be interpreted with some caution. For the purposes of this report, the data are used as an indicator of how Colorado's overall administrative (indirect) staffing levels relate to those of other states. The data are presented in the following table.

The table shows data for state hospital direct and indirect care FTE, as well as ratios of staff FTE to state hospital beds. Note that on the table, Colorado is shown as having 698 beds (this includes 20 forensic and medical/surgical beds).

Table 40: Direct and Indirect Care FTE, Beds, and Ratios in State Hospitals

State	Year of the most recent direct and indirect care staff counts	Number of direct care FTE in SMHA-operated psychiatric hospitals	Number of indirect care FTE in SMHA-operated psychiatric hospitals	Total FTE in SMHA-operated psychiatric hospitals	Number of beds: 24 hour state psychiatric hospital inpatient care	Direct Care Ratio (FTE to Beds)	Indirect Care Ratio (FTE to Beds)	Total Ratio (FTE to Beds)
AL	1998	1379	902	2281	1283	1.07	0.70	1.78
AR	1998	256	118	374	200	1.28	0.59	1.87
CA	1999	5144	2964	8108	4185	1.23	0.71	1.94
CO	1999	922.5	389.5	1312	698	1.32	0.56	1.88
DC	1999	821	N/A	821	758	1.08	N/A	1.08
DE	2000	413	274.5	687.5	334	1.24	0.82	2.06
GA	1999	2918	1331	4249	3173	0.92	0.42	1.34
HI	1999	360	190	550	187	1.93	1.02	2.94
IL	1999	2904	1720	4264	1928	1.51	0.89	2.21
IN	1999	N/A	N/A	2789	1430	N/A	N/A	1.95
KY	1999	529	417	946	648	0.82	0.64	1.46
LA	1999	1242	1276	2568	1047	1.19	1.22	2.45
MN	1999	1160.6	638.2	1798.8	750	1.55	0.85	2.40
MO	1999	3103	2312	5415	1397	2.22	1.65	3.88
NH	2000	420	400	820	212	1.98	1.89	3.87
NJ	1999	2869	1289	4158	2086	1.38	0.62	1.99
NM	2000	401	306	708	214	1.87	1.43	3.31
NV	1999	332.06	68.18	400.24	131	2.53	0.52	3.06
OH	1999	1770	987	2757	1356	1.31	0.73	2.03
OR	N/A	679.41	45	724.41	559	1.22	0.08	1.30
PA	1999	4002	2094	6096	4001	1.00	0.52	1.52
SC	1999	2130	829	2959	1003	2.12	0.83	2.95
SD	1999	427.5	126	553.5	331	1.29	0.38	1.67
TN	1997	1374	1046	2420	1000	1.37	1.05	2.42
UT	1999	327	109	652	405	0.81	0.27	1.61
VA	1999	2572.75	2048.85	4621.6	2394	1.07	0.86	1.93
VT	1999	110	45	155	60	1.83	0.75	2.58
WV	1999	448	263	711	240	1.87	1.10	2.96
WY	1999	315	141	456	158	1.99	0.89	2.89

The following observations can be made:

- Of the 28 states for which data on direct care FTE and number of beds are available, Colorado ranks 14th in the ratio of direct care FTE to beds in state-operated psychiatric hospitals, with a ratio of 1.32 staff to each bed. Thirteen states have higher ratios, fourteen have lower ratios. Ratios range from a high of 2.53 (Nevada – ranked first) to 0.81 (Utah – ranked last) staff to each bed.

- Of the 27 states for which data on indirect care (administrative) FTE and number of beds are available, Colorado ranks 21st in the ratio of indirect care FTE to beds, with a ratio of 0.56 staff to each bed. Twenty states have higher ratios, six have lower ratios. Ratios range from a high of 1.89 (New Hampshire – ranked first) to 0.08 (Oregon – ranked last) staff to each bed.

- Of the 29 states for which data on total number of FTE and number of beds are available, Colorado ranks 20th in the ratio of total FTE to beds, with a ratio of 1.88 staff to each bed. Nineteen states have higher ratios, eight have lower ratios. Ratios range from a high of 3.88 (Missouri – ranked first) to 1.08 (Washington, DC – ranked last) staff to each bed.

In summary, these data demonstrate that Colorado's level of administrative staffing falls in the lower third of states providing data to NASMHPD. This suggests that Colorado's administrative staffing levels overall are lower than those of most states surveyed.

This observation does not endorse the administrative structure of the Institutes per se. Detailed analysis of workflow and identification of possible administrative efficiencies not within the scope of this study would be necessary to evaluate this question. Additionally, the primary recommendations regarding governance below are of such scope that a complete review of all Institute administrative functions and their efficiency should be incorporated into their implementation.

The other administrative issue addressed was that of the organization of CDHS oversight of the Institutes. Currently, direct oversight of the Institutes is separated from that of the rest of Colorado's mental health system. This issue was analyzed from two perspectives:

- Colorado focus groups and document reviews.
- National database information and literature.

Colorado is one of only two states in the country in which oversight of the state psychiatric hospital is not directly under the authority of the office of state government charged with direct responsibility for the mental health system. Overall, this has not led to significant difficulty and the observations completed in the course of the current study of stakeholder views and direct experience (as both the Office of Direct Services and Office of Health and Rehabilitation Services collaborated regarding this study) suggests a high level of collaboration and mutual support.

The general impression of those stakeholders who offered input on this matter was that this positive relationship was primarily a function of the specific individuals holding leadership positions in both offices and not a function of the governance design per se. This makes sense and fits the experiences reported.

Despite the fact that no current adverse effects are evident, it is recommended that CDHS consider consolidating state government authority over the Institutes (or any ensuing contract with a non-state governmental entity to provide some proportion of current CMHI services) and authority for the overall mental health system within Colorado within a single office of CDHS. CDHS should seek the opportunity to do so with minimum distraction and adverse effect.

This recommendations stems from two reasons, one a risk and one an opportunity. First, the current design perpetuates the risk for a lack of collaborative action, inefficient allocation of resources and a less than fully integrated continuum of mental health services. Structures ideally should transcend the individuals holding positions within them, and the current structure does not appear to offer any significant advantage to outweigh the ongoing risk of conflicting policy and priorities. Second, given the broad changes in governance authority for the Institutes proposed below, there is an opportunity to revisit the current structure and integrate administratively within state government these two functions.

It should be noted that this recommendation has not been studied in detail and appears to be a relatively straight-forward change given the current level of collaboration and mutual support between the two offices. This recommendation does not imply that either area of state government (ODS or OHRS) should be absorbed completely into the other or that administrative redundancies exist. Rather, the recommendation simply advocates for consideration of structural alignment of these two highly inter-related and mutually-dependent policy areas.

Governance – The primary focus of administrative analysis and recommendation development for this study has focused on the governance of the Institutes into the future. For ongoing governance, a primary recommendation is offered with two alternatives. The alternatives are not recommended, but are offered to illustrate the advantages and disadvantages of the primary recommendation.

The primary recommendation centers on the initiation of a plan to methodically and incrementally move governance from the state to a quasi-governmental authority. The recommendation and its alternatives are:

- **Primary governance recommendation**: Initiate an incremental, monitored process to transition the Institutes toward becoming a quasi-independent part of University of Colorado Hospital Authority (UHA).

- **Alternative governance recommendation**: Develop a new quasi-governmental authority solely for the two Institutes. This would be a single authority with two campuses.

- **Alternative governance recommendation**: Status quo.

This is a substantial and possibly controversial recommendation that nevertheless appears to offer the only path that balances the many issues confronting the Institutes. Before reviewing these issues in detail, it is useful to establish that this recommendation is a multi-step plan that involves additional, detailed analysis over an eight-year timeframe. Each of the four steps is progressive. If at any point alternative directions are identified or data emerges suggesting small or major changes to the plan, these emerging data should be integrated into the plan and the plan changed accordingly, up to and including its termination.

The four steps, the timeline for each, the key components of the step and the criteria recommended for use in deciding whether or not to proceed to the next step are presented below:

- Step One – Colorado Psychiatric Health, the quasi-independent psychiatric hospital within the University of Colorado Hospital structure will provide approximately five to ten beds of adult inpatient care as the primary allocated adult inpatient resource for Northern Colorado (i.e., these would be the allocated beds for the region) per the detailed plan presented earlier in this report.
    - Recommended timeframe: Start at the earliest possible time after July 1, 2001 through June 30, 2003.
    - Key activities: Monitor the performance of Colorado Psychiatric Health (CPH), the psychiatric division of University of Colorado Hospital, in its joint management of the Northern Colorado adult inpatient allocation (see description of this above).
    - Criteria for moving forward: If performance is acceptable and an acceptable plan for Step Two can be developed, continue to Step Two; if not, the alternatives of developing a separate independent quasi-governmental authority or reverting to the status quo can be pursued for both Institutes.
- Step Two – Initiate a CPH/UHA management contract for CMHI-Fort Logan.
    - Recommended timeframe: July 1, 2003 through June 30, 2005.
    - Key activities: Implementation of a management services contract for CMHI-Fort Logan where executive leadership and certain administrative functions (e.g., billing) are contracted to be performed by CPH/UHA.
    - Criteria for moving forward: If performance is acceptable and an acceptable plan for Step Three can be developed, continue to Step Three; if not, the alternatives of developing separate independent quasi-governmental authority or reverting to the status quo can be pursued for both Institutes.
- Step Three – Merge CMHI-Fort Logan operations into University of Colorado Hospital under the quasi-independent governance structure of CPH with appropriate modifications to incorporate the historic mission of the Institutes.
    - Recommended timeframe: July 1, 2005 through June 30, 2007.
    - Key activities: Given the proximity of CMHI-Fort Logan and building upon the management contract of Step Two, if Steps One and Two move forward successfully then CMHI-Fort Logan would be incorporated within University of Colorado Hospital under CPH. Given CMHI-Pueblo's combined civil and forensic mission, incorporating its civil inpatient operations into UCH/CPH poses a unique set of challenges. However, if

acceptable physical and governance arrangements can be worked out, CMHI-Pueblo's incorporation into UCH/CPH would complete an overall transition of state civil psychiatric resources into a quasi-governmental authority. Toward that end, Step Three could also include establishment of a management contract with UCH/CPH for CMHI-Pueblo civil and general hospital units.

- Criteria for moving forward: If performance is acceptable and an acceptable plan for Step Four can be developed, continue to Step Four; if not, alternatives of developing a separate independent authority or keeping the status quo can be pursued for CMHI-Pueblo.

- Step Four – Merge CMHI-Pueblo civil operations into University of Colorado Hospital under the quasi-independent governance structure of CPH.
  - Recommended timeframe: July 1, 2007 through June 30, 2009
  - Key activities: Incorporate CMHI-Pueblo's civil inpatient operations into UCH/CPH.

Analyses Supporting the Recommendations – TriWest Group's development of the primary recommendation was based upon the following reasons:

Consensus that a quasi-governmental authority structure is needed – There is considerable consensus evident among Colorado decision-makers and stakeholders who participated in the focus groups that a quasi-governmental authority model is needed for the Institutes to be able to compete effectively in the current health care market-place. The key reasons underlying this consensus involve the enhanced flexibility to act organizationally outside the confines of the state government structure in terms of budgeting, personnel management, procurement and other matters. The consensus regarding this is evident as follows:

- The two most detailed reviews of Institute performance and factors impacting its future conducted prior to this study both recommended the consideration of movement toward a quasi-governmental authority. The 1996 ***Performance Audit: Impact of Managed Care on the State Mental Health Institutes***[93] and the 1996 ***Final Report***[94] by the Commission on the Future of the Institutes both reviewed in detail the advantages of operating outside of the state budgeting system, state personnel system and state procurement system, as well as the advantages of being able to take on debt and make use of other financial management approaches. The Commission noted that more flexibility was needed to allow the Institutes to have increased control over the personnel system, operate outside the state procurement code, transfer assets, generate and keep resources and revenue, and incur long-term debt. Like the Commission's report, the State Auditor's report noted that the Institutes face barriers to the achievement of efficiency, responsiveness to market forces, and financial viability under the current organizational structure. It emphasized that any changes under consideration should ensure the flexibility needed to achieve these goals.

[93] State of Colorado, Office of the State Auditor, 1996.
[94] Commission on the Future of the Colorado Mental Health Institutes. (1996). Final Report: Commission on the Future of the Colorado Mental Health Institutes. State of Colorado.

Under the current organizational structure, the Institutes must operate under conditions that were seen by the Commission and State Auditor as inhibiting the Institute's ability to respond quickly and appropriately to changes in the health care environment. These conditions included governmental requirements and policies, such as the classified personnel system, the budgeting process, capital improvement approval requirements, statutory requirements, duplicative administrative functions, and geographic constraints. The State Auditor's report went on to highlight the "authority" governance structure as an alternative that can address many of the barriers mentioned. The State Auditor noted the ability of an authority to retain governmental immunity as a quasi-governmental structure (reducing insurance costs), the ability to incur debt (by issuing revenue bonds), the ability to address personnel issues, the ability to operate outside of the state's budgeting and appropriations process, and the ability to undertake joint ventures and mergers.

- CMHI staff participating in the focus groups gave one of their highest ratings to the idea that moving governance of the CMHIs to a quasi-governmental authority model would improve the viability of the Institutes, as well as help make a transfer of some funding control to the local level work. This was rated clearly in the "most important" category.

- The examples of University of Colorado Hospital and Denver Health Authority, the other two major hospital systems in Colorado that used to be part of a Colorado governmental entity, are supportive of this notion. Both successfully transferred to a quasi-governmental authority model.

- Various stakeholders, including NAMI members, government staff from across both the executive branch and legislative services, CMHI staff, and representatives from CPH and UCHSC (including the Chancellor's Office) all endorsed the value of moving the Institutes to a quasi-governmental authority model.

Inefficiency of creating a new authority – Stakeholders were equally clear in their observation that creating a new hospital organization and associated administrative entity would not be the most efficient use of funds. There is increasing concern at the executive and legislative level in Colorado regarding the perceived proliferation of administrative entities and structures that seem to take funds away from direct services. Additionally, the expense of a transition in terms of staff time and expense (e.g., legal expenses) and the possible inefficiency of small administrative structures form the primary obstacles in the way of moving forward a new authority model.

University Hospital Authority has developed approaches to dealing with key authority issues – In becoming a quasi-governmental authority, the University of Colorado Hospital successfully coped with key issues confronting such a transition, including development of a personnel system that could successfully accommodate the state constitutional rights of state employees (this is discussed in more detail below), development of key support functions such as human resources and purchasing, and the successful incorporation of a statewide, public mission within a quasi-governmental authority.

The model of Colorado Psychiatric Health offers an approach to blending diverse missions within a single entity – The primary concern voiced by family members and other CMHI stakeholders was the fear that an incorporation of the Institute mission within an existing large general hospital entity would lead to the dilution of that mission and an associated decrease in care for consumers dependent on the Institutes. However, Colorado Psychiatric Health (CPH), the psychiatric services division of University of Colorado Hospital (UCH), offers an existing model that preserves an independent mental health mission within a larger hospital structure. CPH is a part of University of Colorado Hospital and relies on UCH's infrastructure (e.g., human resources, purchasing). However, it has an independent mission within the hospital and its own superintendent (who is also chair of the UCHSC Department of Psychiatry). Such a model could seemingly be applied to the Institutes to create a quasi-independent structure sufficient to protect the ongoing mission of the Institutes within the larger UCH organization, either as part of CPH or separately.

Need for monitoring and evaluation – As with other recommendations in this report, ongoing evaluation and monitoring is recommended. The involvement of an independent evaluator separate from state government and the University of Colorado Hospital would allow for an added measure of objectivity. The evaluation should continue throughout the transition process. In addition, monitoring the effectiveness of each stage of the implementation plan in terms of consumer outcomes, improved processes and cost-benefits, and measurement of community and stakeholder acceptance also seems critical.

Disadvantages – As noted above, several disadvantages are posed by this recommendation and they would require resolution either prior to implementation or during the eight year course of progressive implementation. These include:

- Involvement and accountability would need to be ensured for key stakeholder groups such as the Colorado Chapter of the National Alliance for the Mentally Ill (NAMI-Colorado) regarding any possible threat to the viability of the Institutes. As noted above, such a major change brings about appropriate anxiety as to its impact on the future of the Institutes. This anxiety can be balanced by information focused on the current threat to the Institutes posed by limited funding and difficulty responding to emerging priorities. A recent article in the Denver Post underscored the challenges facing all Colorado health institutions seeking to serve the uninsured with limited resources.[95] It will be important to work with stakeholders to demonstrate the value of greater collaboration and integration among Colorado hospitals facing such challenges. Working with stakeholders in this manner will add an important measure of accountability and input to the process.

- The complex mission of CMHI-Pueblo offers significant challenges. While CMHI-Fort Logan seems to be the best fit for this recommendation given its single civil psychiatric inpatient mission, the complex mission of CMHI-Pueblo combining civil psychiatric inpatient care with forensic and medical/surgical services raises difficult issues. While UCH currently administers a complex, variegated health care system, the legal liability issues and

[95] Sherry, A. February 19, 2001. CU hospital turning away the poor. Denver Post, page 1.

other concerns associated with the forensic mission of CMHI-Pueblo must be examined more closely over the six year period leading up to a decision regarding CMHI-Pueblo's level of involvement in the process.

Two other important issues are also raised by this recommendation: TABOR and the status of state employees. Both are addressed in detail in the following sections.

Taxpayers' Bill of Rights (TABOR) Issues

Article X, Section 20 of the Colorado Constitution (commonly known as the Taxpayers' Bill of Rights or TABOR) places restrictions on the amount of total State General Fund and cash funds that can be collected and spent. Under TABOR, the change in state fiscal year spending for the next year is restricted to the change in inflation plus the percentage change in state population in the prior calendar year, adjusted for revenue changes approved by the voters after 1991. Any revenues received in excess of the allowable change in fiscal year spending must be refunded in the next year unless the voters approve keeping the excess. For government entities subject to TABOR, this creates strong pressures to limit growth, even if this growth is based entirely on cash revenue (e.g., patient payments). This is because if overall state revenue growth exceeds TABOR limits (as it has in recent years), the collection of additional cash revenues results in the refund of additional tax revenues to taxpayers. By restricting growth, TABOR creates funding pressures for state government agencies which impact the ability of the Institutes to respond flexibly and efficiently to the rapid changes in the health care market.

While the idea of developing the Institutes into a private authority or other quasi-governmental agency responds to other issues impacting the Institutes' ability to compete effectively (e.g., the state budget and personnel systems), it does not in and of itself affect this TABOR issue. This would require the additional step of classifying the new authority as an "enterprise" or successfully integrating it within an entity such as UCH whose TABOR exemption predates the legislation and involves more than just an "enterprise" designation.

The University Hospital Authority is a special purpose authority which is a political subdivision of the state, is not an agency of state government, and is not subject to administrative control by the University of Colorado regents or any state department or agency. The Authority is not currently included as part of the state for TABOR purposes (see C.R.S. 23-21-503).

TriWest Group does not purport to offer CDHS legal advice regarding this issue and recommends that the department undertake a thorough legal analysis of this and other issues as it plans any level of implementation of these recommendations. However, the following legal issues have been identified:

- The 10 percent limit on "enterprises" – Quasi-governmental entities that operate as government-owned businesses may be classified as "enterprises" that are exempt from TABOR limits. Cash revenue and expenditures by such enterprises do not count as part of overall state revenue or expenditures, and thus these entities are not under the same pressure

as other governmental agencies to limit their cash revenues or expenditures. However, quasi-governmental entities may only be classified as enterprises if they meet certain specific criteria that are outlined in the state Constitution. These criteria include a requirement that, of the total revenue received by such enterprises, no more than 10 percent may be from State General Funds or other grants from state and local governments. The Institutes currently rely very heavily on State General Fund support. While the Institutes' management structure could be modified to make them an independent "authority," this would not automatically make them an "enterprise." Given the 10 percent state funding limitation, it seems unlikely that the Institutes would ever qualify as enterprises, unless they were to reduce greatly their reliance on the State General Fund.

- Possible impact on UCH's TABOR status – Integrating the Institutes within an existing quasi-governmental authority that is exempt from TABOR such as UCH could potentially impact the TABOR exemption of University of Colorado Hospital. This will need to be examined in collaboration with UCH. This issue has been presented to representatives of UCHSC and CPH leadership. While it has not been subjected to legal review, the issue was not seen as an insurmountable barrier to further consideration of this recommendation.

- Possible advantages of UCH's unique TABOR status – Conversely, integrating the Institutes within an existing quasi-governmental authority that is exempt from TABOR could possibly offer the additional level of flexibility of an exemption for the Institutes.

It should be noted again that TriWest Group has not conducted a legal analysis of these issues and that any such change should prudently include formal legal counsel as to the possible TABOR implications for both the Institutes and the currently exempt authority (i.e., University Hospital Authority) prior to any recommendations being finalized. Nevertheless, this preliminary review of TABOR issues in consultation with knowledgeable sources in state government suggests that these matters will merit special attention in any possible move toward authority development.

Issues for State Employees

Any change such as a move to a quasi-governmental authority that would impact the status of state employees must comply with stringent state constitutional safeguards to protect the important interests of state employees.[96] In addition, the employees of the Institutes are the most important clinical and managerial resource of the Institutes, and any plan designed to support the clinical and managerial effectiveness of the Institutes must ensure that the well-being and morale of employees is maximized. The example of University of Colorado Hospital shows that it is possible to effectively respond to these issues in a transition to a quasi-governmental authority.

The focus groups conducted as part of this study shed important light on this issue. First of all, the CMHI staff focus group and one of the family member focus groups highlighted the concern

[96] See section 13(4) of article XII of the state constitution.

that CMHI staff are currently overwhelmed and have low morale. Much of this was related by the participants to a sense that current staffing resources are inadequate (an issue explored further in the ***Staffing Report***).

However, Institute staff participating in the focus groups were also very concerned about the ongoing viability of the Institutes. Their reaction to the idea of transferring some control over Institute funding to local communities reflected a complex perspective in this regard. On the one hand, staff were clear that they were concerned about a loss of control over funding, terming it a "bad idea." However, when asked to identify strategies that could help sustain the viability of the CMHIs in the event of a transfer of funding control to the local level, staff rated as on average "most important" the idea that conversion of CMHI governance to an authority model could help ensure CMHI viability in general and specifically in the event of a transfer of funding control to the local level. Of the 18 staff who rated this idea, only one did not rate it as at least "important." Ten rated it "most important."

Despite this apparent support for the idea of increasing Institute viability through a conversion to a quasi-governmental authority, specific statutory issues must be addressed. While TriWest Group has not conducted a legal analysis of these matters, key issues for CDHS to review have been identified. The incremental plan proposed to move the Institutes toward a quasi-governmental authority raises at least two key issues:

1. Potential outsourcing – The idea of a management services contract with Colorado Psychiatric Health is proposed as an initial step toward integration with the University of Colorado Hospital. State law is clear that if this results in outsourcing of functions currently performed by state employees, it must be definitively shown to result in cost savings without a compromise in quality.

2. Establishment of a quasi-governmental authority – The experience of University of Colorado Hospital when it moved out of state government is instructive regarding the issues here. The initial legislation creating University Hospital Authority was struck down by the Colorado Supreme Court as in violation of the constitutional provisions regarding the state personnel system.[97] The legislation was then rewritten again to deal with the personnel issues in a different manner. The key change made to allow the legislation to stand constitutional scrutiny appears to be the recognition of the vested property right of state employees regarding their benefits within the state personnel system. In its transition, University Hospital Authority created a mechanism whereby existing state employees were able to continue to participate in the state employee system without limitation (the original legislation sought a two year limit).[98] New employees hired after the creation of the Authority and current employees who wanted to move to the new personnel system were put within the Authority's new personnel system. Both UHA and Denver Health Authority continue to operate dual personnel systems to accommodate the property rights of their employees who predated the transition to quasi-governmental authorities.

[97] See Colorado Association of Public Employees v. The Board of Regents of the University of Colorado, Supreme Court of Colorado, December 24, 1990.
[98] See CRS 23-21-507.

While these issues will require a specific, formal legal review by CDHS prior to finalizing any recommendations, several issues may help mitigate at least some of these legal concerns. Regarding the proposed management services with CPH, the following issues seem pertinent:

- Since UCH is an independent governmental entity, it might not technically meet the requirements for privatization. This issue should be explored further.

- Some or all of the functions involved in the management contract may be functions not currently performed by state employees. For example, the focus group with CMHI and CDHS leadership clearly identified that the current administrative structure for the CMHIs is not adequately staffed and knowledgeable to conduct the itemized billing functions seen as necessary to maximize third party reimbursement. The challenges inherent in developing such a capacity in an institution that has not had it previously were seen as an "important" consideration.

- The current contract between the Institutes and University Hospital's physician group (University Physicians, Incorporated or UPI) might also serve as a vehicle to mitigate outsourcing concerns to the extent that some management services functions may simply be a natural addition to that existing contract.

- Any action ultimately viewed as a privatization of functions deemed to be currently performed by state employees would simply need to comply with the standards of the statute. Given the excellent track record of CHP and UCH, the comparable quality issue seems able to be satisfied. The cost efficiency issue would then need to be established.

Regarding the creation of a quasi-governmental authority, the following additional issues should be incorporated into the planning and given specific legal review:

- It will need to be decided if the move to an authority model requires specific legislation.

- UHA statutes may need to be amended to include the mission of the Institutes.

- Focus group participants noted the importance of protecting staff benefits in a quasi-governmental authority. The importance of maintained or improved staff benefits in order to moderate negative staff reaction to the authority received a rating of "most important." It was observed that if employee benefits are not threatened, many staff may support ideas such as the authority because it may allow the CMHIs to become more responsive to market-driven changes in employee compensation. The feedback from the CMHI staff focus group supportive of a quasi-governmental authority seems compatible with this observation.

- Working through an established quasi-governmental authority such as University of Colorado Hospital offers the advantage of a human resources and personnel system with an established track record of having worked through the legal issues related to moving

employees out of the state personnel system.

- Specific legal issues such as those related to social security and retirement plans were issues in former authority moves and should be examined in this instance.

Analysis of Recommendations

The following table summarizes the issues discussed for the primary recommendation and contrasts this with two alternative scenarios, including creation of a new authority specifically for the Institutes and the status quo.

Table 41: Analysis of Governance Recommendations

	Primary Recommendation Integrate into the Institutes within University Hospital Authority through an 8 year graduated plan	**Alternative** Create new quasi-governmental authority for both hospitals	**Alternative** Status quo
Financial Consequences			
Positive	• Improved performance due to: - Increased control over budget and ability to respond to new market opportunities - Increased control over personnel system - Increased flexibility outside of state procurement code - Ability to incur debt and sell assets • Improved performance would lead to better positioning to compete for new funding and current funding in the event that some funds move to community control • Proven track record of UCH and CPH • Potential exemption from TABOR requirements	• Improved performance due to: - Increased control over budget and ability to respond to new market opportunities - Increased control over personnel system - Increased flexibility outside of state procurement code - Ability to incur debt and sell assets • Improved performance would lead to better positioning to compete for new funding and current funding in the event that some funds move to community control	• Avoids transition costs
Negative	• Transition costs • Potential impact on University Hospital Authority's TABOR exemption	• Transition costs • Likely to continue under TABOR growth restrictions	• Continued difficulty responding to market changes • Inflexibility due to state personnel system, procurement code and budget process • Continue under TABOR growth restrictions

	Primary Recommendation Integrate into the Institutes within University Hospital Authority through an 8 year graduated plan	**Alternative** Create new quasi-governmental authority for both hospitals	**Alternative** – Status quo
Mitigating factors	• University Hospital Authority has experience of going through transition from state entity	• State government has experience developing quasi-governmental authorities	• None identified
Consumer Care Consequences			
Positive	• Enhanced operational flexibility and effectiveness could positively impact consumer care • Builds on current partnership in which physicians are provided by University of Colorado Hospital's physician group • Potential synergies in mission over time, support of state-of-the art clinical practice, enhanced access to clinical trials, links to other new research findings, and a potential new facility at the UC Health Sciences Center's new campus	• Enhanced operational flexibility and effectiveness could positively impact consumer care	• Status quo
Negative	• Stress of system change on clinical staff, patients • Risk that Institute mission will be diluted within larger structure	• Stress of system change on clinical staff, patients, probably greater than stress of merging with existing entity given need to build new structures and develop new capacities (e.g., personnel system, procurement system)	• Without operational enhancements, patients are at increased risk of unanticipated changes in care (e.g., precipitous unit closings)

	Primary Recommendation Integrate into the Institutes within University Hospital Authority through an 8 year graduated plan	Alternative Create new quasi-governmental authority for both hospitals	Alternative Status quo
Mitigating factors	• University of Colorado Hospital has established functions necessary for independent hospital operation (e.g., personnel system, billing office, purchasing, etc.) • Need to develop structures to allow University of Colorado Hospital to support core mission of Institutes; model of CPH can potentially be altered or extended • University of Colorado Hospital has experience of going through transition from state entity • Transition would be staged over multiple years with incremental movement toward full merger, allowing a planned and considered transition incorporating evaluation of impact on consumers served • Proposed regional pilots for current CMHI-Pueblo adult inpatient services to CPH allows for a pilot to evaluate specifically the impact on consumer care • UCHSC Department of Psychiatry has long-standing focus and expertise regarding the practice of public psychiatry	• None identified	• None identified
Staff Consequences			
Positive	• Improved morale due to perceived improvement in position of the CMHIs • Potentially improved benefits • Improved morale as part of quasi-governmental organization with proven track record such as University of Colorado Hospital	• Improved morale due to perceived improvement in position of the CMHIs • Potentially improved benefits	• Staff maintain existing state benefit package and protections of state personnel system
Negative	• Fears over change in status from state employees	• Fears over change in status from state employees	• Current morale is problematic

	Primary Recommendation Integrate into the Institutes within University Hospital Authority through an 8 year graduated plan	**Alternative** Create new quasi-governmental authority for both hospitals	**Alternative** Status quo
Mitigating factors	• State constitutional protections • University of Colorado Hospital has experience of going through transition from state entity, including ultimate support of state employees union (CAPE) of their approach • Existing structures to allow existing state employees to choose to remain within the state personnel system	• State constitutional protections • Example of entities such as University Hospital Authority who have successfully managed such a transition can provide guidance to CMHI's efforts	• None identified
Other Consequences			
Positive	• Does not create new administrative entity	• None identified	• None identified
Negative	• Political opposition to protect CMHIs • Potential concerns on the part of University of Colorado Hospital • State rules pertaining to outsourcing may complicate Step Two management contract	• Creates new administrative entity and new hospital organization • More difficult to take incremental approach; once decision is made, must move to full authority	• Does not improve ability of CMHIs to compete in current health care market
Mitigating factors	• Incremental approach allows for partial steps to be fully evaluated and considered before commitment to next step • University of Colorado Hospital has experience of going through transition from state entity	• None identified	• None identified

Attachment I – Methodology for the CMHI Community Alternatives Study

Description of the Instrument

The CMHI Community Alternatives Survey is an instrument that generates an inventory of intensive mental health facilities and services that are available to consumers who are enrolled in community mental health centers in each service area in Colorado. To be included in the inventory, a facility or service must be accessible to the typical consumer, regardless of whether the facility or service is operated by a public or private organization. The Alternatives Survey also helps to highlight gaps in the continuum of care, particularly for subgroups of consumers who sometimes receive care at one of the CMHIs.

The Alternatives Survey consists of three documents. The first document, "Definitions of Survey Categories and General Survey Directions" describes fifteen types of mental health facilities or services that exist in communities across Colorado (e.g., community psychiatric hospitals, residential services, respite, etc.). The heart of the survey is "Part I" in which respondents are asked to quantify the availability, accessibility, utilization, cost, and utility of facilities and services that are used by consumers in their region. "Part II" asks for additional quantitative information about housing, the number of consumers in various subcategories who may need a hospital in a given year, the capacity of community alternatives to hospitalization for those consumers, and judgments about the ability of the community alternatives to prevent an Institute stay, divert a consumer in crisis from an Institute stay, or shorten an Institute stay by acting as a transitional service. Finally, Part II also asks respondents to describe current and future gaps in services and to identify the types of facilities and services that would most reduce utilization of the CMHIs.

Development of the Survey

The CMHI Alternatives Survey was developed between November 27th and December 29th, 2000. The development began with a review of the winning 2000 MHASA bid proposals in order to understand the extent and depth of community resources for consumers with a high level of need. Then, a key informant from a rural CMHC, an urban MHASA, and a consumer advocacy organization were interviewed separately about various high-intensity treatment options available outside of the CMHIs. A focus group was also conducted with family members of adult consumers with serious mental illness. The input from all of these sources was used to create an initial draft of the survey.

The first draft was piloted at a CMHC on December 15th. A senior adult services director and a senior child services manager reviewed different portions of the survey. Feedback from the pilot and from extensive reviews and input by Mental Health Services staff were incorporated into a final version of the survey.

Administration of the Survey

The executive directors of each of the 17 community mental health centers in Colorado were asked to complete the Alternatives Survey.[99] In addition, Servicios de La Raza and the Asian Pacific Development Center were asked to complete Part II regarding service quality. They received a mailed copy of the survey on approximately January 2, 2001, and were asked to return the survey no later than January 17, 2001. Most of the CMHCs returned the survey on time, but the last survey was not received until approximately February 9th.

Within the CMHCs, a variety of staff members contributed to the completion of the survey. The expertise of clinical directors, quality assurance and financial administrators was required to complete the survey. In addition, family members and consumers contributed to subjective ratings of the community services for Colorado West Regional Mental Health Center. TriWest Group supported the efforts of the CMHCs to complete the survey through phone calls and electronic mail exchanges. Answers to frequently asked questions were written into a document called "Guidelines for Completing Alternatives Survey," which was sent electronically to CMHCs after they had begun working on the survey.

After TriWest Group received each survey back from a CMHC, it was reviewed for completeness. Centers were telephoned and asked to revisit sections of the survey that they had overlooked. Also, obvious data errors that were found on the surveys were brought to the centers' attention for correction.

Limitations of the Survey

Although the survey results are strengthened due to the number of staff and advocates who worked on completing the survey across the state, the depth and breadth of the information received was variable from CMHC to CMHC. Some questions were difficult for various CMHCs to answer, depending on the size of the center and on the design of the center's internal management information system. Thus, the completeness and accuracy of the data is variable from region to region.

[99] Access Behavioral Care supplemented data from MHCD by completing selected portions of the survey. Other CMHCs that are also MHASAs also drew upon MHASA data.

APPENDIX II

TRIWEST GROUP

CMHI Operational Plan Study

Staffing Report

Submitted to the State of Colorado Department of Human Services Office of Direct Services

February 23, 2001

Introduction and Approach

The State of Colorado Department of Human Services (CDHS) has contracted with TriWest Group to conduct a study of its state psychiatric hospitals. The purpose of the study is to perform analyses and develop recommendations that will be used to produce an operational plan that defines the future role of the CMHIs in Colorado's public mental health system. Results and reports from the study are expected to be completed in March, 2001, and to be available for public release sometime thereafter.

TriWest Group developed an initial framework to inform policy decisions related to the role of the CMHIs within Colorado's mental health system. This framework addressed program types and models, financing approaches, administrative structures, and clinical staffing. After these data were summarized, they were subjected to an intensive stakeholder process to review, expand on, and refine the findings. The focus groups also gave input as to how the results of these initial analyses should be used to define the future role of the CMHIs in Colorado's public mental health system. The stakeholder focus groups served a critical function in the overall study and planning process by taking key results from the detailed analyses already completed, weighing them in the context of the current Colorado mental health system's needs and strengths, and developing priorities to guide the final recommendations, report development, and operational planning for the CMHIs.

Additional analyses of CDHS and CMHI data were then completed, the current overall role for the Institutes was described and a description of a future role was offered. All of this information has been previously reported to CDHS in the following reports:

- ***CMHI Operational Plan Study: Focus Group Background Materials*** – November 6, 2000
- ***CMHI Operational Plan Study: Focus Group Report*** –December 20, 2000
- ***CMHI Operational Plan Study: The Future Role of the Mental Health Institutes in Colorado*** – January 21, 2001.

Another report has been developed concurrent with this report and focuses upon specific recommendations regarding the programs, governance and financing of the Mental Health Institutes, in the context of Colorado's overall public mental health system. The recommendations developed for the three areas (CMHI programs, governance and financing) have been combined within a single report. When referenced in the current report, this will be referred to as the ***Recommendations Report***.

The current report focuses upon clinical staffing at the Institutes. It begins with an analysis of the staffing recommendations developed by the CMHIs and Office of Direct Services (ODS), utilizing information gathered in the focus groups and comparisons with the staffing levels of other states' psychiatric institutions. The CMHI/ODS recommendations include a dynamic staffing model to quantify the number and type of direct care staff needed to deliver inpatient services. This model is reviewed in light of the staffing information from other states. The report concludes with specific staffing recommendations, including a dynamic staffing model for future use and specific staffing impacts related to the program changes described in more detail in the ***Recommendations Report***.

- More time spent monitoring dangerous behavior toward self and others by inpatient consumers given the increasing acuity of the overall inpatient population at the Institutes.

The CMHI/ODS analysis also developed staffing standards from three different perspectives: requirements to meet minimum standards, requirements to meet a model [exemplary] treatment protocol, and staff ratio requirements resulting from lawsuits in other states:

- **Staffing Requirements to Meet Minimum Standards** – A CMHI staff time study and several staff focus groups were conducted by ODS as a foundation to this approach. For the staff time study, non-medical clinical staff at the Institutes participated in a week-long study of the distribution of their work time into various activities, such as therapy, assessment and documentation, treatment planning, ward management, administrative functions, etc. This allowed data-based estimates of the number of staff needed to provide necessary services and functions. Focus groups were also convened to more accurately quantify minimum therapy requirements. Clinical staff from both Institutes met in several focus groups to define the service features necessary to meet minimum inpatient consumer needs. Staff identified representative units at each Institute that could be examined and generalized results to other similar types of units. Requirements for types, size, and number of therapy groups, number of staff required per group, and staff required for alternative activities were defined. Based on this approach, a dynamic staffing model was developed to meet minimum treatment standards. Based on current unit configurations for the civil and forensic psychiatric inpatient programs, a direct care staff-to-bed ratio of 1.37 (excluding psychiatrists) was identified.
- **Staffing Requirements for a Model [Exemplary] Treatment Protocol** – This approach utilized the focus group discussions to define best practices for inpatient consumers. It considered staff requirements to provide the ideal treatment protocol, that is, those services that CMHI staff viewed as best practices. Input focused on more individualized treatment, a greater variety of group therapies, and smaller group sizes for group therapy. In order to provide a model [exemplary] treatment protocol, it was determined that a direct care staff-to-bed ratio of 1.97 (excluding psychiatrists) was needed.
- **Staff Necessary to Meet Lawsuit Requirements in Other States** – Hawaii and Virginia were contacted regarding their experiences with staffing levels required of their inpatient psychiatric programs as a result of lawsuits. Court-imposed requirements in Hawaii date back to 1991, and precede the new treatment requirements outlined above. The Hawaii standards yield an overall staffing ratio of 1.38 (including psychiatrists), but appear not to have taken into account new treatment requirements. The Virginia standards yield an overall staffing ratio of 1.44 (including psychiatrists). These standards were released in February, 2000, and appear to incorporate the recent treatment requirements described above.

The CMHI/ODS Direct Care Staffing Analysis went on to make the following recommendations, based on their analysis that the current Colorado Mental Health Institute staffing ratio is calculated to be 1.02 (not including psychiatrists). These included:

- A staffing ratio of 1.39 (not including psychiatrists) was recommended in the Staffing Analysis and in the CDHS decision item. This ratio was slightly higher than the ratio calculated to meet minimum treatment requirements (1.37).
- The recommended staffing ratio was based on a dynamic staffing model using assumptions regarding group size, hours of group therapy per day, milieu management needs, and other

- Data reported in the January 21, 2001, report on ***The Future Role of the Mental Health Institutes in Colorado*** demonstrated increased levels of involuntary treatment and dangerousness in the past three years for all CMHI inpatient programs, as well as a general trend toward shorter lengths of stay. The literature also points out that as state hospitals downsize and more services are provided in the community, the people that continue to be served by state hospitals more often will be served involuntarily and will be at higher risk for violence.[3]
- The literature also suggests that downsizing itself can be an added burden to staff,[4] but that it is possible to reduce the negative effects of downsizing by attending to a number of key issues, such as having a planned, orderly process for completing the system change; explaining the positive clinical vision leading to downsizing of inpatient services; providing help in new job placement; providing access to an Employee Assistance Program; and consolidating upper management and reducing administrative positions at the same time that line staff positions are being reduced.[5]

The focus group data on staffing issues further underscored the observation that current Institute staffing levels are too low. The single highest rated issue discussed in any of the focus groups was the theme of inadequate current staffing levels at the CMHIs (rated by the CMHI staff and parent of child/adolescent consumers groups on average as "most important"). Other specific staffing issues rated "most important" included:

- That staff are overwhelmed currently and have low morale (CMHI staff and Western Slope family member groups, mean rating of "most important").
- That staff are of high quality (Front Range and Western Slope family member groups, mean rating of "most important").
- A need for more specific types of staff, including evaluation staff (parent group, mean rating of "most important"), an activities director (parent group, mean rating of "most important"), and improved access to psychiatrists (Front Range family member group, mean rating of "important").

Stuve, P. & Menditto, A.A. (1999). State hospitals in the new millennium: Rehabilitating the "not ready for rehab players." In W.D. Spaulding (ed.), The role of the state hospital in the twenty-first century. *New Directions for Mental Health Services*, no. *84* (Winter). San Francisco: Jossey-Bass. (pp. 35-46).

[3] Citations include:

Bachrach, L. (1996). The state of the state mental hospital in 1996. *Psychiatric Services*, 47(10), 1071-1078.

Bachrach, L. (1999). The state of the state mental hospital at the turn of the century. In W.D. Spaulding (ed.), The role of the state hospital in the twenty-first century. *New Directions for Mental Health Services*, no. *84* (Winter). San Francisco: Jossey-Bass. (pp. 7-24)

Emery, B.D., Glover, R.W., and Mazade, N.A. (1998). The environmental trends facing state mental health agencies. *Administration and Policy in Mental Health*, 25(3), 337-347.

Fisher, W.H., Simon, L., Geller, J.L., Penk, W.E., Irvin, E.A., and White, C.L. (1996). Case mix in the "downsizing" state hospital. *Psychiatric Services*, 47(3), 255-262.

[4] Mesch, D.J., McGrew, J.H., Pescosolido, B.A., & Haugh, D.F. (1999). The effects of hospital closure on mental health workers: An overview of employment, mental and physical health, and attitudinal outcomes. *Journal of Behavioral Health Services Research*, 26(3), 305-317.

[5] Citrome, L. (1997). Layoffs, reductions-in-force, downsizing, rightsizing: The case of a state psychiatric hospital. Administration and Policy in Mental Health, 24(6), 523-533.

Table 1: Direct and Indirect Care FTE, Beds and Ratios in State Hospitals

State	Year of the most recent direct and indirect care staff counts	Number of FTE direct care staff in SMHA-operated psychiatric hospitals	Number of indirect care staff FTE in SMHA-operated psychiatric hospitals	Total staff FTE in SMHA-operated psychiatric hospitals	Number of beds: 24 hour state psychiatric hospital inpatient care	Direct Care Ratio (FTE to Beds)	Indirect Care Ratio (FTE to Beds)	Total Ratio (FTE to Beds)
AL	1998	1379	902	2281	1283	1.07	0.70	1.78
AR	1998	256	118	374	200	1.28	0.59	1.87
CA	1999	5144	2964	8108	4185	1.23	0.71	1.94
CO	1999	922.5	389.5	1312	698	1.32	0.56	1.88
DC	1999	821	N/A	821	758	1.08	N/A	1.08
DE	2000	413	274.5	687.5	334	1.24	0.82	2.06
GA	1999	2918	1331	4249	3173	0.92	0.42	1.34
HI	1999	360	190	550	187	1.93	1.02	2.94
IL	1999	2904	1720	4264	1928	1.51	0.89	2.21
IN	1999	N/A	N/A	2789	1430	N/A	N/A	1.95
KY	1999	529	417	946	648	0.82	0.64	1.46
LA	1999	1242	1276	2568	1047	1.19	1.22	2.45
MN	1999	1160.6	638.2	1798.8	750	1.55	0.85	2.40
MO	1999	3103	2312	5415	1397	2.22	1.65	3.88
NH	2000	420	400	820	212	1.98	1.89	3.87
NJ	1999	2869	1289	4158	2086	1.38	0.62	1.99
NM	2000	401	306	708	214	1.87	1.43	3.31
NV	1999	332.06	68.18	400.24	131	2.53	0.52	3.06
OH	1999	1770	987	2757	1356	1.31	0.73	2.03
OR	N/A	679.41	45	724.41	559	1.22	0.08	1.30
PA	1999	4002	2094	6096	4001	1.00	0.52	1.52
SC	1999	2130	829	2959	1003	2.12	0.83	2.95
SD	1999	427.5	126	553.5	331	1.29	0.38	1.67
TN	1997	1374	1046	2420	1000	1.37	1.05	2.42
UT	1999	327	109	652	405	0.81	0.27	1.61
VA	1999	2572.75	2048.85	4621.6	2394	1.07	0.86	1.93
VT	1999	110	45	155	60	1.83	0.75	2.58
WV	1999	448	263	711	240	1.87	1.10	2.96
WY	1999	315	141	456	158	1.99	0.89	2.89

The data reported from different states vary somewhat and should be interpreted with some caution. For the purposes of this report, the data are used as an indicator of how Colorado's overall staffing levels relate to those of other states. No state ratio should be viewed as a best practice. Instead the data are useful for seeing where Colorado falls among the distribution of states.

Table 2: 1991 Staffing Requirements for Hawaii by Provider Type

Type of Provider	Providers	Recommended number of patients	Ratio of providers to patients/beds
Psychiatrists	1	16	0.06
Psychologists	1	20	0.05
Social Workers	1	15	0.07
Rehabilitation Staff	1	9	0.11
Nurses	1	0.9	1.11
Ratio Totals			1.40

While the resulting ratio of 1.40 does not equal the ratio of 1.38 cited in the Direct Care Staffing Analysis, the difference is assumed to result from rounding errors. According to the Direct Care Staffing Analysis, the February, 2000 state of Virginia standards yield an overall staffing ratio of 1.44 (including psychiatrists). The following table shows NASMHPD data on the number of psychiatrists in the state psychiatric hospital system in a typical week for a number of states:

Table 3: NASMHPD Data on Psychiatrist FTE and Ratios

State	Number of FTE psychiatrists in the state psychiatric hospital system in a typical week	Number of beds: 24 hour state psychiatric hospital inpatient care	Ratio (FTE to Beds)	State	Number of FTE psychiatrists in the state psychiatric hospital system in a typical week	Number of beds: 24 hour state psychiatric hospital inpatient care	Ratio (FTE to Beds)
AK	6	79	0.076	NH	16	212	0.076
AL	37	1283	0.029	NJ	85	2086	0.041
AR	9	200	0.045	NM	6	214	0.028
CA	190	4185	0.045	NV	28	131	0.214
CO	33.5	698	0.048	OH	60	1356	0.044
DC	35.4	758	0.047	PA	109	4001	0.027
DE	15	334	0.045	SC	139	1003	0.139
GA	62	3173	0.020	TN	42	1000	0.042
HI	17	187	0.091	UT	12	405	0.030
LA	51	1047	0.049	VA	110	2394	0.046
MN	42.9	750	0.057	VT	5	60	0.083
MO	85	1397	0.061	WV	18.8	240	0.078

Of the 24 states for which data on psychiatrists FTE and number of beds are available, Colorado ranks 11th in the ratio of psychiatrists to beds in state-operated psychiatric hospitals, with a ratio of 0.048. In the distribution of ratios with a high of 0.211 (Nevada) and low of 0.020 (Georgia), Colorado falls in the lower quarter, again suggesting that levels could be raised.

a 27 month period, the 61.0 additional FTE cover less than half of the total FTE needed to bring Colorado's staffing level up to a reasonably determined minimum staffing level.

- Endorsement of the dynamic staffing model developed by CMHI/ODS. This model should be used to guide decision making regarding needed numbers of non-psychiatrist direct care staff as current and additional changes in the Institutes are contemplated. All FTE reductions recommended in TriWest Group's ***Recommendations Report*** made use of this model.
- A review of psychiatrist staffing levels. Compared to other states, NASMHPD's data regarding Colorado's ratio of psychiatrists to inpatient beds indicates that Colorado currently falls in the lower quarter of states reporting data (looking at the actual distribution of ratios, not simply Colorado's ranking). This is compared to Colorado's direct care staff ratio, which falls currently in the lower third. Given the rationale developed for raising Colorado's direct care staff, there is reason to question the adequacy of the psychiatrist analysis completed which did not note any additional need beyond the six FTE requested for the forensic units. All other factors being equal, the detailed, work-flow oriented approach employed by CMHI/ODS is more rigorous and specific to Colorado needs than a simple comparison to the ratios of other states. However, Colorado's low ratio when compared to other states suggests that a further review of the CMHI/ODS approach be conducted to verify its adequacy.

COLORADO MENTAL HEALTH INSTITUTES
DIRECT CARE STAFFING ANALYSIS

A. Introduction

The Colorado Mental Health Institutes at Pueblo (CMHIP) and Fort Logan (CMHIFL) provide inpatient psychiatric care for seriously mentally ill citizens of Colorado. These institutions are major components of the Office of Direct Services within the Department of Human Services. The Office of Health and Rehabilitation works closely with the Office of Direct Services in providing policy direction and program monitoring, assuring that the Institutes function as part of the integrated public mental health system.

Both CMHIP and CMHIFL have identified serious programmatic shortfalls that have been growing progressively more concerning over the past five years. These shortfalls threatened to compromise patient treatment and security as well as patient and staff safety. The Institutes are currently staffed well below the level necessary to meet the new mandatory treatment standards discussed below, and to, at the same time, provide a reasonable assurance of staff and patient safety.

In response, the Department of Human Services began a detailed review of current staff utilization to determine the appropriate remedy to these programmatic issues. This document outlines the new requirements contributing to the programmatic shortfalls, the analysis completed, and the recommended appropriate staffing configuration.

B. New Requirements

The Institutes have historically operated under very tight staffing constraints, which have been further strained by the following new requirements:

1. Managed care providers as well as modern treatment protocol requires active treatment occur throughout the day, with alternative group activities scheduled in the event a regular treatment activity must be cancelled. Treatment also must be provided seven days per week. This is a significant change from the previous era where long lengths of stay provided the time to allow for less intense treatment regimes.
2. Length-of-stay data show considerable increases in patient turnover, which directly impacts the demands of staff for assessment, treatment planning, crisis intervention, and admission/discharge.
3. New Health Care Financing Administration (HCFA) standards prohibit the use of seclusion or restraint unless the patient is imminently dangerous to themselves or others, and require the patient be released as soon as they are no longer imminently dangerous. This is a major change from the previous standard which allowed seclusion or restraint if the patient was disrupting the milieu. This means that staff have to deal with more challenging behaviors on the unit, which require alternative interventions and increased staff time.

4. The new HCFA standards also require a physician provide a face-to-face evaluation of a patient within one hour of the patient being placed in seclusion or restraint, regardless of the duration of the seclusion or restraint. This means that even short periods of seclusion or restraint (e.g. five minutes) require a physician evaluation. Previously physicians were only required to do an evaluation if the period of seclusion and/or restraint exceeded one hour, and then the evaluation had to be completed within four hours.
5. The new HCFA standards also require either one-to-one staff to patient supervision when in seclusion and restraint, or continuous audio/video monitoring. This further reduces the staff available on the unit to deliver treatment and supervise the milieu.
6. Both HCFA and the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) now require that individuals on the highest level of suicide precaution receive one-to-one staff supervision, further reducing staff available for treatment and supervision. A single unit on forensics, for example, may at any one time have five or six patients requiring one-to-one supervision for suicide precaution.
7. JCAHO also requires staff to have age and population-specific competencies for the patients they are treating. Documentation of competency requires periodic training and assessment of competency factors. This is in addition to more routine mandatory training requirements such as safety, infection control, etc. Increased training demands further reduce the amount of time staff are available on the units.
8. To avoid negative outcomes such as attempted suicides and escapes, Institute staff must check on each individual patient as frequently as every 15 minutes.
9. The deficits in the functioning level of patients at admission has become more severe, with 63 percent of patients scoring moderate or severe functioning at admission in FY 1995-96 and 68 percent of patients scoring moderate or severe functioning at admission in FY 1998-99. This intensified severity, coupled with the shorter lengths of stay (see below), has created additional demands on staff.

	Length-of-Stay (in days)	
	CMHIP	*CMHIFL*
FY 1995-96	115	156
FY 1996-97	75	132
FY 1997-98	96	91
FY 1998-99	96	98
FY 1999-00	82	67

C. Analysis of Staffing Requirements

The analysis of staffing requirements was approached from three different angles, including:

1. **The staff necessary to meet the minimum standards of a seven-day per week active treatment protocol.**
2. **The staff necessary to meet a model treatment protocol.**
3. **The staff prescribed by lawsuits in states that have been sued for inadequate treatment.**

Each of these approaches is described in greater detail in the following pages.

I. Minimum Standards

The foundation of this approach comes from information obtained from staff time studies and focus groups. The time studies evaluated time spent on both direct and indirect patient care. The focus groups identified by treatment unit the type of patient population, the services required for treatment of these patients, the frequency and size of treatment groups, and the number of staff required to provide such treatments.

TIME STUDY

All non-medical clinical staff participated in a week-long study of the distribution of their work-time into categories that allowed data-based estimates of the number of staff needed to provide the necessary services and functions, based on current caseload and treatment schedules. For this purpose, staff completed a form detailing how they spent their time during a specific week. These forms were completed in "real time" during the week studied, and included unpaid overtime. Categories of activities included the following:

- Patient therapy.
- Clinical assessment and documentation.
- Treatment planning, coordination, and documentation.
- Management, control, and organization of wards to ensure safety and security.
- Assisting patients with meals, bathing, grooming, dressing, and toileting.
- Transporting patients to off-ward medical services, court appearances, and visits.
- Mandatory training and supervision.
- Administrative functions such as team meetings, committee assignments, shift reports, medical record audits, scheduling clinical appointments, ward meetings, transcribing physician orders, and ordering, receiving, stocking, and inventorying supplies.

The patient therapy time was subtracted from these figures to avoid double counting the group therapy identified in the focus group discussions below.

FOCUS GROUP DISCUSSIONS

To more accurately quantify therapy requirements, clinical staff from CMHIP and CMHIFL met in several focus groups to define the service features necessary to meet minimum patient needs for group therapy. Following is the process and primary recommendations from the focus groups:

- Staff identified representative units at each hospital that could be examined and applied to other like units. Representative wards for CMHIP included the GAAPS admission unit, Circle Program, Child and Adolescent Program, Geriatrics Treatment Center (all four units), one maximum security IFP unit, two medium security IFP units, two intermediate security IFP units, and the IFP minimum security unit. Representative units from CMHIFL included children, adolescent, adult team 1, adult team 3, and geriatrics.
- To ensure continuous active treatment, group therapy must occur seven days per week.
- Two clinicians are required per group to maintain adequate safety and security.
- To meet the standard of individualized treatment, problem categories were identified for patients on each representative unit. Problem categories included such items as assaultive behavior/aggression, depressed/suicidal, impaired problem solving, inappropriate communication skills, social impairment, etc.
- Staff determined what percentage of patients on the unit fit each problem category.
- The program categories were translated into group names, based on the general description of patient problems.
- Staff identified the number of patients from a team who would be appropriate for a group.
- The average group size calculated to eight patients, but varied slightly based on type of group and patients served. This is consistent with psychiatric principles indicating that groups larger than eight do not provide effective treatment.
- To provide an appropriate level of care, each patient has to be accounted for during treatment time. This means an alternative activity must be available if for some reason a patient is unable to attend or a group is cancelled.

The above efforts were summed together, and nursing staff were adjusted by a factor of 1.6 to ensure coverage for annual leave, sick leave, and holidays. This calculation resulted in a direct care staff-to-bed ratio of 1.37

II. Model Treatment Protocol

This approach considered what staff would be necessary to provide the ideal treatment protocol. Staffing patterns were established by considering those services that are held by the professional community to represent the best there is to offer patients. This staffing protocol utilized the focus group discussions outlined above, with the direction to establish the best practices for patients without getting into a wish list. The staffing number for this model is higher at 1.97 staff to beds because of the degree of individualization for specific problems. This would mean that such a model would have a greater variety of groups and likely smaller numbers of patients in each group.

III. Lawsuits

Department staff contacted the states of Hawaii and Virginia regarding their experience with the Department of Justice and the staffing levels that are required of their inpatient psychiatric programs as a result of lawsuits.

The Hawaii suit is from 1991, so pre-dates the new treatment requirements outlined earlier in this document. Even at that time, the requirements were for:

- one psychiatrist for every 16 patients,
- one psychologist for every 20 patients,
- one social worker for every 15 patients,
- one rehabilitation staff for every 9 patients,
- one nurse for every 0.9 patient, and
- for coverage, 1.7 FTE of nursing staff for every 1.0 FTE on duty.

The Hawaii standard calculates to an overall staffing ratio of 1.38.

The Virginia standards called for the following:

- Each 25-bed long-term care unit, or any increment thereof, is required to have a professional team consisting of a psychiatrist, psychologist, social worker, occupational therapist, and registered nurse as well as 5.0 hours per patient day of nursing. The nursing requirement can count the one registered nurse included in the professional team. Nursing staff require a coverage factor of 1.8.
- Each 15-bed acute care unit, or any increment thereof, is required to have a professional team consisting of a psychiatrist, psychologist, social worker, occupational therapist, and registered nurse as well as 5.5 hours per patient day of nursing. The nursing requirement can count the one registered nurse included in the professional team. Nursing staff require a coverage factor of 1.8.

The Virginia requirements calculate to an overall staffing ratio of 1.44.

D. Recommendations

The above information was synthesized to create a dynamic staffing model that could be applied to the various treatment teams of the hospitals. This model is based on the requirements of active treatment, and breaks the 24-hour day down into periods of activities. These periods of activity include time for group therapy, time for milieu management / activities of daily living, and nights. On top of the 24-hour day, staff time is added for individual therapy and assistance and for administrative activities. The staff necessary to provide this treatment are calculated in accordance with the following steps:

1. The treatment teams of the Mental Health Institutes are broken down into the following groupings: adult teams which accept new admissions from the community, adult teams that receive patients from other adult teams, adult inpatient

transition teams, forensic maximum and medium security, forensic intermediate and minimum security, geriatrics, children, and adolescents. Each of these teams has different assumptions associated with the hours of treatment and number of staff required, as outlined on attachment one.

2. The group therapy time period covers the organized, active group treatment provided to address a variety of conditions, including anger management, substance abuse, etc. It is assumed that at any point there will be some patients who are unable or unwilling to participate in group therapy and will be on the unit. The staff assigned to group therapy would then instead be providing patient supervision on the unit.
3. The night segment covers the time while patients are in their rooms sleeping.
4. The milieu management / activities of daily living (ADL) period covers the remainder of the day and includes time for personal hygiene, meals, visitation, and patient down-time.
5. The three above time periods represent the 24-hour day for all patient groups except children and adolescents, who have school activities on the weekdays which substitute for some of the group activities adult patients attend.
6. On top of the requirements of the 24-hour day each patient will need an average of 1.6 hours of individual therapy, assessment, and reassessment. This is divided into 1.0 hours of nursing time and 0.6 hours of clinical time.
7. Finally, the total staff hours calculated through the above steps are increased by an administrative factor of 10 percent to account for time staff must devote to administrative activities such as training, supervisory activities, staff orientation, cleaning, ordering supplies, team and discipline meetings, etc. These calculations are outlined in attachment two.
8. For example, patients on adult admission teams are assumed to require the following:
   - Group Therapy: no more than eight patients per group, two staff per group, eight hours of group per day, and seven days of group therapy per week. No coverage factor is assumed for staff in this activity; rather it is assumed groups will be rearranged during staff absences.
   - Nights: two staff per 24 patients for nine hours each of seven days, with a required coverage of 1.6 to account for annual leave, sick leave, and holidays.
   - Milieu Management / Activities of Daily Living: one staff person for every five patients for seven hours per day, seven days per week, with a coverage factor of 1.6.
   - Individual Treatment: 1.6 hours per day, seven days per week.

This dynamic model results in an Institute staffing ratio of 1.39, compared to the current ratio of 1.02. This model can be periodically reviewed and updated, and used to calculate direct care staffing adjustments for unit closure or opening of new units. While the application of this model to the Institute staffing patterns results in additional staff, it is consistent with staffing levels prescribed by lawsuits in states that have been sued for inadequate treatment and conservative when compared to professional best practices assumptions.

Attachment II: Model Assumptions

	Group Therapy					*Nights*				*Milieu/ADL*				*Individual Trtmt*				*School*			
	group size	staff/group	hrs of group/day	days per week	cover-age factor	staff / 24 beds	hours per day	days per week	cover-age factor	# pts per staff	hours per day	days per week	cover-age factor	hrs/pt/ day-nrsg	hrs/pt/ day-non-nrsg	days per week	coverage factor-nursing	# pts per staff	hrs per day	days per week	cover-age factor
Adults-Admission	8	2	8	7	1.0	2	9	7	1.6	5	7	7	1.6	1.0	0.6	7	1.6				
Adults-Other	8	2	8	7	1.0	2	9	7	1.6	7	7	7	1.6	1.0	0.6	7	1.6				
IFP-Max/Med	8	2	8	7	1.0	2	9	7	1.6	6	7	7	1.6	1.0	0.6	7	1.6				
IFP-Min/Intermed + CCI	10	2	8	7	1.0	2	9	7	1.6	8	7	7	1.6	1.0	0.6	7	1.6				
Geriatric	9	2	5	7	1.0	2	9	7	1.6	6	10	7	1.6	1.0	0.6	7	1.6				
Adolescent-week	5	2	5	5	1.0	2	9	7	1.6	5	4	5	1.6	1.0	0.6	7	1.6	5	6	5	1.6
Adolescent-WE	5	2	8	2	1.0	2	9	7	1.6	5	7	2	1.6	1.0	0.6	7	1.6				
Children-week	5	2	5	5	1.0	2	9	7	1.6	5	4	5	1.6	1.0	0.6	7	1.6	5	6	5	1.6
Children-WE	5	2	8	2	1.0	2	9	7	1.6	5	7	2	1.6	1.0	0.6	7	1.6				

		Group Therapy				*Nights*			*Milieu/ADL*			*Individual Treatment*			*School*			*Summation*					
	Beds	# of groups	# of staff	staff hrs of group	total staff hours	# of staff	staff hrs / day	total staff hours w/ coverage	# of staff	staff hrs / day	total staff hours w/ coverage	staff hrs - nrsg	staff hrs - non-nrsg	total staff hours w/ coverage	# of staff	staff hrs / day	total staff hours w/ coverage	Total direct care hrs	Admin Factor	Total staff hours	# of FTE	Current FTE Auth.	FTE (Short) / Over
CMHIP																			10%				
Adult																							
67	32	4	8	64	448	2	18	202	6	42	470	224	134	492		n/a		1,612	161	1,773	44.3	32.2	(12.2)
69	32	4	8	64	448	2	18	202	6	42	470	224	134	492		n/a		1,612	161	1,773	44.3	31.9	(12.5)
A72	32	4	8	64	448	2	18	202	6	42	470	224	134	492		n/a		1,612	161	1,773	44.3	31.9	(12.5)
CIRCLE	30	4	8	64	448	2	18	202	4	28	314	210	126	462		n/a		1,425	143	1,568	39.2	25.9	(13.3)
subtotal Adult	126				1,792			806			1,725			1,938				6,261	626	6,887	172.2	121.8	(50.4)
Forensic																							
Max - 4 @ 20	80	10	20	160	1,120	8	72	806	13	91	1,019	560	336	1,232		n/a		4,178	418	4,596	114.9	91.4	(23.5)
Medium																							
GW6	22	2.8	6	45	314	2	18	202	4	28	314	154	92	338		n/a		1,167	117	1,284	32.1	20.6	(11.5)
GW12	22	2.8	6	45	314	2	18	202	4	28	314	154	92	338		n/a		1,167	117	1,284	32.1	19.6	(12.5)
GW5	22	2.8	6	45	314	2	18	202	4	28	314	154	92	338		n/a		1,167	117	1,284	32.1	20.4	(11.7)
GW11	22	2.8	6	45	314	2	18	202	4	28	314	154	92	338		n/a		1,167	117	1,284	32.1	21.9	(10.2)
subtotal Med.	88				1,254			806			1,254			1,352				4,667	468	5,135	128.4	82.5	(45.9)
Intermediate																							
F5	23	2	4	32	224	2	18	202	3	21	235	161	97	355		n/a		1,016	102	1,118	27.9	20.5	(7.4)
F7	23	2	4	32	224	2	18	202	3	21	235	161	97	355		n/a		1,016	102	1,118	27.9	19.5	(8.4)
GW10-ACBU	23	2	4	32	224	2	18	202	3	21	235	161	97	355		n/a		1,016	102	1,118	27.9	21.9	(6.0)
subtotal Inter.	69				672			605			706			1,065				3,047	306	3,353	83.8	61.9	(21.9)
Minimum - 79	41	4	8	64	448	3	27	302	5	35	392	287	172	631		n/a		1,773	177	1,950	48.8	31.5	(17.3)
subtotal IFP	278				3,494			2,520			3,371			4,280				13,666	1,369	15,035	375.9	267.3	(108.6)
Geriatric																							
GW 1/7	30	3	6	30	210	2	18	202	5	50	560	210	126	462		n/a		1,434	143	1,577	39.4	30.9	(8.5)
GW 2/8	30	3	6	30	210	2	18	202	5	50	560	210	126	462		n/a		1,434	143	1,577	39.4	31.9	(7.5)
subtotal GTC	60				420			403			1,120			924				2,867	286	3,153	78.8	62.8	(16.0)
Adolescent																							
OAP	10	2	4		164	2	18	202	2		109	70	42	154	2	12	96	724	72	796	19.9	20.5	0.6
LAP	20	4	8		328	2	18	202	4		218	140	84	308	4	24	192	1,247	125	1,372	34.3	27.5	(6.8)
subtotal CATC	30				492			403			326			462			288	1,972	197	2,169	54.2	48.0	(6.2)
total CMHIP	494				6,198			4,133			6,542			7,604			288	24,766	2,478	27,244	681.1	499.9	(181.2)
CMHIFL																							
Adult																							
Adult 1	24	3	6	48	336	2	18	202	5	35	392	168	101	370		n/a		1,300	130	1,430	35.7	24.0	(11.7)
Adult 2	24	3	6	48	336	2	18	202	3	21	235	168	101	370		n/a		1,143	114	1,257	31.4	24.5	(6.9)
Adult 3	25	3	6	48	336	2	18	202	5	35	392	175	105	385		n/a		1,315	131	1,446	36.1	25.0	(11.1)
Adult 5	21	3	6	48	336	2	18	202	3	21	235	147	88	323		n/a		1,096	110	1,206	30.1	23.4	(6.7)
CCI/A-6	27	3	6	48	336	2	18	202	3	21	235	189	113	415		n/a		1,188	119	1,307	32.7	24.0	(8.7)
subtotal Adult	121				1,680			1,008			1,490			1,863				6,041	604	6,645	166.0	120.9	(45.1)
Geriatric	25	3	6	30	210	2	18	202	4	40	448	175	105	385		n/a		1,245	124	1,369	34.2	31.0	(3.3)
Children	16	3	6		246	2	18	202	3		163	112	67	246	3	18	144	1,001	100	1,101	27.5	19.0	(8.5)
Adolescent	22	4	8		328	2	18	202	4		218	154	92	338	4	24	192	1,277	128	1,405	35.1	22.4	(12.7)
total CMHIFL	184				2,464			1,613			2,318			2,832				9,563	956	10,519	262.8	193.3	(69.6)
total both MHIs	678																				943.9	693.2	(250.7)

APPENDIX III

TRIWEST GROUP

CMHI Operational Plan Study

The Future Role of the Mental Health Institutes in Colorado

Submitted to the State of Colorado Department of Human Services Office of Direct Services

Submitted January 21, 2001

Revised and resubmitted March 15, 2001

Roles Report Index of Revisions

This Revised Roles Report incorporates the following changes from the original January 21, 2001 report:

- Page 2, Methodology for the Current Report section, paragraph 2: "Mental Health Services (MHS)" inserted in place of "state-prepared" in relation to Orchid Reports.
- Page 3, paragraph 3: Detail added on average daily census between 1995 and 1996.
- Page 5, paragraph 1: "DHS" changed to "MHS."
- Page 5, Demographic Information section, paragraph 3: text regarding missing cases added.
- Page 5, Gender section, paragraph 1: Last sentence in paragraph added.
- Page 6, paragraph between Table 1 and Table 2: last sentence added.
- Page 6, Table 2: CCR gender data added.
- Page 8, paragraph 2: paragraph added regarding CCR data.
- Page 8, Table 4: CCR ethnicity data added.
- Page 9, paragraph 1: "co-occurring substance abuse and mental health" replaces "dual diagnosis."
- Page 14, first bullet: removed incorrect reference to unit closing.
- Page 14, third paragraph, first bulleted item: percentages of voluntary and involuntary admissions for adolescents updated.
- Page 14, third paragraph, second bulleted item: percentages of admissions on 72-hour holds for adults updated.
- Page 14, third paragraph, third bulleted item: percentages of involuntary admissions for older adults and text updated.
- Page 15, Table 9: all percentages updated.
- Page 15, first paragraph, first bulleted item: percentages of involuntary admissions for children and adolescents and text updated.
- Page 15, first paragraph, second bulleted item: percentages of involuntary and 72-hour hold admissions for adults updated.
- Page 15, first paragraph, third bulleted item: percentages of involuntary admissions for older adults and text updated.
- Page 16, Table 10: all percentages updated.
- Page 16, third paragraph, first bulleted item: percentage of adolescents with grave disability or dangerousness updated.
- Page 16, last bullet: removed incorrect reference to unit closing.
- Page 17, first paragraph, first bulleted item: percentages of dangerousness and involuntary admissions for adults and older adults updated; text modified.
- Page 17, second paragraph, first bulleted item: percentages dangerousness and grave disability for adolescents and adults modified.
- Page 17, second paragraph, second bulleted item: percentages of dangerousness and grave disability for children modified.
- Page 17, second paragraph, third bulleted item: percentages of dangerousness and grave disability for older adults and text modified.

- Page 17, third paragraph, second bulleted item: text regarding discrepancy between dangerousness/grave disability and involuntary status among adults and older adults modified.
- Page 18, Table 11: CMHI-Fort Logan data added/updated.
- Page 19, first sub-bullet under bullet one: date reference for children's unit closure at CMHI-Fort Logan clarified.
- Page 20, paragraph after Table 14: text clarified.
- Page 21, paragraph 1, third major bulleted item: text on Adams County's use of its allocated beds updated.
- Page 25, paragraph 1, first bulleted item: percentages updated.
- Page 25, paragraph 1, second bulleted item: percentages and text updated.
- Page 26, paragraph 1, third bulleted item: percentage updated.
- Page 26, paragraph 1, fourth bulleted item: text modified.
- Page 27, paragraph 1, second bulleted item: percentage updated.
- Page 27, paragraph 1, third bulleted item: percentage updated.
- Page 27, paragraph 2: text regarding differences in lengths of stay for older adults between Pueblo and Fort Logan updated.
- Page 29, third paragraph: last sentence added.
- Page 29: fourth paragraph deleted.
- Page 29, fifth paragraph: text modified and last two sentences added.
- Page 30, Table 24: all figures updated.
- Page 30, paragraph between Table 24 and Table 25: text modified and last sentence added.
- Page 30, Table 25: all figures updated.
- Page 30, paragraph between Table 25 and Table 26: text modified and last sentence added.
- Page 30, Table 26: all figures updated.
- Page 30, paragraph after Table 26: text modified.
- Pages 30-31, paragraph beginning on bottom of page 30: text modified.
- Page 31, Table 27: all figures updated.
- Page 32, Table 28: cells for Gender (Older Adults) and Danger and Severity (Children/Adolescents) updated.
- Page 33, paragraph 1, fourth bulleted item: text clarified.
- Page 33, paragraph 2: last sentence added.
- Page 33, Table 29: cells for CCR (Gender and Ethnicity) updated.
- Page 35, paragraph 1: last sentence on medication changes modified.
- Page 35, paragraph 3: last sentence on sexual perpetrators modified.
- Page 37, Core Inpatient Capacity section: "dual diagnosis" replaced with "co-occurring diagnoses."
- Pages 39-40, Rehabilitation and Active Treatment bullet: text modified and last sentence added.
- Page 40, Dual Diagnosis Services bullet: "dual diagnosis" replaced with "co-occurring diagnosis" and last sentence struck.
- Page 44, paragraph 1: last sentence on uninsured consumers clarified.
- Page 49, Table 33: figures updated.

- Page 49, footnotes 39 and 40 added.
- Page 50, footnote 42 clarified.
- Page 51, footnote 43 clarified.
- Page 53, footnote 45 clarified.
- Page 54, footnotes 46 and 47 clarified.
- Page 55, Reductions in Overall Costs section: text clarified.
- Page 57, footnote 63 updated.
- Page 58, Decreased Side Effects section: last three sentences about medication compliance struck.
- Page 60, footnotes 73-76 updated.
- Page 60, paragraph 1: phrase about "quicker onset of action" struck.
- Page 65, Conclusions Regarding Future Need section, paragraph 1: text clarified.

Introduction and Approach

The State of Colorado Department of Human Services (DHS) has contracted with TriWest Group to conduct a study of its state psychiatric hospitals. The public mental health system in Colorado has undergone many changes in the past 20 years, leading to a variety of changes for the Colorado Mental Health Institutes (CMHIs). The number of beds at the CMHIs has decreased while the numbers of consumers served have increased. The most recent changes have been attributed primarily to the capitation of funding for Medicaid-eligible mental health services.

Whereas previously the CMHIs housed numerous individuals for extended periods of time, currently they provide clinical inpatient and rehabilitation services to persons with the most severe mental illnesses with a goal of stabilizing the consumers, treating the problem causing the admission, and returning them to the community. The CMHIs have responded to each additional change by offering to provide new or different services, or by downsizing to reflect decreased usage. The cumulative effects of the changes in the financing, treatment approaches and goals of Colorado's public mental health system of care give rise to the need for an operational plan to guide the future role of the CMHIs.

The purpose of the study is to perform analyses and develop recommendations that will be used to produce an operational plan that defines the future role of the CMHIs in Colorado's public mental health system. Results and reports from the study are expected to be completed in March, 2001, and to be available for public release sometime thereafter.

TriWest Group developed an initial framework to inform policy decisions related to the role of the CMHIs within Colorado's mental health system, recommended program types and models, financing approaches (including capitation), administrative structure, and clinical staffing. This framework was based on the following:

- Review and analysis of existing Colorado-specific studies and planning documents related to the future of the Colorado Mental Health Institutes and community programs within Colorado's public mental health system, as well as information from DHS and CMHI databases.
- Review and analysis of data from other states regarding the organization and delivery of public inpatient psychiatric services and models of community service delivery that have been developed as alternatives to inpatient care. Key points of comparison included number of beds, spending per capita, types of services provided, and plans for future operations.
- Description and analysis of the potential impact of improved psychotropic medications, community capacity, and other new treatment technologies that may affect the future need for inpatient treatment.

Some of this information has been previously reported to the Colorado Department of Human Services in the November 6, 2000 report by TriWest Group entitled ***CMHI Operational Plan Study: Focus Group Background Materials***. Additional analyses of DHS and CMHI data have been completed since then and are reported here.

After these data were summarized, they were subjected to an intensive stakeholder process to review, expand on, and refine the findings. The focus groups also gave input as to how the results of these initial analyses should be used to define the future role of the CMHIs in Colorado's public mental health system.

The stakeholder focus groups served a critical function in the overall study and planning process by taking key results from the detailed analyses already completed, weighing them in the context of the current Colorado mental health system's needs and strengths, and developing priorities to guide the final recommendations, report development, and operational planning for the CMHIs. This information has been previously reported to the Colorado Department of Human Services in the December 20, 2000 report by TriWest Group entitled ***CMHI Operational Plan Study: Focus Group Report.***

This current report outlines the future role of the Mental Health Institutes in Colorado's public mental health system. It includes a description of the characteristics of the population recommended to be served by the Institutes in the future, the types of services that should be provided, and estimates of the size of the population that will require such services.

Methodology for the Current Report

To obtain the key data used to describe the current population and usage of the CMHIs, TriWest Group submitted an initial request to data analysts from the CMHIs in September 2000. The request solicited data on admissions (e.g., number of admissions, length of stay, consumer characteristics, readmission rates, reason for admission), financial data (e.g., revenue and expense budgets, bed rate information), staffing data (e.g., staffing budgets, number of staff by type), program data (e.g., capacity, bed allocation formulas), and organizational and governance data. A supplemental request was submitted in early January 2001, which asked for data on hospital use by Medicaid-eligible persons, additional demographic information for admissions to some programs, bed occupancy rates for some programs, use of allocated beds, and unduplicated numbers of admissions for which dangerousness and grave disability presented as factors.

Unless otherwise indicated, the analysis in this report has relied on the data provided by CMHI analysts in specific response to these data requests. It should be noted that other sources of information have also been used in the preparation of this document. These additional sources include Mental Health Services (MHS) Orchid Reports on CMHI and CMHC data, data gathered through the focus groups conducted by TriWest Group in relation to this study, information gathered through key informant interviews, other state-prepared reports related to the state's mental health system and the Colorado Mental Health Institutes, and articles published in professional and scientific journals.

Background

In the past two decades, the public mental health system in Colorado has undergone various adaptations in response to changing demands, and the two Colorado Mental Health Institutes

have restructured over time in the context of these changing demands. Key features of the current system include:

- **Civil Inpatient Capacity** – CMHI-Pueblo and CMHI-Fort Logan currently have a combined capacity of 400 civil inpatient beds, which serve children, adolescents, adults, and older adult populations.
- **Medical / Surgical Service Capacity** – In addition, CMHI-Pueblo has a 20-bed medical / surgical service that provides medical services to CMHI-Pueblo inpatients, Department of Corrections patients, and some federal prison patients.
- **Residential Capacity** – CMHI-Fort Logan operates two non-inpatient residential programs, a 20-bed Residential Treatment Center (RTC) called Mountain Star for youth and a 16-bed adult residential unit called the Community Connections-Residential (CCR) unit. CCR operates as a step-down program for adults.
- **Forensic Capacity** – The Institute for Forensic Psychiatry located at CMHI-Pueblo has a capacity of 278 beds. These beds enable CMHI-Pueblo to serve those in need of evaluations to determine competency to stand trial and to treat those determined by a court to be "not guilty by reason of insanity," "incompetent to proceed," or "impaired by a mental condition." Analysis of this forensic capacity is not included in the present study and report.

As part of the public mental health system in Colorado, the Institutes have historically served those considered to be most in need of mental health treatment, including adults and older adults with serious and persistent mental illness, adults and older adults with serious mental illness, children and adolescents with serious emotional disturbances, and individuals with psychiatric emergencies. In particular, the CMHIs have targeted services toward those consumers who cannot be safely served in the community or who are unable to take care of themselves in the community given the capacities of the extant outpatient system of care.

In 1995, Colorado instituted a capitated managed care program for Medicaid recipients in 51 pilot counties. The change to a capitation-based prospective payment approach for Medicaid services is credited with changing the public mental health landscape markedly, including decreases in CMHI use.[1] Consistent with the effects of the introduction of capitation and other forms of managed care financing in other states, Colorado's Mental Health Assessment and Service Agencies (MHASAs) assumed financial risk for the costs of services (including hospitalization in the CMHIs for children, adolescents, and older adults) and immediately began to try to serve more consumers and families in the community, thus decreasing hospitalization in the CMHIs. Following the implementation of the Medicaid capitation pilot (between the first six months of 1995 and the first six months of 1996), average daily inpatient civil bed census dropped by 21% (from 283 a day to 224 a day) at CMHI-Pueblo and 9% (from 215 a day to 196 a day) at CMHI-FL. In 1996, the proportion of CMHI funding financed by the State General Fund was 71%, while Medicaid made up 15%. Prior to capitation, during fiscal year 1994, the State General Fund financed 56% of CMHI expenditures, while Medicaid financed 23%. As a

[1] State of Colorado, Office of the State Auditor (1996). Impact of Managed Care on the State Mental Health Institutes Performance Audit. State of Colorado.

result of these capitation-driven reductions in utilization, downsizing at the Institutes occurred.[2] The Medicaid capitation program was implemented statewide in 1998.

This report addresses the question of what the future role of the CMHIs should be in light of the current situation in Colorado and in response to their primary mission as the publicly funded state psychiatric hospitals in Colorado. The assumptions for assessing the needs for CMHI capacity, programming, financing and management are complex. The core role of the hospitals is to admit and treat those Colorado residents who suffer psychiatric symptoms so severe that the safety of the individual or the community requires their admission to this type of intensively staffed and structured facility.

This report outlines the features of that role, looking first to the current population served by the Institutes, defining a clear population that should be treated in the future based largely on analysis of the current population and trends, specifying the service array needed for that population, and estimating the size of the future population in need. The sections that follow attempt to describe the factors and findings that are most related to the effort to clarifying the need for, and the roles of, the Colorado Mental Health Institutes.

Current population served

TriWest Group has examined in detail the current population served by the Institutes from multiple perspectives. In most of these analyses, three primary sub-groupings of CMHI consumers have been examined:

- **Institute site** – All analyses have been separated by the two main campuses of the Institutes, CMHI-Pueblo and CMHI-Fort Logan, in order to identify any differences in population served or other trends between the two campuses.
- **Age group** – There are four primary age groups of consumers served by the CMHIs for which inpatient units specialize. These include children ages 11 and under, adolescents ages 12 to 17, adults ages 18 to 59, and older adults, ages 60 and above. In addition, the age group of young adults age 18 to 21 is a significant subgroup in some analyses, as persons in that age group are eligible for Medicaid reimbursement for CMHI services provided.
- **Catchment area served** – There are currently 17 different community mental health center (CMHC) catchment areas served by the CMHIs, and some regional differences are noteworthy. Where relevant to the recommendations of this report, these differences are highlighted.

The analyses begin with demographic variables necessary for understanding the profile of current consumers served by the Institutes. Gender, ethnicity/race, primary diagnosis and benefit status information were examined as the key variables needed to establish a baseline understanding of the people served by the Institutes. Once these are described, factors related to the problem severity of inpatient consumers are examined, including 27-10 status and dangerousness. Utilization patterns are explored to determine the ways in which services are

[2] State of Colorado, Office of the State Auditor, 1996.

used and the level of use for each program. Similar data for the Medical Surgical/Services Unit at CMHI-Pueblo are grouped together at the end of this section.

Demographic Information

The MHS Orchid Reports were used in calculating the number and percentage of admissions for the key demographic variables such as gender, ethnicity, diagnosis, and benefit status. These reports provide comprehensive data on admissions, open cases, and consumers served for each of the community mental health center catchment areas and for the CMHIs. The demographic analyses within this report used data available directly from the Orchid Reports in order to help minimize burden on the CMHIs' management information system staff, given concerns expressed in the RFP and the commitments of the TriWest Group proposal to limit the number of data requests made.

However, in the course of summarizing data obtained directly from the CMHIs and data separately obtained from the Orchid Reports, it was observed that in many cases the number of admissions recorded in the Orchid Reports were discrepant when compared to the number of admissions recorded in the reports obtained directly from the CMHIs. In some cases, the discrepancy was as high as 50% for a particular age group at a particular CMHI. In all cases in which there was a significant discrepancy the number of admissions reported by the Orchid Report was lower than the number of admissions reported by the CMHIs.

Despite the discrepancies, the Orchid Report data appear useful for the purposes of this report. It is likely that the Orchid Report data under-report the number of admissions in many instances. However, with respect to demographic variables, the purpose of this report is focused on the percentage (not the number) of admissions that fall into different categories within demographic domains – for example, the percentage of women versus men. In addition, please note that unless otherwise noted, the percentages reported in the following tables reflect the percentages of reported cases (i.e., missing cases have been excluded from the totals). TriWest Group and the CMHI management information system staff have reviewed these issues separately and together and are confident that the Orchid Reports accurately estimate these percentages.

Gender – For all age groups other than older adults, the majority of consumers served are male. Nearly seven in ten children and adolescents served were male, as were six in ten adults. The percentage of adults who were female increased from 35.1% to 39.0% over the three-year period, a trend that should be watched. Such trends could require increased attention to the number of women staff, particularly in regard to seclusion and restraint requirements.

For older adults served on the geriatric units, the gender breakdown differs by Institute and fiscal year. Both Institutes served more females in fiscal years 1997-98 and 1998-99 (69.9% and 64.7% respectively). In both Institutes, the percentage of older adult females served relative to males has been decreasing over the past three years, but the drop at CMHI-Pueblo has been sharper (from 59.3% to 43.8% at CMHI-Pueblo versus 79.7% to 68.3% at CMHI-Fort Logan). By fiscal

year 1999-00, the total of older adult admissions across both Institutes was essentially equal between men and women (49.0% male, 51.0% female).

Table 1: Admissions by Gender, Psychiatric Inpatient Programs[3]

		CMHI - Pueblo		CMHI - Fort Logan		Totals	
Age Group	Fiscal Year	Male	Female	Male	Female	Male	Female
Children/Adolescents	1997-98	70.2%	29.8%	69.4%	30.6%	69.6%	30.4%
	1998-99	71.8%	28.2%	66.5%	33.3%	68.6%	31.4%
	1999-00	72.1%	27.5%	66.7%	33.3%	68.7%	31.3%
Adults	1997-98	65.0%	35.0%	64.8%	35.2%	64.9%	35.1%
	1998-99	65.1%	34.9%	60.6%	39.4%	63.6%	36.4%
	1999-00	64.3%	35.0%	54.9%	45.1%	61.0%	39.0%
Older Adults	1997-98	40.7%	59.3%	20.3%	79.7%	30.1%	69.9%
	1998-99	38.5%	61.5%	25.0%	75.0%	35.3%	64.7%
	1999-00	56.3%	43.8%	31.7%	68.3%	49.0%	51.0%

Residential program data are presented below. Most residents at the Mountain Star RTC at Fort Logan are male, and this number has trended upward since 1997-98, reaching a high point in 1998-99. CCR admissions have varied in their male / female balance.

Table 2: Admissions by Gender, Residential Programs[4]

	Fiscal Year	Male	Female
Mountain Star (RTC)	1997-98	66.7%	33.3%
	1998-99	85.7%	14.3%
	1999-00	72.7%	27.3%
CCR	1997-98	65.0%	35.0%
	1998-99	55.9%	44.1%
	1999-00	63.0%	37.0%

Ethnicity/Race – A review of admissions over the past three fiscal years at both Institutes sorted by ethnicity/race shows that:

- Most persons served are White (57.3% of youth, 73.5% of adults, 76.4% of older adults).
- The overall population is very diverse, with a quarter of adults and older adults and over 40% of youth populations comprised by persons of color.
- The percentages of Hispanic, African American and multi-racial consumers taken together is increasing in the CMHI-Pueblo children/adolescent and overall adult groupings.

[3] Orchid Report data - percentage differences represent missing data
[4] Orchid Report data

For children and adolescents, while the relative percentage of Hispanic youth served has dropped, the overall numbers of youth of color (i.e., Hispanic, African American, Multi-Racial, Asian Pacific and Native American youth) served rose in the last year. A similar trend is evident in the adult age group, driven primarily by an increase in the relative percentages of Hispanic and African American adults served. Among older adults, the overall non-White population has remained essentially stable, but the relative percentage of Hispanic older adults has increased and the percentage of African American older adults decreased. Overall, these data underscore the continued need for culturally competent clinical resources at both Institutes and suggest that this need is increasing among the CMHI-Pueblo youth and the overall adult subpopulations.

Table 3: Admissions by Ethnicity, Psychiatric Inpatient Programs[5]

		Fiscal Year	Native American	Asian	African American	Hispanic	Multi-Racial	White
Children / Adolescents	CMHI-P	1997-98	0.0%	0.0%	4.8%	32.7%	0.0%	62.5%
		1998-99	0.4%	0.4%	6.3%	29.0%	4.6%	58.4%
		1999-00	1.7%	1.3%	6.4%	25.3%	6.9%	57.9%
	CMHI-FL	1997-98	1.0%	1.8%	12.4%	26.3%	5.3%	53.3%
		1998-99	0.5%	0.2%	11.4%	18.1%	8.7%	61.0%
		1999-00	0.9%	1.2%	15.3%	19.9%	5.6%	56.5%
	TOTAL	**1997-98**	**0.8%**	**1.4%**	**10.8%**	**27.6%**	**4.2%**	**55.2%**
		1998-99	**0.5%**	**0.3%**	**9.6%**	**22.2%**	**7.2%**	**60.3%**
		1999-00	**1.2%**	**1.2%**	**12.3%**	**21.9%**	**6.1%**	**57.3%**
Adults	CMHI-P	1997-98	0.8%	0.5%	6.4%	13.0%	0.1%	79.1%
		1998-99	1.3%	0.7%	6.7%	16.1%	1.5%	73.2%
		1999-00	0.8%	0.8%	7.1%	16.3%	1.4%	72.1%
	CMHI-FL	1997-98	2.3%	1.9%	7.3%	13.0%	2.4%	73.0%
		1998-99	2.2%	1.9%	10.3%	11.6%	2.1%	71.6%
		1999-00	1.6%	2.0%	8.4%	12.9%	1.1%	73.6%
	TOTAL	**1997-98**	**1.5%**	**1.2%**	**6.8%**	**13.0%**	**1.2%**	**76.5%**
		1998-99	**1.6%**	**1.1%**	**7.9%**	**14.7%**	**1.7%**	**73.0%**
		1999-00	**1.1%**	**1.3%**	**7.7%**	**15.2%**	**1.3%**	**73.5%**
Older Adults	CMHI-P	1997-98	1.7%	0.0%	3.4%	18.6%	0.0%	76.3%
		1998-99	0.0%	0.0%	4.9%	14.7%	0.0%	80.4%
		1999-00	0.7%	1.4%	2.8%	20.8%	0.0%	73.6%
	CMHI-FL	1997-98	0.0%	3.1%	15.6%	6.3%	1.6%	73.4%
		1998-99	0.0%	0.0%	4.5%	11.4%	0.0%	84.1%
		1999-00	0.0%	3.3%	8.3%	5.0%	1.7%	81.7%
	TOTAL	**1997-98**	**0.8%**	**1.6%**	**9.8%**	**12.2%**	**0.8%**	**74.8%**
		1998-99	**0.0%**	**0.0%**	**4.8%**	**13.9%**	**0.0%**	**81.3%**
		1999-00	**0.5%**	**2.0%**	**4.4%**	**16.3%**	**0.5%**	**76.4%**

[5] Orchid Report data - percentage differences represent missing data

Residential program data are presented below. Most residents at the Mountain Star RTC at Fort Logan in 1997-98 and 1998-99 were White, but persons of color comprised two-thirds of admissions in 1999-00. The trend toward more diverse consumers described above for inpatient programs appears much stronger for this program. African American, Hispanic and multi-racial residents comprise the largest minority sub-groups following Whites in 1999-00, with a significant number of Asian American residents also admitted.

The trend at CCR has seen decreasing percentages of African American consumers (from 12.5% in 1997-98 to 7.4% in 1999-00) and of White consumers (from 77.5% in 1997-98 to 66.7% in 1999-00), and increasing percentages of Hispanic consumers (up to 22.6% by 1999-00). Given the small number of persons using the program each year, trends should be interpreted cautiously. However, the trend toward a higher percentage of Hispanic consumers has been consistent over the past two full fiscal years.

Table 4: Admissions by Ethnicity, Residential Programs[6]

	Fiscal Year	Native American	Asian	African American	Hispanic	Multi-Racial	White
Mountain Star (RTC)	1997-98	0.0%	0.0%	14.3%	4.8%	14.3%	66.7%
	1998-99	0.0%	0.0%	28.6%	17.9%	3.6%	50.0%
	1999-00	0.0%	6.1%	27.3%	18.2%	15.2%	33.3%
CCR	1997-98	0.0%	2.5%	12.5%	7.5%	0.0%	77.5%
	1998-99	0.0%	2.9%	8.8%	20.6%	0.0%	67.6%
	1999-00	0.0%	3.7%	7.4%	22.2%	0.0%	66.7%

Primary Diagnosis – Many persons hospitalized at the Institutes have multiple diagnoses. Additionally, these diagnoses often change and are clarified during the inpatient episode. To better understand the population of people who present for care at the Institutes, primary admission diagnosis was examined – that is, the diagnosis indicated on the admission Colorado Client Assessment Record (CCAR) as most central to the person's difficulties at the time of admission. This is the only diagnosis reported by the Orchid Reports in past fiscal years.

A review of these primary inpatient admission diagnoses over the past three fiscal years (see table below) reveals clear differences between age groups and several other findings of interest. Children and adolescents are much more likely than adults or older adults to be diagnosed with bipolar disorder or major depression (31.3% for both diagnoses in 1999-00) or an anxiety or adjustment disorder (26.3% total for both diagnoses in 1999-00). A significant number of youth also carry attention deficit or conduct disorder diagnoses (4.8% and 7.5%, respectively, in 1999-00). The majority of children and adolescents falling into the "Other Non-psychotic" disorder category (19.7% in 1999-00) had a diagnosis of dysthymia or an unknown or non-mental health diagnosis.

[6] Orchid Report data

While a comparable number of adults are diagnosed with either bipolar disorder or major depression (29.5% total for both diagnoses in 1999-00), over 40% of adults carry a psychosis-related diagnosis (schizophrenia, schizoaffective disorder, or other psychotic diagnosis). One in ten adults carries a primary diagnosis related to substance or alcohol abuse, most at CMHI-Pueblo, where the Circle Program's co-occurring substance abuse and mental health treatment program is located. The majority of persons falling into the "Other Non-psychotic" disorder category were diagnosed with personality disorders or no mental disorder.

For older adults, many more present with bipolar disorder than either of the other two age groups (25.5% in 1999-00), fewer present with psychosis-related disorders than do persons in the adult group (32.8% in 1999-00), and a significant number, largely at CMHI-Pueblo, present with either primary degenerative or vascular dementia (15.2% in 1999-00). Using the diagnostic breakdown reported below, only bipolar disorder is used more frequently than a primary diagnosis of dementia.

Looking at trends over the past three years, the following observations can be made:

- More children and adolescents are presenting with anxiety or adjustment disorders (26.3% in 1999-00 versus 9.0% in 1997-98).
- More adults are presenting with primary substance or alcohol related diagnoses (10.6% in 1999-00 versus 6.7% in 1997-98).
- More older adults are presenting with dementia as a primary complaint at admission (15.2% in 1999-00 versus 10.0% in 1997-98), while fewer are presenting with bipolar disorder (25.5% in 1999-00 versus 33.3% in 1997-98). Among psychotic diagnoses (32.8% in 1999-00 and 33.3% in 1997-98), schizophrenia is less common than three years ago (11.8% in 1999-00 versus 19.2% in 1997-98).

Table 5a: Admissions by Diagnosis, Psychiatric Inpatient Programs: Children/Adolescents[7]

	Children / Adolescents								
	CMHI-Pueblo			CMHI-Fort Logan			TOTAL		
Fiscal Year	*1997-98*	*1998-99*	*1999-00*	*1997-98*	*1998-99*	*1999-00*	*1997-98*	*1998-99*	*1999-00*
Bipolar	13.5%	12.6%	15.5%	14.2%	17.1%	11.1%	**14.1%**	**15.4%**	**12.6%**
Major Depression	36.5%	33.6%	29.2%	16.1%	11.9%	13.0%	**20.6%**	**20.0%**	**18.7%**
Anxiety / Adj. D/O	6.7%	10.1%	15.9%	9.7%	16.9%	31.9%	**9.0%**	**14.4%**	**26.3%**
Schizophrenia	0.0%	0.4%	3.0%	0.8%	0.5%	0.9%	**0.6%**	**0.5%**	**1.6%**
Schizoaffective	0.0%	0.4%	1.7%	0.8%	0.5%	0.9%	**0.6%**	**0.5%**	**1.2%**
Other Psychotic D/O	4.8%	5.0%	5.2%	5.4%	5.5%	6.7%	**5.2%**	**5.3%**	**6.2%**
ADD / Conduct D/O	6.7%	9.7%	11.6%	17.7%	13.9%	12.7%	**15.3%**	**12.3%**	**12.3%**
Dementia	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**	**0.0%**
Substance Abuse	4.8%	0.8%	0.4%	1.6%	1.7%	1.9%	**2.3%**	**1.4%**	**1.4%**
Other Non-psychotic	26.9%	27.3%	17.6%	33.8%	32.0%	20.8%	**32.3%**	**30.3%**	**19.7%**

[7] Orchid Report data

Table 5b: Admissions by Diagnosis, Psychiatric Inpatient Programs: Adults

	Adults								
	CMHI-Pueblo			CMHI-Fort Logan			TOTAL		
Fiscal Year	*1997-98*	*1998-99*	*1999-00*	*1997-98*	*1998-99*	*1999-00*	*1997-98*	*1998-99*	*1999-00*
Bipolar	19.8%	11.3%	13.7%	19.7%	23.1%	21.5%	**19.8%**	**15.2%**	16.6%
Major Depression	18.2%	13.6%	11.8%	10.9%	10.5%	14.6%	**15.4%**	**12.6%**	12.9%
Anxiety / Adj. D/O	5.2%	6.3%	7.9%	3.0%	3.4%	6.4%	**4.3%**	**5.3%**	7.3%
Schizophrenia	16.8%	16.2%	14.6%	16.3%	13.1%	14.3%	**16.6%**	**15.2%**	14.5%
Schizoaffective	12.7%	11.0%	12.0%	23.0%	16.4%	18.5%	**16.7%**	**12.8%**	14.5%
Other Psychotic D/O	9.6%	8.4%	8.7%	12.7%	16.8%	16.5%	**10.8%**	**11.2%**	11.7%
ADD / Conduct D/O	0.4%	0.1%	0.0%	0.2%	0.2%	0.2%	**0.3%**	**0.1%**	0.1%
Dementia	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	**0.1%**	**0.1%**	0.0%
Substance Abuse	6.4%	13.1%	15.7%	7.1%	5.8%	2.2%	**6.7%**	**10.6%**	10.6%
Other Non-psychotic	10.8%	19.9%	15.6%	7.1%	10.8%	5.9%	**9.4%**	**16.9%**	11.9%

Table 5c: Admissions by Diagnosis, Psychiatric Inpatient Programs: Older Adults

	Older Adults								
	CMHI-Pueblo			CMHI-Fort Logan			TOTAL		
Fiscal Year	*1997-98*	*1998-99*	*1999-00*	*1997-98*	*1998-99*	*1999-00*	*1997-98*	*1998-99*	*1999-00*
Bipolar	18.6%	22.4%	16.7%	47.5%	36.4%	46.7%	**33.3%**	**25.7%**	25.5%
Major Depression	10.2%	19.6%	9.0%	9.8%	6.8%	20.0%	**10.0%**	**16.6%**	12.3%
Anxiety / Adj. D/O	1.7%	0.7%	0.7%	0.0%	2.3%	0.0%	**0.8%**	**1.1%**	0.5%
Schizophrenia	13.6%	14.0%	10.4%	24.6%	22.7%	15.0%	**19.2%**	**16.0%**	11.7%
Schizoaffective	8.5%	14.7%	15.3%	8.2%	15.9%	8.3%	**8.3%**	**15.0%**	13.2%
Other Psychotic D/O	8.5%	4.9%	8.3%	3.3%	11.4%	6.7%	**5.8%**	**6.4%**	7.8%
ADD / Conduct D/O	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**	**0.0%**	0.0%
Dementia	20.3%	9.8%	21.5%	0.0%	0.0%	0.0%	**10.0%**	**7.5%**	15.2%
Substance Abuse	1.7%	2.1%	2.8%	4.9%	2.3%	1.7%	**3.3%**	**2.2%**	2.5%
Other Non-psychotic	17.0%	11.9%	15.3%	1.6%	2.3%	1.7%	**9.2%**	**9.6%**	11.3%

Benefits Received – Social Security Income (SSI) and Social Security Disability Income (SSDI) benefit status was also examined in an attempt to better understand the Medicaid status of consumers at the Institutes. Medicaid status is not available in electronic records prior to fiscal year 1997-98, so this factor was examined given the correlation between SSI status and Medicaid eligibility in adults. For children, Medicaid status is not highly correlated with SSI status. However data for child and adolescent consumers are presented in the following table. As can be seen, the vast majority of children and adolescents have neither benefit.

Table 6: Benefits Received, Child/Adolescent Psychiatric Inpatient Consumers[8]

Age Group	Fiscal Year	CMHI	SSI	SSDI	Both	Neither
Children/ Adolescents	1997-98	Pueblo	4.0%	0.0%	0.0%	96.0%
		Fort Logan	8.1%	0.5%	0.9%	90.6%
	1998-99	Pueblo	0.5%	0.0%	0.0%	99.5%
		Fort Logan	3.5%	0.2%	0.0%	96.3%
	1999-00	Pueblo	4.6%	0.6%	0.0%	94.8%
		Fort Logan	4.6%	0.2%	0.0%	95.2%

A high percentage of older adults have these benefits. A review of benefit levels over the past three years reveals a sharp decrease in the number of older adult consumers at CMHI-Fort Logan who have SSI status, either alone or in conjunction with SSDI. The relative percentage fell from 48.3% in 1997-98 to only 34.6% by 1999-00. The level at CMHI-Pueblo has been relatively unchanged. This suggests a decrease in use by persons with Medicaid status, but this will be reviewed in more detail in subsequent reports focusing more specifically upon payers and financial issues.

Table 7: Benefits Received, Older Adult Psychiatric Inpatient Consumers[9]

Age Group	Fiscal Year	CMHI	SSI	SSDI	Both	Neither
Older Adults	1997-98	Pueblo	14.1%	21.0%	19.3%	45.7%
		Fort Logan	33.3%	18.3%	15.0%	33.3%
	1998-99	Pueblo	12.9%	8.6%	15.1%	63.4%
		Fort Logan	38.4%	10.3%	10.3%	41.0%
	1999-00	Pueblo	30.2%	12.0%	1.2%	56.6%
		Fort Logan	28.9%	15.4%	5.8%	50.0%

The benefit status of adult consumers was examined for the last three fiscal years, as well as the three fiscal years preceding and including the implementation of Medicaid capitation in 1995. Data from these additional years were examined in order to test for potential cost-shifts from the Medicaid system to the state psychiatric hospital system given that most Mental Health Service and Assessment Agencies (MHASAs) in the state are entities that have responsibility for both Medicaid services (as MHASAs) and CMHI bed allocations (as CMHCs). Since the Institute for Mental Disease (IMD) exclusion prevents Medicaid from paying for the hospitalization of adults ages 21 to 59, any Medicaid eligible adult hospitalized at a CMHI would save the MHASA the cost of hospitalizing that person elsewhere.

[8] Orchid Report data
[9] Orchid Report data

The table below presents the benefit status for adult consumers. Given the lack of availability of electronic data regarding specific payer status (e.g., Medicaid status) for fiscal years pre-dating 1997-98, benefit status offers a rough measure to see if any potential patterns exist.

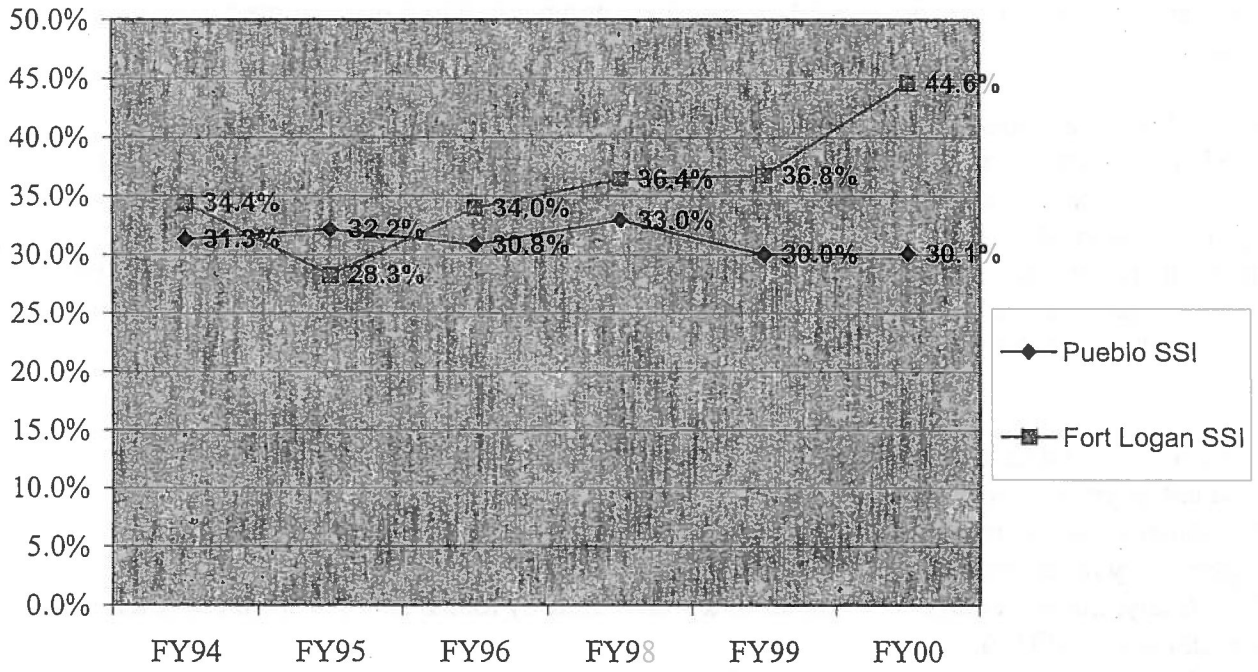
Table 8: Benefits Received, Adult Psychiatric Inpatient Consumers, Pre- and Post-Medicaid Capitation[10]

	Fiscal Year	CMHI	SSI	SSDI	Both	Neither
Adult	1993-94	Pueblo	27.9%	12.7%	3.4%	56.0%
		Fort Logan	31.1%	7.0%	3.3%	58.5%
	1994-95	Pueblo	28.8%	11.2%	3.4%	56.6%
		Fort Logan	22.3%	9.5%	6.0%	62.2%
	Medicaid Capitation was initiated in 1995					
	1995-96	Pueblo	26.2%	12.3%	4.6%	56.9%
		Fort Logan	30.2%	6.3%	3.8%	59.7%
	1997-98	Pueblo	28.0%	12.5%	4.9%	54.5%
		Fort Logan	32.0%	8.4%	4.5%	55.1%
	1998-99	Pueblo	25.2%	10.4%	4.8%	59.6%
		Fort Logan	32.7%	8.9%	4.1%	54.3%
	1999-00	Pueblo	26.6%	12.5%	3.5%	57.4%
		Fort Logan	39.2%	9.8%	5.4%	45.6%

The primary trend involves benefit status at CMHI-Fort Logan. The figure below plots the percentage of adult consumers with SSI benefits (either solely or in combination with SSDI). As can be seen, the percentage has trended upward over the years, rising sharply in 1999 at CMHI-Fort Logan and remaining flat at CMHI-Pueblo. The reasons for this difference will be explored further with more specific analyses as the final Operational Plan is developed.

[10] Orchid Report data

Figure 1: SSI Benefits Received by Adult Consumers, CMHI-Pueblo versus CMHI-Fort Logan[11]



Dangerousness and Severity

A key finding of the December 20, 2000 ***CMHI Focus Group Report*** was the perceived increase in the severity of symptoms and dangerousness of inpatient consumers at the Institutes. This has also been observed as a national trend.[12] The evaluation plan underlying this report originally envisioned a review of the reasons for admission for consumers served by the CMHI inpatient programs. However, this information is not centrally tracked by the CMHIs and they are not able to provide any classification or summary data on this important aspect of their role. Instead, TriWest Group met at length with representatives of the CMHIs' data services and leadership and identified two factors related to dangerousness and severity that could relate to this issue.

The first factor related to voluntary or involuntary status as defined by C.R.S. 27-10 at the time of admission. Theoretically, persons admitted involuntarily would pose a greater danger to themselves or others than those admitted voluntarily. This is not to say that these factors

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[11] Orchid Report data

[12] See, for example:

Bachrach, L. (1999). The state of the state hospital at the turn of the century. New Directions for Mental Health Services, 84 (Winter). San Francisco: Jossey-Bass, (pp. 7-24).

Bachrach, L. (1996). The state of the state mental hospital in 1996. *Psychiatric Services*, 47(10), 1071-1078.

Fisher, W.H., Simon, L., Geller, J.L., Penk, W.E., Irvin, E.A., and White, C.L. (1996). Case mix in the "downsizing" state hospital. *Psychiatric Services*, 47(3), 255-262.

perfectly correlate. Given the widespread view that voluntary treatment tends to be more effective, CMHI staff and other clinicians interviewed noted that persons admitted voluntarily often suffer from levels of severity and dangerousness comparable to those admitted involuntarily.

However, there does remain a critical distinction between the two groups, namely that those admitted voluntarily are more accepting of their treatment than those admitted involuntarily. This in and of itself seems to entail a greater burden of clinical management within the inpatient setting, even assuming comparable levels of symptom severity and risk for violence. Focus group members generally endorsed this observation, when it was discussed. The present analyses postulate that any change in the percentage of persons admitted involuntarily would represent a meaningful change in one of the many factors impacting the burden placed upon CMHI inpatient resources.

A review of 27-10 status at the time of admission at CMHI-Pueblo does show several changes over the last three fiscal years:

- For adolescents, the number of voluntary and voluntary minor admissions combined fell significantly in the last year, dropping from 17.7% in 1998-99 to 9.3% in 1999-00. Conversely, the percentage of youth admitted involuntarily rose from 82.3% – already a high percentage – to 90.6%.
- For adults, the overall percentage of involuntary admissions has hovered around the 90% level. The relative percentage of those admitted under a 72-hour hold versus a short-term certification changed, indicating a relatively lower level of existing oversight at the time of admission for those admitted (58.3% entered under a new involuntary petition in 1999-00 versus 48.1% in 1997-98). This may reflect more admissions by persons "new" to the mental health system.
- For older adults, the percentage of involuntary admissions fell from 95.0% in 1997-98 to 90.2% in 98-99, rising to 94.0% in 1999-00, a very slight decrease in overall acuity, but still higher than either of the other two age groups.

Table 9: Psychiatric Inpatient Admissions to CMHI-Pueblo by 27-10 Status[13]

Age Group	Fiscal Year	Voluntary		Involuntary					
		Voluntary	Voluntary Minor	72-Hour	Court-Directed	Short Term Cert	Long-Term Cert	Children's Code	Emergency
Child/ Adol	1997-98	16.5%	1.0%	61.2 %	17.5%	3.9%	0.0%	0.0%	0.0%
	1998-99	17.7%	0.0%	56.4 %	24.5%	1.4%	0.0%	0.0%	0.0%
	1999-00	8.4%	0.9%	65.9 %	19.0%	4.4%	0.0%	1.3%	0.0%
Adults	1997-98	10.1%	0.4%	48.1 %	9.4%	30.1 %	1.4%	0.0%	0.6%
	1998-99	10.8%	0.2%	62.8 %	5.1%	19.3 %	0.4%	0.7%	0.7%
	1999-00	11.7%	0.1%	58.3 %	6.7%	20.6 %	1.7%	0.0%	0.9%
Older Adults	1997-98	5.1%	0.0%	78.0 %	0.0%	13.6 %	3.4%	0.0%	0.0%
	1998-99	7.1%	2.7%	69.9 %	3.5%	15.9 %	0.9%	0.0%	0.0%
	1999-00	6.0%	0.0%	76.7 %	2.3%	12.0 %	3.0%	0.0%	0.0%

A review of 27-10 status at the time of admission to CMHI-Fort Logan shows several differences from the CMHI-Pueblo statistics, as well as several changes over the last three fiscal years:

- For children and adolescents at CMHI-Fort Logan, the number of involuntary admissions also rose significantly in the last three years, going from 50.8% in 1997-98 to 63.7% in 1999-00. This is a much lower percentage of involuntary admissions than at the Pueblo program. Discussions with adolescent inpatient staff from both programs suggested that the difference likely relates to the different levels of occupancy. At CMHI-Fort Logan, there is much available capacity on the adolescent unit, and they are able to take more voluntary admissions. At CMHI-Pueblo, capacity is tighter and more often they are only able to take involuntary admissions.
- For adults, as with CMHI-Pueblo, the overall percentage of involuntary admissions has hovered around the 90% level. The percentage has dropped slightly, from 89.9% to 88.1%. As with CMHI-Pueblo, the relative percentage of those admitted under a 72-hour hold versus a short-term certification changed, with 44.7% entering under a new involuntary petition in 1999-00 versus 38.4% in 1997-98. As with CMHI-Pueblo, this may reflect more admissions by persons "new" to the mental health system.
- For older adults at CMHI-Fort Logan, the percentage of involuntary admissions fell from 82.5% in 1997-98 to 61.0% in 1999-00, a dramatic decrease. One possible reason is that, during 1999-00, the CMHI-Fort Logan Geriatric Team began providing a more intensive

[13] Orchid Report data

maintenance ECT program, which appears to be influencing the increase in voluntary admissions. Another situation reported by Geriatric Team staff was an unusually large number of voluntary admissions during April and May of 2000. In fact, the change in the percent of involuntary admissions from 1997-98 to 1998-99 is not as dramatic as the change from 1998-99 to 1999-00.

Table 10: Psychiatric Inpatient Admissions to CMHI-Fort Logan by 27-10 Status[14]

Age Group	Fiscal Year	Voluntary		Involuntary					
		Voluntary	Voluntary Minor	72-Hour	Court-Directed	Short Term Cert	Long-Term Cert	Children's Code	Emergency
Child/ Adol	97-98	42.1%	6.6%	32.1%	5.4%	5.4%	0.3%	6.1%	0.0%
	98-99	41.6%	2.7%	36.2%	1.5%	4.0%	0.0%	13.5%	0.0%
	99-00	33.1%	2.8%	46.4%	1.9%	3.7%	0.2%	9.3%	0.0%
Adults	97-98	8.8%	0.7%	38.4%	2.1%	40.4%	8.1%	0.7%	0.2%
	98-99	9.2%	0.2%	33.0%	1.3%	48.3%	5.8%	0.9%	0.2%
	99-00	11.1%	0.5%	44.7%	0.3%	34.6%	8.0%	0.5%	0.0%
Older Adults	97-98	17.5%	0.0%	12.7%	6.3%	60.3%	3.2%	0.0%	0.0%
	98-99	16.3%	0.0%	14.0%	2.3%	58.1%	9.3%	0.0%	0.0%
	99-00	39.0%	0.0%	16.9%	0.0%	37.3%	6.8%	0.0%	0.0%

To further explore this issue of a possible increase in the severity of symptoms and dangerousness of inpatients at the Institutes, a second factor was examined. Colorado Client Assessment Record (CCAR) data for all admissions over the past three years were analyzed by CMHI data staff to identify the percentage of admissions involving dangerousness or grave disability as problems at the time of admission. To supplement for a greater amount of missing CCAR data at CMHI-Pueblo, data staff there included a small number of "assumed" counts for dangerousness and grave disability (8.3% of cases reported). For these, the analysts in Pueblo made use of other sources of information, such as CCAR data from a recent previous admission or clinical indicator data from other databases. Data staff saw the addition of these cases as providing a more valid estimate.

As with 27-10 status, this is not a perfect correlate of intensity. For example, it only indicates the presence or absence of the problem and not its level of intensity. However, the presence of dangerousness or grave disability as problems can certainly be said to indicate a categorically higher level of severity than would their absence, all other factors being equal.

The data upon admission to CMHI-Pueblo show several important trends that in some instances support and in other cases differ from those noted above regarding 27-10 status:

- For adolescents, the percentage of persons presenting with dangerousness or grave disability has increased sharply over the past three fiscal years. For adolescents, the percentage with some level of dangerousness or grave disability at admission increased from 79.7% to 95.3%. This mirrors the increase in involuntary admissions under C.R.S. 27-10.

[14] Orchid Report data

- For adolescents, a very high percentage of admissions – approximately half – were dangerous to both self and others.
- For adults and older adults at CMHI-Pueblo, the percentage with some level of dangerousness or grave disability fell. For adults, the percentage dropped significantly in 1998-99, but then came back up in 1999-00 (to 72.6%). For older adults, the percentage has fallen consistently each year, so that now only 61.3% report some level of dangerousness or grave disability at admission. Both of these percentages are much lower than the number of persons admitted involuntarily (88.2% of adults, 94.0% of older adults). Given that dangerousness or grave disability are necessarily present if a person is admitted involuntarily, the two sets of data appear contradictory. This discrepancy may be a result of previous practice at CMHI-Pueblo of having CCAR data reflect the condition of the patient at the time of interview with the unit social worker (which could have been days after admission, by which time the patient may have stabilized). More recent trainings with social workers (who complete CCAR forms) have reportedly emphasized reporting of the patient's condition at the time of admission. No current CCAR data were available to compare levels of dangerousness and grave disability to proportions of involuntary admissions for adults and older adults at CMHI-Pueblo following this reported change in approach.

The data for admission to CMHI-Fort Logan show several important trends that, in contrast to those for CMHI-Pueblo, seem to support and further detail those noted above regarding 27-10 status:

- For adolescents and adults, the percentage of persons presenting with dangerousness or grave disability has increased over the past three fiscal years. For adolescents, the percentage with some level of dangerousness or grave disability at admission increased from82.7% to 90.7%. For adults, the percentage rose from 77.1%to 87.9%.
- For children, the level remained constant and the highest of any group. In 1999-00, it was at the 94.6% level.
- For older adults, the level also rose over the three year period, from 72.3% in 1997-98 to 78.9% by 1999-00.

Comparing the two Institutes, several observations are apparent:

- The percentages for adolescents are essentially the same in terms of presence of danger or grave disability of some sort. However, the distributions differ, with far more adolescents at CMHI-Pueblo experiencing both danger to self and others.
- The number of adults and older adults assessed as dangerous or gravely disabled is much lower at CMHI-Pueblo. This trend differs from that observed with 27-10 status, where the two Institutes were similar for adults and CMHI-Pueblo had a higher percentage of persons in other categories admitted involuntarily than CMHI-Fort Logan. As noted above, this discrepancy may be the result of previous practice at CMHI-Pueblo of having CCAR data reflect the condition of the patient at the time of interview with the unit social worker (which could have been days after admission, by which time the patient may have stabilized).

Table 11: Dangerousness And Grave Disability As Reported Problems At Admission[15]

		CMHI-Pueblo			CMHI-Fort Logan			
	Fiscal Year	Adol	Adults	Older Adults	Children	Adol	Adults	Older Adults
None	1997-98	20.3%	28.3%	33.3%	5.1%	17.3%	22.9%	27.7%
	1998-99	5.0%	23.1%	36.1%	2.1%	10.2%	17.8%	16.6%
	1999-00	4.7%	27.4%	38.7%	5.4%	9.3%	12.1%	21.1%
Danger to Self	1997-98	14.1%	21.6%	1.1%	12.2%	22.6%	25.8%	18.2%
	1998-99	17.7%	25.5%	5.3%	8.2%	26.0%	21.2%	11.0%
	1999-00	20.6%	21.6%	2.6%	8.1%	23.7%	26.2%	20.5%
Danger to Others	1997-98	12.9%	7.0%	12.2%	26.5%	19.8%	8.6%	12.8%
	1998-99	15.6%	11.2%	9.8%	22.7%	15.7%	9.1%	11.0%
	1999-00	21.5%	10.8%	14.7%	21.6%	19.6%	9.1%	11.2%
Gravely Disabled	1997-98	0.0%	5.0%	8.9%	0.0%	0.4%	5.6%	10.1%
	1998-99	0.0%	7.0%	13.5%	0.0%	0.8%	9.1%	11.7%
	1999-00	0.4%	6.7%	11.5%	0.0%	1.0%	12.3%	8.7%
Danger to Self and to Others	1997-98	49.1%	13.4%	16.7%	56.1%	38.7%	15.9%	22.3%
	1998-99	59.2%	14.6%	3.8%	61.9%	41.3%	16.1%	35.2%
	1999-00	50.6%	12.6%	1.6%	63.5%	41.6%	12.8%	28.0%
Danger to Self and Gravely Disabled	1997-98	0.6%	7.6%	6.7%	0.0%	0.4%	7.3%	2.7%
	1998-99	0.0%	4.9%	6.0%	1.0%	2.0%	10.4%	6.2%
	1999-00	0.4%	7.1%	7.3%	12.2%	22.6%	25.8%	18.2%
Danger to Others and Gravely Disabled	1997-98	0.6%	6.5%	15.6%	0.0%	0.4%	4.4%	4.1%
	1998-99	0.4%	5.8%	19.6%	1.0%	0.4%	6.4%	3.4%
	1999-00	0.4%	5.8%	16.2%	0.0%	0.7%	7.7%	4.3%
All Three Categories	1997-98	2.5%	10.5%	5.6%	0.0%	0.4%	9.5%	2.0%
	1998-99	2.1%	8.0%	6.0%	3.1%	3.5%	9.7%	4.8%
	1999-00	1.3%	8.0%	7.3%	1.4%	2.4%	10.7%	1.9%

Occupancy

Occupancy rates (i.e., the average daily census divided by the number of beds available) were computed using primarily data that were directly provided by the CMHIs, although some data from Appendix A of the RFP for this study were used when data were not available from the CMHIs for a particular category of analysis. Specifically, data for CMHI-Fort Logan were computed from admissions and capacity data directly obtained from CMHI-Fort Logan. For CMHI-Pueblo, some average daily census and occupancy data were directly provided by HIMS

[15] Orchid Report data

(state hospital database) staff, particularly those for fiscal year 1999-00. Other data were obtained from the RFP Appendix A. Additionally, when beds were closed during the course of a fiscal year, the "number of beds available" figure represents an annualized average amount.

Children – An analysis of occupancy rates for children hospitalized at CMHI-Fort Logan shows the following trends over the past three years:

- Average daily census has varied somewhat from year to year. 1998-99 saw a decrease of 23.8% from the previous year; 1999-00 saw an increase of 18.9%. Factors influencing this may have included:
  - A transition period following the closure of the unit in 1997-98.
  - Efforts to respond to the expansion of Medicaid capitation statewide in 1998-99.
  - Decreasing child inpatient capacity due to the closure of the Cleo Wallace facility.
- The number of available beds decreased to 16, following the closure of one unit during the 1997-98 fiscal year.
- Occupancy reached a rate of 90.6% in 1999-00.

Table 12: Occupancy Over the Past Three Fiscal Years – Children at CMHI-Fort Logan

	Data	1997-98	1998-99	1999-00
Children	Average Daily Census	16.0	12.2	14.5
	Beds Available	22.7	16	16
	Occupancy Rate	70.4%	76.0%	90.6%

Adolescents – An analysis of occupancy rates for adolescents hospitalized at both Institutes shows the following trends over the past three years:

- Average daily census has decreased steadily at both Institutes. Compared to 1997-98 levels, combined average daily census for adolescents fell 15.8% by 1998-99 and 26.6% by 1999-00.
- The number of available beds decreased from an average of 80.6 beds in 1997-98 to 52, following unit downsizing during the 1997-98 fiscal year.
- Occupancy rose in 1998-99 following the downsizing in 1997-98, but fell in 1999-00. Combined occupancy in 1999-00 was 76.8%. Focus group participants from the CMHIs contended that one factor decreasing occupancy was the shorter lengths of stay at the two units. However, occupancy is still much lower than any other Institute psychiatric inpatient program. This suggests that there are more beds available than there is demand to fill them.

Table 13: Occupancy Over the Past Three Fiscal Years – Adolescents

	Data	CMHI-Pueblo			CMHI-Fort Logan		
		1997-98	1998-99	1999-00	1997-98	1998-99	1999-00
Adolescents	Average Daily Census	31.0	29.2	24.8	23.4	16.6	15.1
	Beds Available	44	30	30	36.6	22	22
	Occupancy Rate	70.3%	97.3%	82.7%	63.8%	75.5%	68.8%

Adults – An analysis of occupancy rates for adults hospitalized at both Institutes shows the following trends over the past three years:

- Average daily census has been very stable at both Institutes. Combined census has varied by less than 1% each year.
- The number of available beds has not changed.
- Occupancy has been stable and very high.

Table 14: Occupancy Over the Past Three Fiscal Years – Adults

	Data	CMHI-Pueblo			CMHI-Fort Logan		
		1997-98	1998-99	1999-00	1997-98	1998-99	1999-00
Adults	Average Daily Census	117.7	118.7	120.7	116.4	116.8	111.3
	Beds Available	126	126	126	121	121	121
	Occupancy Rate	93.4%	94.2%	95.8%	96.2%	96.6%	92.0%

Adult occupancy can also be looked at by catchment area, focusing upon the bed allocations for each CMHC area. The bed allocations encompass the great majority of adult beds at the two Institutes. At CMHI-Pueblo, 96 beds are allocated. This represents all beds other than the 30 beds at CMHI-Pueblo for the Circle Program which provides inpatient co-occurring substance abuse treatment. These 30 beds are not allocated and are available to all areas of the state according to need. At CMHI-Fort Logan, 116 of the 121 beds are allocated to CMHC catchment areas. The remaining five beds are targeted when needed for deaf and hard-of-hearing inpatient consumers and are used as overflow beds by requesting CMHCs, when available.

Percent use for each of the past three fiscal years was calculated dividing average daily census for the year by the bed allocation. Allocations for adult beds at CMHI-Pueblo are presented in the following table. Two observations can be made:

- There is wide variation in percent use from year to year, with percentage swings ranging from 2.8% to 66.7% of the allocation.
- Allocations are typically exceeded. Five of the twelve areas exceeded their allocation every year; two additional areas exceeded their allocation in two of the three years. Only three areas did not exceed their allocation in any year.

Table 15: Percent Use of Allocated Beds – CMHI-Pueblo

	Number of allocated beds	1997-98 Use	1998-99 Use	1999-00 Use
Arapahoe/Douglas	12	70.5%	73.3%	71.2%
Centennial	4	124.3%	191.0%	157.0%
Colorado West	9	104.2%	121.6%	88.3%
Larimer	8	104.9%	112.8%	109.2%
Midwestern Colorado	4	103.1%	88.2%	83.8%
North Range Behavioral Health	4	67.5%	88.4%	78.5%
Pikes Peak	23	111.9%	124.8%	131.5%
San Luis Valley	4	97.1%	100.7%	118.2%
Southeastern Colorado	4	81.8%	89.9%	70.3%
Southwest Colorado	4	82.7%	71.4%	111.8%
Spanish Peaks	16	121.4%	131.4%	125.9%
West Central	4	128.2%	119.5%	106.9%
Total	96	102.9%	113.0%	109.0%

Allocations for adult beds at CMHI-Fort Logan are presented in the following table. Two observations can be made:

- There is less variation in percent use from year to year than at CMHI-Pueblo, with percentage swings ranging from less than 1% to 21.4% of the allocation. This difference seems at least in part attributable to the following factors:
  - Many of CMHI-Pueblo allocations are small (e.g., 4 beds), making them subject to more variability over time given that any single filled or empty bed has a disproportionately larger impact on percent rates of use.
  - CMHI-Pueblo has a greater margin of adult beds over its allocation (30 unallocated beds versus only five at CMHI-Fort Logan), creating more opportunity to exceed specific allocations.
- Most areas did not exceed their allocations, most likely due to the smaller margin of extra beds available. Only three of the six areas exceeded their allocation in any given year, and each did so in only one year.
- Adams County has consistently lower use each of the past three years. This pattern could be the result of Adams County's development of an award-winning program to more closely monitor consumers at risk for hospitalization. During February, 2000, Adams County has reportedly increased its use of allocated beds due to the unavailability of nursing home and assisted living facility beds to which patients can be discharged.

Table 16: Percent Use of Allocated Beds – CMHI-Fort Logan

	Number of allocated beds	1997-98 Use	1998-99 Use	1999-00 Use
ABC	n/a – FY98 17 – FY99, FY00	n/a	91.5%	91.1%
Adams	18	100.7%	94.5%	79.3%
Aurora	13	91.7%	102.0%	92.1%
Boulder	15	94.3%	95.3%	97.4%
Jefferson	28	90.2%	97.1%	93.2%
MHCD	42 - FY98 25 - FY99, FY00	99.8%	102.1%	93.1%
Total	116	96.0%	97.3%	91.1%

Older Adults – An analysis of occupancy rates for older adults hospitalized at both Institutes shows several trends over the past three years:

- Average daily census has varied at both Institutes. Compared to 1997-98, combined census fell 5.3% in 1998-99 and rose 4.0% in 1999-00.
- The number of available beds has not changed.
- Occupancy has been stable and relatively high. The rate in 1999-00 was the highest of any Institute inpatient program.

Table 17: Occupancy Over the Past Three Fiscal Years – Older Adults

	Data	CMHI-Pueblo			CMHI-Fort Logan		
		1997-98	1998-99	1999-00	1997-98	1998-99	1999-00
Older Adults	Average Daily Census	54.5	52.6	57.5	23.5	21.3	23.6
	Beds Available	60	60	60	25	25	25
	Occupancy Rate	90.8%	87.7%	95.8%	94.1%	85.4%	94.4%

Residential Programs – An analysis of occupancy rates for residential programs at Fort Logan shows the following trends over the past three years:

- Following its start-up in 1997-98, the Mountain Star program at Fort Logan has achieved very high and consistent occupancy levels.
- The CCR adult residential program has had high, but more moderate occupancy, declining somewhat from its level in 1997-98.

Table 18: Occupancy Over the Past Three Fiscal Years – Fort Logan Residential Units

Program	Data	1997-98	1998-99	1999-00
RTC (Adolescent)	Average Daily Census	15.6	18.9	18.9
	Beds Available	20	20	20
	Occupancy Rate	77.9%	94.7%	94.3%
Adult Residential (CCR)	Average Daily Census	14.2	12.9	13.4
	Beds Available	16	16	16
	Occupancy Rate	88.6%	80.9%	83.7%

Length of Stay

The methods that CMHI-Pueblo and CMHI-Fort Logan analysts used for calculating lengths of stay (LOS) for fiscal years 1997-98, 1998-99, and 1999-00 were somewhat different, but both were useful and appropriate. CMHI-Pueblo and CMHI-Fort Logan both reported lengths of stay summaries for children/adolescents, adults, and older adults, using standardized LOS range categories of less than 1 week, 1–2 weeks, 2 weeks–30 days, 30–60 days and over 60 days. However, CMHI-Pueblo reported the lengths of stay summaries for those consumers who were admitted in fiscal years 1997-98, 1998-99, and 1999-00. CMHI-Fort Logan reported the lengths of stay summaries for both those consumers who were discharged during each of those same fiscal years and those who were still hospitalized on the last day of each of those fiscal years. For CMHI-Fort Logan, the analyses below have combined both of those consumer cohorts (those discharged in the fiscal year and those remaining in the hospital at the end of the fiscal year) to report single lengths of stay summaries.

Each of these methods produces accurate figures for the lengths of stay categories. The CMHI-Pueblo data are less accurate in calculating absolute average lengths of stay for consumers in different age groups, since some long-stay consumers who were admitted before July 1, 1997 are not included in the lengths of stay analyses. However, for the purposes of this report, CMHI-Pueblo's data are sound, because any consumer admitted in any of the fiscal years under analysis, will have had a chance to have been hospitalized at least 61 days by the time the CMHI-Pueblo data were analyzed in November 2001. In other words, by the time the data were analyzed, each consumer included in the analysis could have fallen into even the longest LOS category. CMHI-Fort Logan's data are sound, because they combine two useful ways of looking at length of stay: LOS for those consumers discharged during the fiscal years in question and LOS for those consumers who remained in the hospital at the end of the fiscal year. As with the CMHI-Pueblo analysis, every CMHI-Fort Logan consumer included in the analysis could have fallen into any of the LOS categories employed in this study. In summary, although the methods employed by CMHI-Pueblo and CMHI-Fort Logan are not identical, they are both valid and yield data that can be compared for the purposes of this report.

Children – An analysis of lengths of stay for children hospitalized at Fort Logan shows several trends over the past three years:

- The overall number of consumers continues to decline, from 150 in 1997-98 to 114 in 1999-00, a decline of 24.0%.
- Overall, lengths of stays are in a state of flux, trending toward shorter stays. Stay lengths significantly decreased between 1997-98 and 1998-99, but increased again in 1999-00.
- More specifically, between 1997-98 and 1998-99, stays of less than 7 days increased (from 4.7% to 11.6%) and this category increased slightly again (to 13.2%) in 1999-00. Stays of 8 to 14 days jumped from 13.3% to 23.2% between the first two years reported, but then fell back to the initial level (13.2%) in 1999-00. Stays of 15 to 30 days increased from 21.3% to 31.2% in the first two years, then retreated back to 27.2% by 1999-00. Stays of 31 to 60 days fell from 32.7% to 21.7% over the first two years and remained at a similar level in 1999-00 (21.1%). Stays over two months dropped dramatically between the first two years reported (from 28.0% to 12.3%), then returned essentially to the initial level by 1999-00 (25.4%).

In the most recent year, just over one in four consumers stayed 14 days or less. Slightly over another quarter stayed between two weeks and a month. Just over one-fifth stayed between one and two months. One in four stayed over two months.

Table 19: Lengths of Stay by Category Over the Past Three Fiscal Years – Children

Age Group	Fiscal Year	CMHI	7 days or less	8 to 14 days	15 to 30 days	31 to 60 days	Over 60 days	Total Consumers
Children	1997-98	Fort Logan	7	20	32	49	42	150
			4.7%	13.3%	21.3%	32.7%	28.0%	
	1998-99	Fort Logan	16	32	43	30	17	138
			11.6%	23.2%	31.2%	21.7%	12.3%	
	1999-00	Fort Logan	15	15	31	24	29	114
			13.2%	13.2%	27.2%	21.1%	25.4%	

When catchment area was analyzed, a key difference emerged between catchment areas where the community mental health center (CMHC) is less than 50 miles away from Fort Logan versus those located over 50 miles away. In the most recent fiscal year (1999-00), 80% of child consumers at Fort Logan came from these six catchment areas (Adams, Arapahoe/Douglas, Aurora, Boulder, Denver, Jefferson). Only 56% of the state populations resides in these counties, so this use is disproportionate to overall population. Of the 11 other catchment areas (representing 44% of the state population), only seven had any admissions in 1999-00.

Adolescents – An analysis of lengths of stay for adolescents hospitalized at both Institutes shows several trends over the past three years:

- The overall number of adolescent consumers has increased at Fort Logan and remained essentially stable at Pueblo, growing overall from 540 in 1997-98 to 577 in 1999-00, an increase of 6.9%.

- Overall, lengths of stay have consistently fallen over the past three years at both Institutes. Stays of two weeks or less rose from 32.7% of the total in 1997-98 to 53.1% in 1999-00. Stays over one month decreased from 46.5% of the total in 1997-98 to only 25.3% in 1999-00. This increased efficiency seems to be the primary reason related to lower average daily census reported above, as opposed to a decrease in number of consumers served.
- Lengths of stay dropped even more dramatically at Fort Logan. Stays of two weeks or less rose from 42.5% of the total in 1997-98 to 68.4% in 1999-00. Stays over one month decreased from 36.2% of the total in 1997-98 to only 15.2% in 1999-00. The reasons for the significant difference in lengths of stay between CMHI-Fort Logan and CMHI-Pueblo will be explored further in the final Operational Plan.

In the most recent year, just over half of consumers stayed 14 days or less. Slightly over a fifth stayed between two weeks and a month. Just over a quarter stayed over one month.

Table 20: Lengths of Stay by Category Over the Past Three Fiscal Years – Adolescents

Age Group	Fiscal Year	CMHI	7 days or less	8 to 14 days	15 to 30 days	31 to 60 days	Over 60 days	Total Consumers
Adolescents	1997-98	Pueblo	28	22	48	49	94	241
			11.6%	9.1%	19.9%	20.3%	39.0%	
		Fort Logan	84	43	64	60	48	299
			28.1%	14.4%	21.4%	20.1%	16.1%	
		Combined	**112**	**65**	**112**	**109**	**142**	**540**
			20.7%	**12.0%**	**20.7%**	**20.2%**	**26.3%**	
	1998-99	Pueblo	44	34	57	43	76	254
			17.3%	13.4%	22.4%	16.9%	29.9%	
		Fort Logan	97	49	73	32	25	276
			35.1%	17.8%	26.5%	11.6%	9.1%	
		Combined	**141**	**83**	**130**	**75**	**101**	**530**
			26.6%	**15.7%**	**24.5%**	**14.2%**	**19.1%**	
	1999-00	Pueblo	44	37	71	55	41	248
			17.7%	14.9%	28.6%	22.2%	16.5%	
		Fort Logan	152	73	54	25	25	329
			46.2%	22.2%	16.4%	7.6%	7.6%	
		Combined	**196**	**110**	**125**	**80**	**66**	**577**
			34.0%	**19.1%**	**21.7%**	**13.9%**	**11.4%**	

Adults – An analysis of lengths of stay for adults hospitalized at both Institutes shows several trends over the past three years:

- The overall number of adult consumers has decreased at Pueblo (minus 15.1%) and increased at Fort Logan (plus 4.9%), shrinking somewhat for the combined CMHIs from 1680 total in 1997-98 to 1565 in 1999-00, a net decrease of 6.8%.
- Congruent with this, lengths of stay have somewhat increased at Pueblo and overall. Stays at CMHI-Pueblo of two weeks or less fell from 31.1% of the total in 1997-98 to 26.5% in 1999-00. Stays over one month increased from 44.0% of the total in 1997-98 to 52.1% in 1999-00.
- Lengths of stay have decreased at Fort Logan. Stays of two weeks or less rose from 28.8% of the total in 1997-98 to 33.2% in 1999-00. Stays over one month decreased from 49.2% of the total in 1997-98 to only 45.6% in 1999-00.
- Discussions with stakeholders and review of data on community alternatives in the catchment areas served by CMHI-Pueblo suggest that the main reason underlying the longer lengths of stay for adults at CMHI-Pueblo is the lower level of available community alternatives for inpatient consumers there.

In the most recent year, nearly 30% of consumers stayed 14 days or less. Slightly over one-fifth stayed between two weeks and a month. Just under half stayed over one month.

Table 21: Lengths of Stay by Category Over the Past Three Fiscal Years – Adults

Age Group	Fiscal Year	CMHI	7 days or less	8 to 14 days	15 to 30 days	31 to 60 days	Over 60 days	Total Consumers
Adults	1997-98	Pueblo	137	171	246	196	240	990
			13.8%	17.3%	24.9%	19.8%	24.2%	
		Fort Logan	129	70	152	144	195	690
			18.7%	10.1%	22.0%	20.9%	28.3%	
		Combined	**266**	**241**	**398**	**340**	**435**	**1680**
			15.8%	**14.4%**	**23.7%**	**20.2%**	**25.9%**	
	1998-99	Pueblo	115	117	198	172	267	869
			13.2%	13.5%	22.8%	19.8%	30.7%	
		Fort Logan	77	86	108	113	213	597
			12.9%	14.4%	18.1%	18.9%	35.7%	
		Combined	**192**	**203**	**306**	**285**	**480**	**1466**
			13.1%	**13.9%**	**20.9%**	**19.4%**	**32.7%**	
	1999-00	Pueblo	133	90	180	176	262	841
			15.8%	10.7%	21.4%	20.9%	31.2%	
		Fort Logan	135	105	154	129	201	724
			18.7%	14.5%	21.3%	17.8%	27.8%	
		Combined	**268**	**195**	**334**	**305**	**463**	**1565**
			17.1%	**12.5%**	**21.3%**	**19.5%**	**29.6%**	

Older Adults – An analysis of lengths of stay for older adults hospitalized at both Institutes shows several trends over the past three years:

- The overall number of consumers has increased at Pueblo (plus 13.6%) and decreased at Fort Logan (minus 9.4%), increasing somewhat overall from 308 total in 1997-98 to 323 in 1999-00, a net increase of 4.8%.
- Congruent with this, lengths of stays have decreased slightly at Pueblo. Stays of two weeks or less rose from 34.6% of the total in 1997-98 to 37.4% in 1999-00. Stays over one month decreased from 54.0% of the total in 1997-98 to 49.3% in 1999-00.
- Lengths of stay have increased slightly at Fort Logan at the longer end of the continuum. Stays of two weeks or less stayed essentially constant, 18.8% of the total in 1997-98 and 18.8% in 1999-00. However, stays of two weeks to one month decreased over this period (10.3% to 8.5%) and stays over one month increased from 70.9% of the total in 1997-98 to only 72.6% in 1999-00.
- Overall, there has been little change in lengths of stay within each of the two Institutes over the past three years.

However, significant differences in lengths of stay between the two Institutes continue. In the most recent year, 37.4% of consumers at Pueblo stayed 14 days or less. Only 18.8% of consumers stayed 14 days or less at Fort Logan. Similarly, just under half of older adult inpatient consumers at Pueblo stayed over one month, while nearly three in four stayed over one month at Fort Logan. One reason for the higher percentage in shorter lengths of stay at Pueblo is believed to be that Fort Logan tends to admit more consumers from other hospitals, who have not responded to treatment, and therefore require a more lengthy treatment course. CMHI-Pueblo, on the other hand, is believed to serve more of a front-line hospital facility for older adults due to fewer alternatives in the catchment areas that admit older adults to Pueblo. In addition, the differences related to higher numbers of patients staying over one month at Fort Logan could be related to a relative lack of availability of nursing home facilities in the catchment areas that admit patients to Fort Logan when compared to those that admit to Pueblo.

Table 22: Lengths of Stay by Category Over the Past Three Fiscal Years – Older Adults

Age Group	Fiscal Year	CMHI	7 days or less	8 to 14 days	15 to 30 days	31 to 60 days	Over 60 days	Total Consumers
Older Adults	1997-98	Pueblo	64	2	22	36	67	191
			33.5%	1.1%	11.5%	18.9	35.1%	
		Fort Logan	14	8	12	22	61	117
			12.0%	6.8%	10.3%	18.8%	52.1%	
		Combined	**78**	**10**	**34**	**58**	**128**	**308**
			25.3%	**3.3%**	**11.0%**	**18.8%**	**41.6%**	
	1998-99	Pueblo	63	1	14	32	66	176
			35.8%	0.6%	8.0%	18.2	37.5%	
		Fort Logan	12	5	13	29	47	106
			11.3%	4.7%	12.3%	27.4	44.3%	
		Combined	**75**	**6**	**27**	**61**	**113**	**282**
			26.6%	**2.1%**	**9.6%**	**21.6%**	**40.1%**	
	1999-00	Pueblo	75	6	29	23	84	217
			34.6%	2.8%	13.4%	10.6%	38.7%	
		Fort Logan	17	3	9	17	60	106
			16.0%	2.8%	8.5%	16.0%	56.6%	
		Combined	**92**	**9**	**38**	**40**	**144**	**323**
			28.5%	**2.8%**	**11.8**	**12.4**	**44.6**	

CMHI-Pueblo Medical / Surgical Service Unit Consumers

The 1995 ***Medical / Surgical Services Study for the Mental Health Institutes at Pueblo and Fort Logan*** evaluated over five years ago the delivery structure for medical and surgical services provided by CMHI-Pueblo in terms of efficiency and cost-effectiveness. It also developed long-range plans and standard usage measurements for selected ancillary services at the two Institutes. An evaluation of outsourcing alternatives for medical/surgical, radiology, and laboratory services was also performed.

At the time, the Colorado Department of Corrections (DOC) was a major user of the services of the Medical / Surgical Services (MSS) Unit. In fiscal year 1992, 60% of total admissions to the MSS Unit were from DOC, while in fiscal year 1994, DOC admissions accounted for 49% of the total. For surgical services, DOC admissions accounted for 79% of admissions to the MSS Unit during fiscal year 1992, and 60% during fiscal year 1994. DOC accounted for 78% of all same-day surgery cases in fiscal year 1994.

The study recommended the Medical / Surgical Service expand its consumer population by providing medical/surgical services to other state agencies on a negotiated rate basis. In

addition, the report stressed that the viability of service was dependent upon continued use of the MSS Unit by DOC at or above fiscal year 1994 levels. The study also found Same Day Surgery services to be under-priced, concluded that outsourcing all laboratory tests to a reference laboratory would be cost-prohibitive, recommended that the Office of Direct Services consider having CMHI-Pueblo perform lab tests for CMHI-Fort Logan after installation of the HIMS system, and observed that both CMHIs appeared to provide radiology services more cost-effectively in-house than could be purchased in the community.

While a review of the status of the ancillary recommendations put forth in that study is beyond the scope of the current report, the success of the Medical / Surgical Service in maintaining its overall level of utilization, retaining its DOC consumer base and expanding its service even further beyond the base of CMHI-Pueblo referrals was examined to the extent possible given available data. These were the key recommendation made by the 1995 study and they are directly pertinent to the current objective of ascertaining the proper role for Institute inpatient services in the future.

Regarding overall utilization, use of the Medical / Surgical Unit has consistently and sharply declined over the past decade, from a high average daily census of 17 in 1991-92 to an average of just over seven in each of the last two fiscal years. Average daily census has fallen 45.7% since the time of the 1995 study and the occupancy rate for the last two fiscal years has been under 40%. The reasons for this very low rate of use will be explored further with key informants as the final Operational Plan is developed and recommendations are made to respond to this under-utilization. In addition, other utilization of services in the MSS Unit will be analyzed for the Operational Plan, including same day surgery and clinic visit data that were not available at the time of this report.

Table 23: Occupancy Over the Six Fiscal Years – Medical/Surgical Unit

	Data	1991-92	1992-93	1993-94	1997-98	1998-99	1999-00
Medical / Surgical Service	Average Daily Census	17	10	14	8.5	7.2	7.6
	Beds Available	30	30	20	20	20	20
	Occupancy Rate	56%	34%	72%	42.5%	36.0%	38.0%

A review of all inpatient consumers shows that a large number of persons using the program are from the criminal justice system. A review of 27-10 status for all MSS consumers shows nearly two-thirds (215) had criminal status in 1999-00. This number is greater than the number in 1997-98, but lower than the number in 1998-99. These large swings in DOC use show a level of instability in the major population served by MSS. Additionally, levels of voluntary inpatient consumers has dropped by nearly three-quarters in the last year.

Table 24: CMHI-Pueblo Medical/Surgical Unit Inpatient Consumers by 27-10 Status

Fiscal Year	Criminal	All Long Term	All Short Term	Voluntary	Other	Total
1997-98	187	13	136	46	6	388
1998-99	252	45	114	45	6	462
1998-99	215	14	60	12	8	333

The data in the following table also show that an increasing number of inpatient consumers using the MSS Unit have a residence at a DOC correctional facility. By 1999-00, 170 were from correctional facilities. The number of forensic inpatient consumers also increased in the last full year.

Table 25: CMHI-Pueblo Medical/Surgical Services Unit Inpatient Consumers by Catchment Area Type

Fiscal Year	Correctional Facility	Forensic	Mental Health Catchment Areas	Unknown	Grand Total
1997-98	38	24	306	20	388
1998-99	98	24	243	22	387
1999-00	170	53	225	14	462

In terms of demographics, the vast majority of the MSS inpatient consumers are adults, although the relative percentage of older adult consumers has increased in the last year. The relative percentage of youth has been small and is decreasing.

Table 26: CMHI-Pueblo Medical/Surgical Services Unit Inpatient Consumers by Age Group

Age Group	1997-98	1998-99	1999-00
Child/Adolescent	5.2% (20)	4.1% (16)	1.5% (7)
Adult	68.0% (264)	71.6% (277)	68.4% (316)
Older Adult	26.8% (104)	24.3% (94)	30.1% (139)
Total	388	387	462

The clear majority of MSS inpatient consumers have been male, reflecting the large number of admissions from correctional facilities. In 1997-98, 72.2% of persons admitted from outside CMHI-Pueblo were male. This increased to 74.9% in 1998-99 and to 75.1% in 1999-00. However, a significant number of women are still served.

Mental health diagnosis data for MSS inpatient consumers also reflect that many do not have primary psychiatric diagnoses. Despite increasing numbers of DOC admissions, the percentage

of persons with primary mental health diagnoses has remained constant. Other than a rise to 71.1% in 1998-99, the percentage of consumers with a primary psychiatric diagnosis remained steady at 66.2%. Of those admissions with primary psychiatric diagnoses, the relative percentages have varied from year to year and can be seen in the table below.

Table 27: CMHI-Pueblo Medical/Surgical Services Unit Inpatient Consumers by Psychiatric Diagnosis and Age

Fiscal Year	Age Group	None	Psychotic Disorders	Mood Disorders	Substance Abuse Disorders	Dementia	Other Disorders
1997-98	Child / Adolescent	10.0%	0%	50%	0%	10.8%	35.0%
		2	0	10	0	2	7
	Adult	46.2%	21.2%	14.4%	5.3%	4.5%	8.3%
		122	56	38	14	12	22
	Older Adult	6.7%	19.2%	23.1%	3.8%	27.9%	19.2%
		7	20	24	4	29	20
1997-98 Total		**33.8%**	**19.6%**	**18.6%**	**4.6%**	**10.8%**	**12.6%**
		131	**76**	**72**	**18**	**42**	**49**
1998-99	Child / Adolescent	18.8%	12.5%	25.0%	0.0%	0.0%	43.8%
		3	2	4	0	0	7
	Adult	36.1%	28.5%	14.4%	7.9%	0.0%	13.0%
		100	79	40	22	0	36
	Older Adult	9.6%	26.6%	21.3%	1.1%	27.7%	13.8%
		9	25	20	1	26	13
1998-99 Total		**28.9%**	**27.4%**	**16.5%**	**5.9%**	**6.7%**	**14.5%**
		112	**106**	**64**	**23**	**26**	**56**
1999-00	Child / Adolescent	28.6%	0.0%	57.1%	0.0%	0.0%	14.3%
		2	0	4	0	0	1
	Adult	43.0%	24.4%	9.8%	10.8%	1.6%	10.4%
		136	77	31	34	5	33
	Older Adult	12.9%	28.8%	18.7%	2.9%	25.2%	11.5%
		18	40	26	4	35	16
1999-00 Total		**33.8%**	**25.3%**	**13.2%**	**8.2%**	**8.7%**	**10.8%**
		156	**117**	**61**	**38**	**40**	**50**

Future Population to be Served by the Institutes

Population Currently Served by the Institutes

The data and analyses just reviewed comprise a relatively clear picture of the population of consumers currently served by the Institutes. The following table summarizes the conclusions reached by area analyzed for each inpatient age group:

Table 28: CMHI Inpatient Consumer Population Data Summary by Age Groups

Variable	Children	Adolescents	Adults	Older Adults
Gender	69% are male – stable over last three years.		61% are male – percent of females increasing.	49% are male – percent of females decreasing.
Ethnicity / Race	57% are White – Percent of Persons of Color increasing slightly.		74% are White – Percent of Persons of Color increasing slightly.	76% are White – Percent of Persons of Color increasing slightly.
Primary Diagnosis	Top diagnoses –Major Dep. (19%), Bipolar (13%), Conduct Disorder (12%), Anxiety / Adjustment disorder (26%)		Top diagnoses – Psychotic disorder (40%), Bipolar (17%), Major Dep. (13%), Substance Abuse disorder (11%)	Top diagnoses – Bipolar (26%), Dementia (15%), Schizoaffective (13%), Major Dep. (12%), Schizophrenia (12%)
SSI Status	Not relevant.		Increasing SSI status at CMHI-Fort Logan.	Decreasing SSI status.
Danger and Severity	Most involuntary, increasing, Pueblo (91%) higher than Fort Logan (62%). 95% dangerous or gravely disabled, increasing.		89% involuntary at both CMHIs, stable, more on 72 hour holds. Fewer dangerous at Pueblo.	Most involuntary, fell slightly to 94% at Pueblo and sharply to 61% at Fort Logan. Fewer dangerous at Pueblo.
Occupancy	91%, varied trends.	77% combined, lower at Fort Logan (69%), decreasing as LOS goes down.	94%, very stable. Pueblo allocations exceeded more often.	95%, stable.
Lengths of Stay	26% 0-14 days, 27% 15-30 days, 21% 31-60, 25% over 60 days. Trending toward shorter stays.	34% 0-7 days, 19% 8-14 days, 22% 15-30 days, 25% over 30 days. Sharply falling LOS.	30% 0-14 days, 21% 15-30 days, 20% 31-60 days, 30% over 60 days. Somewhat increasing at Pueblo, falling at Fort Logan.	29% 0-7 days, 3% 8-14 days, 24% 15-60 days, 45% over 60 days. Stable overall, somewhat increasing at Fort Logan, falling at Pueblo.

These data support the following conclusions about the population served by the CMHIs:

- Demographic (gender, ethnicity/race) changes are small overall, but the overall data are clear that gender and cultural diversity issues will continue to characterize the overall and specific populations served, especially regarding youth inpatient and RTC services (see table below).
- Diagnostic information suggest increasing numbers of persons with primary diagnoses that are not mental health diagnoses, particularly dementia in the older adult population and substance abuse in the adult population. The presence of these diagnoses as primary treatment issues reinforces focus group findings suggesting increasingly more admissions from outside the traditional role of the CMHIs.
- More persons with Medicaid appear to be using CMHI-Fort Logan adult inpatient services and fewer are using older adult inpatient services overall.
- Levels of involuntary care and dangerousness are high and increasing for children and adolescents. These increasing acuity levels reinforce findings from the focus groups.
- Occupancy rates are high for all programs except adolescent inpatient. Even though more adolescents are served each year, lengths of stay are falling more quickly. Overall, this inpatient resource appears to be in excess of need. This will be addressed more below in the discussion of population size estimates.
- Lengths of stay data suggest different profiles for each age group:
    - Adolescents served seem to receive primarily acute treatment (over half served in 14 days or less), with only 25% served over 30 days.
    - Children and adults served receive somewhat longer-term care, with 26% and 30%, respectively, served in 14 days or less and another 27% and 21%, respectively, served in 15-30 days. Approximately half in each group (45% and 50%, respectively) receive care for over a month.
    - Older adults have even longer courses of treatment, falling clearly into three groups: 30% served acutely in a week or less, 24% served by an intermediate stay of 15 to 60 days, and 45% receiving care over two months.

The following table summarizes similar data for three other CMHI programs. The increasing ethnic diversity of the Mountain Star RTC consumer population was noted above. Occupancy is high and stable for the two residential programs, but very low for the MSS Unit, suggesting a shrinking population base. However, MSS Unit data will need to be reviewed in more detail prior to reaching specific conclusions.

Table 29: Other CMHI Consumer Population Data Summary by Age Groups

Variable	Mountain Star RTC	CCR	MSS Unit
Gender	73% male – variable over last three years.	Data vary, no trend.	Data not yet available
Ethnicity / Race	African American (27%), Hispanic (18%), multi-racial (15%) increasing sharply.	African American (7.4%) and White (66.7%) decreasing, Hispanic increasing (22.6%).	Data not yet available
Occupancy	94%, very high since fully operative.	84%, stable.	38%, down sharply over past three years.

Discussion of Future Population to be Served

Review of the demographics and utilization patterns above shows several sub-groups of consumers served by the Institutes. These groupings build upon and offer additional detail for recommendations from earlier audits and reviews of CMHI services. For example, the 1996 ***Performance Audit: Impact of Managed Care on the State Mental Health Institutes***[16] and the 1996 ***Final Report***[17] by the Commission on the Future of the Institutes both described the civil population that should continue to be served by the Institutes. The 1996 audit report summarized this population as persons "who are highly dangerous to themselves or others," noting that "even if appropriate alternatives are available, community providers report they cannot always serve these persons effectively" (page 36). The report goes on later to state that "there is a need for the State to provide direct inpatient services to certain populations in the mental health system" and the report described this group with some specificity:

> "Additionally, community providers confirmed a need for the State to provide inpatient services to people (1) who have not responded well to community treatment options; (2) who have conditions that require a longer length of stay than is appropriate for a private hospital; or (3) who require a specialized treatment program. These people cannot be served appropriately in the community." (page 40)

Additionally, the 1997 State of Colorado Mental Health System Strategic Plan notes:[18]

> "In 1981, the Colorado General Assembly, in an advisory statement, expressed the intent that the highest priority for state-appropriated funds allocated to the mental health system should be used 'principally to contract for services for the seriously, critically or persistently mentally ill.' This legislative statement recognized that public programs could not meet all the mental health needs of Colorado's citizens, and that the limited available funding should therefore be targeted toward priority populations." (page 5)

The 1998 ***Open Cases Study,***[19] in its recommendations, indicated that:

> "Information from this study clearly indicates that the safety-net provided by the state Institutes involving the medium to long-term treatment for adults with high security needs and management issues, is a necessary and essential component of Colorado's system of mental health care." (page 43)

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[16] State of Colorado, Office of the State Auditor, 1996.

[17] Commission on the Future of the Colorado Mental Health Institutes. (1996). Final Report: Commission on the Future of the Colorado Mental Health Institutes. State of Colorado.

[18] State of Colorado Mental Health Planning and Advisory Council (1997). State of Colorado Mental Health System Strategic Plan. State of Colorado, Department of Human Services.

[19] Bartsch, D.A. and Wackwitz, J.H. (1998). An Open Case Evaluation of State Institute and High Risk Community Consumers: The Potential for Bed and Resource Reallocation, Technical Report. State of Colorado, Mental Health Services, Decision Support Services.

These distinctions, highlighting the need for continued care for those most in need, can now be addressed with more specificity. Two groups of consumers seem to fall clearly into the group of consumers fitting the core mission of the Institutes. The first are those in need of long-term care. This group was strongly endorsed by the state reports just noted and was rated as "most important" across eight of nine focus groups with 106 participants across the Colorado. 25% of adolescents, approximately half of children and adults, and 59% of older adults currently stay over one month at the CMHIs. The focus group participants knowledgeable of such issues – the CMHI clinical staff and the psychiatrists – discussed multiple reasons for such stays, including refractory psychiatric conditions that for a few people require stays of many years, treatment of previously untreated acute conditions, complex diagnostic conditions, and intermediate-term medication changes (medication changes taking longer than a typical acute stay of two weeks or less).

Spaulding (1999) has noted that, notwithstanding the outpatient medication and support services that are often available, outcome studies continue to show that there is a significant minority of consumers who do not achieve stable functioning and a decent quality of life.[20] Numerous others in the national literature endorse that state psychiatric hospitals are and will continue to be a necessary part of the continuum of care for such persons.[21] It seems to be a matter of general consensus that state psychiatric hospitals must continue to perform this important role in the system of care for the most-in-need consumers.

The second group are those with very acute needs who pose a great danger to themselves or others. This group was also strongly endorsed by the state reports mentioned above, as well as focus group participants as a significant target group for the CMHIs. Multiple indicators pointed to this priority – complex diagnoses discussed by the focus groups, issues of sexual predation, increasing levels of involuntary treatment and dangerousness, and admissions for diagnostic issues outside the traditional mental health domain. Many focus group participants expressed concern about the erosion of scarce mental health resources through the treatment of persons whose conditions fall outside a typical definition of mental health care. These would include persons with primary organic brain disorders including dementia and persons with primary substance abuse disorders, both groups that seem to be currently served in significant numbers by the CMHIs. No data were available regarding sexual perpetrators, but the focus group input clearly identified this as another group with high acuity. They also noted two subgroups of sexual perpetrators: (1) Those with treatable mental health conditions and (2) Those who experience little potential benefit from treatment and primarily need containment to protect the community.

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[20] Spaulding, W.D. (1999). State hospitals in the twenty-first century: A formulation. *New Directions for Mental Health Services*, no. *84* (Winter). San Francisco: Jossey-Bass. (pp. 113-122).

[21] These include:

Bachrach, L. (1999). The state of the state hospital at the turn of the century. New Directions for Mental Health Services, no, 84 (Winter). San Francisco: Jossey-Bass. (pp. 7-24).

Bachrach, L. (1996). The state of the state mental hospital in 1996. *Psychiatric Services*, 47(10), 1071-1078.

Fisher, W.H., Simon, L., Geller, J.L., Penk, W.E., Irvin, E.A., and White, C.L. (1996). Case mix in the "downsizing" state hospital. *Psychiatric Services*, 47(3), 255-262.

These two groups appear to be qualitatively different from other consumers who could be served by the Institutes in that there is clear consensus that they should be served and that there are no alternative services that could be made available. Without specific chart reviews, the exact number of current CMHI consumers falling into these groups cannot be determined. However, one quarter of adolescent, half of child and adult, and three in five older adult inpatient consumers seem to fall into the longer term group. Other indicators show large numbers of highly acute consumers, many of whom will require longer term treatment and also fall into the group of longer-term inpatient consumers. This overlap cannot be determined within the scope of the current study, so the overall number of consumers falling within this core mission of the Institutes cannot be definitively specified.

Another group of consumers can be described as those in need of care currently offered by the Institutes due to a lack of community-alternatives. Subpopulations of this group appear to include:

- Persons in need of short-term, acute inpatient care, commonly defined as stays of two weeks or less. Half of adolescents, approximately 25% of children, and 30% of adults and older adults appear to fall into this group.
- Some of the consumers with complex, sometimes dangerous conditions falling outside of the typical scope of mental health diagnoses also seem to fall into this group. Based on the data in this report and the input of numerous focus group participants, persons with primary dementia and substance abuse conditions seem currently to utilize a significant portion of CMHI services. Additionally, focus group participants suggest that a significant number of persons who pose a high level of danger due to their sexual perpetration behaviors, but who do not seem to suffer from any specific mental illness are also utilizing CMHI services.
- Focus group participants and data sources described later in this document note a lack of adequate community-based alternatives to the CMHIs such as local inpatient care, assertive community treatment and mobile crisis response services. Additional data are being gathered to detail this issue, but assuming that some level of appropriate services are lacking, it can be reasoned that some number of current CMHI consumers are also being served due to a lack of a needed local alternative.
- Persons in need of residential care and medical/surgical services.

It would seem that these categories of consumers could be appropriately served by the Institutes if (1) there is not an adequate alternative closer to home or otherwise in the community or (2) the Institutes have a competitive expertise in this area. If these criteria are met, it may be warranted for the CMHIs to provide care for persons needing RTC or step-down residential care, adults with co-occurring mental health and substance abuse disorders (even if the substance abuse disorder is primary), and adults and older adults suffering from organic brain disorders. However, if more appropriate alternatives are available, there would be no reason to protect a CMHI role for any or all of these groups of consumers.

Types of CMHI Services Needed

The following categories of service are needed to respond to the needs of the populations just described.

Core inpatient capacity - A core inpatient capacity able to provide long term care, stabilization of highly acute inpatient consumers, and treatment of complex conditions (including co-occurring diagnoses) is needed for all four age groups. This is the core mission of the CMHIs and state hospitals in general and is generally viewed as needing protected state funding. As Fisher et al. (1996), Cuffel (1997)[22] and others[23] have pointed out, with the downsizing that has occurred in recent years, state hospitals have and will continue to experience increased demands to deal expertly with the most difficult-to-serve consumers. In turn, they need sufficient resources to work effectively with the consumers representing their core mission. This service was among those most highly endorsed by focus group participants. The long-term mission was the issue rated as "most important" across the most groups (eight of nine focus groups, including consumers, family members, parents of youth, CMHI staff, regional mental health leaders, state mental health leaders and psychiatrist leaders) and the largest number of stakeholders (106).

Other inpatient services – For the foreseeable future, a large number of consumers will also need other inpatient services, including acute care and treatment of non-mental health conditions (e.g., dementia, substance abuse). To the extent that these services take advantage of efficiencies and create value for the state, this function may be ongoing. However, to the extent that more appropriate community-based services (e.g., local inpatient units, assertive community treatment) or services in other systems (e.g., substance abuse, dementia) are developed, these services may eventually not be needed. This capacity does not need to be protected, but can vary over time as needs change.

Many authors have noted that, with robust community-based services in place, most consumers who otherwise would have needed state psychiatric hospital services will no longer need them and can live safely in the community.[24] The lack of appropriate community-based alternatives to

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[22] Cuffel (1997) Disruptive behavior and the determinants of costs in the public mental health system. *Psychiatric Services*, 48(12), 1562-1566.

[23] Spaulding, 1999; Bachrach, 1999; Bachrach, 1996.

[24] These include:

Deci, P.A., et al. (1997). Downsizing state operated psychiatric facilities. In S.H. Henggeler, A.B. Santos (Eds.), Innovative approaches for difficult-to-treat populations. Washington, D.C.: American Psychiatric Association. (pp. 371-394).

Dewees, M. et al. (1996). Community integration of former state hospital patients: Outcomes of a policy shift in Vermont. *Psychiatric Services*, 47(10), 1088-1092.

Essock, S.M. et al. (1998). Cost-effectiveness of assertive community treatment teams. *American Journal of Orthopsychiatry*, 68(2), 179-190.

Hadley, T.R. et al. (1997). Community treatment teams: An alternative to state hospital. *Psychiatric Quarterly*, 68(1), 77-90.

Kamis-Gould, E., Snyder, F., Hadley, T.R., and Casey, T. (1999). The impact of closing a state psychiatric hospital on the county mental health system and its clients. *Psychiatric Services*, 50(10), 1297-1302.

the CMHIs was also the single most important rated issue discussed by three or more of the focus groups. It was discussed by 99 of the 123 participants, across seven groups including consumers, family members, parents of youth, regional mental health leaders, state mental health leaders and psychiatrist leaders.

Studies of hospital downsizing and closings in other states have found that the majority of hospitalized consumers who were placed in community have been able to remain in the community safely for extended periods of time.[25] However, current inpatient capacity that makes up for lack of needed inpatient and outpatient alternatives in the community will need to be maintained until alternatives are available. The literature consistently shows that successful downsizing and hospital closing efforts have utilized extensive planning periods for enhancing community programs before reducing their inpatient censuses.[26] States that have not used as careful planning, and that have not had strong community-based programs in place when they downsized their state hospitals, did not evidence such good outcomes.[27]

Once alternatives are in place, some need for CMHI services will likely decrease, much as it has for the children and adolescent inpatient services to date. Ongoing evaluation and monitoring will be essential to ensure that any changes are centered on a planful approach that lets the downsizing be methodical and responsive to stakeholders. Literature documenting the experiences of other state hospitals, including some successful downsizing, suggest an approach allowing an adequate amount of time for: (1) stakeholders and state and local mental health planners to define clearly what community-based services need enhancements or additional capacity; (2) community-based providers to develop and implement the programs; and (3) mental health planners and evaluators to determine that the programs (e.g., assertive community treatment) have been implemented with fidelity to the key aspects of community-based models that are known to be effective.[28]

Leff, J., Trieman, N., and Gooch, C. (1996). Team for the Assessment of Psychiatric Services (TAPS) Project 33: Prospective follow-up study of long-stay patients discharged from two psychiatric hospitals. *American Journal of Psychiatry*, 153(10), 1318-1324.

McGrew, J.H., Wright, E.R., & Pescosolido, B.A. (1999). Closing of a state hospital: An overview and framework for a case study. *Journal of Behavioral Health Services Research*, 26(3), 236-245.

McGrew, J.H., Wright, E.R., Pescosolido, B.A., & McDonel, E.C. (1999). The closing of central state hospital: Long-term outcomes for persons with severe mental illness. *Journal of Behavioral Health Services Research*, 26(3), 246-261.

[25] Cuffel, 1997.

[26] These include:

Deci, et al, 1997.

McDonel, E.C., Meyer, L., and Deliberty, R. (1996). Implementing state-level mental health policy reforms in Indiana: Closing a state-operated psychiatric hospital and passing major mental health reform legislation. *International Journal of Law and Psychiatry*, 19(3/4), 239-264.

Monroe-DeVita, M.B., & Mohatt, D.F. (1999). The state hospital and the community: An essential continuum for persons with severe and persistent mental illness. In W.D. Spaulding (ed.), The role of the state hospital in the twenty-first century. *New Directions for Mental Health Services*, no. *84* (Winter). San Francisco: Jossey-Bass. (pp. 85-98)

[27] DeSisto, MJ, Harding, CM, McCormick, R.V., Ashikaga, T., & Brooks, G.W. (1997). The Main-Vermont comparison of the long-term outcome of serious mental illness. *British Journal of Psychiatry*.

[28] Deci, 1997; Dewees, et al, 1996; Essock, et al, 1998; Hadley, et al, 1997; Kamis-Gould, et al, 1999; Leff, et al, 1997; McGrew, et al, (1999a); McGrew, et al, (1999b).

A key finding of the focus groups was a perception of inadequate management and financial resources in other human service systems. This received a "most important" rating regarding both the child welfare and developmental disabilities systems and was discussed in three groups with 42 participants. These two specific issues were rated only in the regional mental health leader group, but they were discussed in the state leadership and psychiatric leadership groups as key factors putting pressure on current CMHI capacity. Other related issues discussed but rated less highly included inadequate services available for persons with organic brain disorders and sexual offender issues.

Other services – Other services that could be provided in the community could also continue to be provided by the CMHIs. Some services such as the step-down residential service or RTC fill an important need that may very well be ongoing. If utilization were sufficient, the Medical / Surgical Services Unit would fall into this category. It has been repeatedly noted in the literature that services which consistently and effectively help consumers make the transition from the hospital to the community are crucial, both for the consumer's well-being and for his or her ability to connect with community programs and, therefore, reduce the risk or need for rehospitalization.[29]

Treatment approaches – In addition to specific modalities of treatment that should be provided by the CMHIs in the future, the focus groups and national literature suggested several treatment principles that should be incorporated across any CMHI services that are continued. These include:

- **Rehabilitation and active treatment** –The extant literature on the role of the state psychiatric hospital in contemporary public mental health systems and findings from the focus groups clearly reinforce the view that the CMHIs should not be seen as simply a repository for consumers who are not doing well in the community. Rather, the CMHIs need to be seen as a vital component of the continuum of care, in which active rehabilitation[30] and sophisticated treatment and diagnostic services are provided to consumers most in need.[31] Services need to be targeted to helping consumers obtain the skills necessary to be successful in the community, whenever possible. The Front Range consumer and the parent of child/adolescent consumer focus groups stressed the importance of education regarding one's illness, medications, the role of inpatient care, and coping skills. The CMHI staff and

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[29] These include:

Olfson, M., Mechanic, D., Boyer, C.A., and Hansell, S. (1998). Linking inpatients with schizophrenia to outpatient care. *Psychiatric Services*, 49(7), 911-917.

Walker, R., Minor-Schork, D., Bloch, R., and Esinhart, J. (1996). High risk factors for rehospitalization within six months. *Psychiatric Quarterly*, 67(3), 235-243.

Zahniser & McGuirk (1995, August). Western states' continuity of care expanded project report. (A project of the Western States' MHSIP User Group.) Western States' Mental Health Statistics Improvement Program User Group Meeting, Juneau, Alaska.

[30]These include:

Spaulding, 1999.

Bellus, S.B., Kost, P.P., and Vergo, J.G. (2000). Preparing long-term inpatients for community re-entry. *Psychiatric Rehabilitation Journal*, 23(4), 359-364.

[31] These include: Bachrach, 1999; Spaulding, 1999.

leadership participating in this study have expressed strong support for these concepts, and this continued support is encouraged by the findings of this study.

- **Co-occurring diagnosis services** – In addition, services need to include expert co-occurring diagnosis assessment and treatment,[32] as well as expert risk assessment services.[33]
- **Increased family and caregiver involvement in CMHI services** – These approaches were rated among the "most important" issues and were discussed in four focus groups with 44 participants. This issue was stressed by all three family member and parent focus groups, as well as by the Western Slope consumer group.
- **Better coordination of care between the CMHIs and community providers** –In a study of patients discharged from state psychiatric hospitals in 10 Western states, people who received an outpatient contact within 60 days of being discharged from the inpatient setting were far less likely to be rehospitalized (0.3%) than those who did not receive an outpatient contact within 60 days (18%).[34] In the focus groups, this issue was rated "most important" and was discussed in five groups with 57 participants. Family member, consumer, and parent participants addressed on this issue.

Estimated Size of Population Needing CMHI Services

Population in Need Summary

Determination of the number of persons in need of CMHI services depends on multiple factors, including:

- The clinical characteristics of persons currently served in the public mental health system.
- The adequacy of community-based inpatient and outpatient alternatives to CMHI programs.
- Private hospital capacity.
- Population growth and other demographic trends.
- Data from other Western states.
- Anticipated impact of new psychotropic medications.

Each of the areas is addressed below in order to build a comprehensive picture of the populations in need of CMHI services.

The review of clinical characteristics of persons currently served focuses only upon the adult inpatient population served by the Institutes. The other components of this section focus more broadly. Given that adult inpatient services at the CMHIs are more protected from competition due to the bed allocation system and dependence on direct state funding (as opposed to third

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[32] The system of care should include state-of-the-art outpatient programming and should be designed to facilitate coordination between inpatient-outpatient programming. For description and research evidence for state-of-the-art outpatient programming, see: Drake, R.E. et al. (1998). Assertive community treatment for patients with co-occurring severe mental illness and substance use disorder: A clinical trial. *American Journal of Orthopsychiatry*, 68(2), 201-215.

[33] Elbogen, E.B., & Tomkins, A.J. (1999). The psychiatric hospital and therapeutic jurisprudence: Applying the law to promote mental health. In W.D. Spaulding (ed.), The role of the state hospital in the twenty-first century. *New Directions for Mental Health Services*, no. *84* (Winter). San Francisco: Jossey-Bass. (pp. 71-84)

[34] Zahniser, et al, 1995.

party funds such as Medicaid), it is useful to have an additional analysis of the underlying needs in Colorado for these services.

Clinical characteristics of adults served in the public mental health system – Analysis here consists of a review of a 1998 study conducted by the office of Mental Health Services in the Colorado Department of Human Services which documented the clinical characteristics of persons served by the Institutes and the overall mental health system. The 1998 Open Cases Study was conducted in response to the October, 1996, performance audit report discussed above.[35] This report examined the impact of capitated managed care on the Institutes and recommended that Mental Health Services conduct an open cases study of Institute and high-risk adult consumers.

The Open Cases Study was intended to address two issues with respect to the balance between hospital and community resources:

1) How many adults served in the Colorado Mental Health Institutes could be served appropriately in the community?
2) How many adults served in the Colorado Public Mental Health System would need to be served in the Colorado Mental Health Institutes?

The study surveyed two groups of consumers in treatment on a particular date in 1997. One group consisted of all adults in treatment at either of the CMHIs (n=242). The other group consisted of a sample of adult consumers (n=1982) involved in community services at any of the CMHCs or MHASAs and deemed to be at risk for hospitalization either because they were treated at a CMHI in the previous six months, had a psychiatric admission to a community hospital or community hospital alternative in the previous six months, or were currently at high risk of hospitalization due to other clinical characteristics. Data collected through the Colorado Client Assessment Record (CCAR) and an assessment of treatment and service needs were analyzed to yield ordered severity groups, focusing on five primary indicators as follows:

1) An estimate of the number of Institute beds currently occupied by members of the group;
2) The relative need for Institute care at the time of admission or in times of maximum crisis;
3) The current level of problem severity and need for security;
4) The proportion of consumers within a group currently in treatment in the community;
5) The proportion of consumers in the community currently at risk of admission to an Institute.

Four different severity groups were identified:

- The first severity group, characterized as having been at lowest need for Institute care at the time of their admission (based on low to moderate security needs and moderate problem severity levels) was found to occupy 57 adult Institute beds (23.5%). Of individuals with this profile, 95% were in treatment in the community, with 24% considered at risk of being admitted to a state Institute.
- The second severity group, characterized as probably being in need of security and management services available at the Institutes during periods of crisis, such as at the point of their hospital admission, were found to occupy 34 adult Institute beds (14.1%). This

[35] State of Colorado, Office of the State Auditor, 1996.

group was described as having low current security needs and moderate levels of overall problem severity. Of individuals with this profile, 90% were in treatment in the community, with 43.3% of them considered currently at risk of admission to an Institute.

- The third severity group, those with moderate security needs and moderate problem severity, were found to occupy 30 adult Institute beds (12.4%). Of individuals with this profile, 73% were in treatment in the community, with 55.4% of them considered at risk of admission to an Institute.
- The fourth severity group, those with moderate to high security needs and high levels of problem severity, were found to occupy 121 adult Institute beds (50%). Of individuals with this profile, 72% were in treatment in the community, with 64.8% of them considered at risk of admission to an Institute. In addition, as many as half of consumers in this group who were currently in an Institute were believed to require the level of security and management provided at a CMHI, even after they have received maximum benefit from their hospitalization.

These findings indicate that some percentage of CMHI consumers could be served in the community, assuming the presence of adequate community alternatives. Note that 95% and 90% respectively of persons meeting the profiles of the first two severity groups were in treatment in the community, and over 70% of those in the most severe group were also being served in the community. While this does not assess the adequacy of those community placements, it strongly suggests that some component of persons currently served by the Institutes could be served in the community, a finding in line with the analysis of current utilization of the CMHIs discussed previously in this report.

It should be added that the Open Cases Study emphasized that the success of any reallocation policy rested on the availability of an adequate number and placement of appropriate community-based alternatives to the CMHIs. While the Open Cases Study did not include an assessment of the availability of community alternatives, data were gathered through Institute and community clinicians' and case managers' responses about the existence of community programs that did indicate that not enough Institute alternatives were in place. For example, for the community sample, respondents noted that all service needs could not be met in the community for 64.5% of the sample. In addition, for at least 80.7% of the Institute sample, there was no more than one potentially appropriate community-based service facility in existence (notwithstanding availability or optimal fit).

Overall, the Open Cases Study concluded that the safety net provided by the Institutes was both necessary and essential for adults with high security needs and management issues in need of medium to long-term treatment. Recommendations were made that assessment of the transition and maintenance costs of system changes, as well as community and regional needs, capacity, and feasibility, should be made before reallocation decisions were reached. The study also recommended that resources be moved only after the availability of appropriate alternatives were secured, and that any changes be implemented gradually to avoid sudden, unanticipated staffing and services changes.

Community-based inpatient and outpatient alternatives to CMHI services – The Open Cases Study indicated that many Institute consumers seemed to be able to be served in the community and were not and that CMHI and community-based clinicians agreed that alternative services were not adequate.

Data gathered for the December 20, 2000 ***CMHI Focus Group Report*** addressed this issue in detail. There was much discussion across the groups regarding the adequacy of community alternatives to inpatient care. The overall issue of their adequacy was the single highest rated theme discussed in three or more groups, making it both the most important and most prevalent issue discussed (rated "most important" and discussed by seven groups with 99 participants). Several specific issues related to the adequacy of community alternatives were discussed. These included:

- The need to develop more community-based residential placements and services.
- The inadequacy of the local system of care on Colorado's Western Slope.
- The need to develop assertive community treatment (ACT) services.
- The sense that current community alternatives are of good quality.

TriWest Group is currently conducting a survey of community-based inpatient and outpatient alternatives to CMHI services. Results from this survey are currently being received and initial analyses have begun. As these results are analyzed and the quantity and quality of community-based alternatives documented, more specific recommendations about the level of need for CMHI services will be possible. These recommendations are expected in subsequent reports and will be included in the final Operational Plan.

Private hospital capacity – An important subset of the CMHI alternatives are other private and public psychiatric inpatient programs in the state. The focus groups documented a clear perception of inadequate overall inpatient services in Colorado (rated "most important," discussed in five groups by 74 participants). The psychiatric leadership, CMHI staff, parent groups, regional mental health leaders and state leadership groups all addressed this issue. The decrease in overall psychiatric inpatient capacity over the past decade, reduced private child and adolescent capacity in the past year due to the facility closing by Cleo Wallace, and the recent closing of psychiatric inpatient capacity in Durango were noted by focus group participants as putting upward pressure on the number of persons needing CMHI services.

The CMHI alternatives survey just described will detail this information more fully, but the Colorado Health and Hospital Association (CHA) has been able to provide some initial data on current psychiatric inpatient capacity in Colorado and recent program closures. The following table describes some inpatient programs that have closed or significantly downsized in the past several years. Much of the capacity lost has involved adolescent capacity, but child and adult capacity has also been impacted.

Table 30: Recent Inpatient Program Closures[36]

Provider	Year Closed	Population Served	Beds Closed
Columbine Bethesda	1998	Adolescents, Adults	44
Mountain Crest	1998	Adult, Adolescent	32
Cleo Wallace	2000	Child, Adolescent	29

The impact of facility closures appears to have particularly impacted two groups: children and uninsured persons. The ***CMHI Focus Group Report*** documented multiple stakeholder concerns about pressure on child inpatient capacity. Regarding uninsured persons, a joint CHA / Colorado Behavioral Health Care Council memo to the state legislature dated May, 2000, characterized the situation as "a crisis with regard to access, funding and provision of services to non-enrolled indigent persons needing mental health services." This memo detailed a recent CHA study of behavioral health utilization in Colorado emergency rooms, documenting a 42% increase in uninsured consumers served and a 38% increase in charges for uninsured consumers between 1996-97 and 1998-99.

Data reported by CHA regarding psychiatric inpatient capacity as of August 2000, are presented in the following table. This shows that while non-CMHI facilities make up a significant portion of Colorado's inpatient capacity, CMHI capacity is a critical component of the overall capacity. Initial review of this data and conversations with CHA representatives caution that this data may be incorrect given the fluid nature of inpatient capacity in Colorado. These data will be verified and augmented through the CMHI alternatives survey described previously.

Table 31: CMHI and CHA-reported Non-CMHI Inpatient Capacity in Colorado as of August, 2000[37]

	Adult	Child / Adolescent	Older Adult
CMHI Inpatient Capacity	**247**	**75**	**95**
Percent of total	35.5%	51.0%	67.4%
Non-CMHI Facilities	**448**	**78**	**46**
Percent of total	64.5%	49.0%	32.6%
TOTAL	**695**	**153**	**141**

Population-based estimates – With the exception of adolescent inpatient services and inpatient medical / surgical services, all CMHI inpatient programs are currently utilized in excess of 90% of their capacity – a level of utilization which in and of itself speaks to the need for these programs. While the Open Case Study data, other consumer data reviewed earlier, and forthcoming analysis of community-based CMHI alternatives will help determine the optimal mix of CMHI and community-based services that should be developed over time, a review of population trends addresses the single factor most directly impacting service need – the number of people in need.

[36] Compiled from CHA and Colorado Department of Public Health and Environment data.
[37] Non-CMHI capacities compiled from partially verified CHA data.

The following analysis assumes that the distribution of clinical need for CMHI services is proportional to the growth of the overall state and catchment area population. Therefore the following analysis focuses primarily on census bureau estimates of population changes across Colorado as a whole and within specific catchment areas.

In addition, the issue of change in the number of persons without insurance of any kind (including governmental programs such as Medicaid and Medicare) is included, given the key role of the CMHIs in providing indigent mental health care.

Colorado is one of the fastest growing states in the nation. The 2000 U.S. Census Count for Colorado places the state's population at 4,301,261, an increase of 30.6% from the 1990 census count of 3,294,394. This tremendous growth in state population despite relatively static CMHI capacity raises the question of whether capacity has kept up with need.

To get at this more clearly, population data were divided by catchment area and examined at five points in time: 1990, 1995, and the last three calendar years for which detailed estimates were available (1997, 1998, 1999). Since 2000 Census detailed data are not yet available, population estimates by the Colorado Department of Local Affairs based upon the 1990 Census were used. The following table presents these data.

A review of these data yields the following points:

- Over the past three years, five catchment areas have grown at a pace more than 10% faster than the overall statewide increase of 5.2%: Southwestern Colorado (5.8%), Colorado West (5.9%), Midwestern Colorado (6.1%), Boulder (6.6%), and Arapahoe/Douglas (9.7%).
- Nine catchment areas grew at a pace more than 10% under the statewide figure: Southeastern Colorado (2.5%), Centennial (2.9%), Denver (2.9%), Aurora (3.2%), Spanish Peaks (3.2%), Jefferson (3.3%), San Luis Valley (3.8%), Pikes Peak (4.6%) and West Central Colorado (4.7%).

Table 32: Population by Catchment Area, 1990, 1995, 1997, 1998, 1999[38]

CMHC	County	1990 Population	1995 Population	1997 Population	1998 Population	1999 Population
Denver Metro		1,859,008	2,111,323	2,208,204	2,266,863	2,331,916
Adams (includes Aurora)	**Total**	**265,038**	**299,775**	**314,191**	**322,363**	**330,415**
	Adams	265,038	299,775	314,191	322,363	330,415
Arapahoe / Douglas (includes Aurora)	**Total**	**451,902**	**550,823**	**595,003**	**624,644**	**652,862**
	Arapahoe	391,511	446,200	464,320	478,570	488,367
	Douglas	60,391	104,623	130,683	146,074	164,495

[38] Population estimates from the Colorado Department of Local Affairs.

Table 32: Population by Catchment Area, 1990, 1995, 1997, 1998, 1999[38]

CMHC	County	1990 Population	1995 Population	1997 Population	1998 Population	1999 Population
Aurora	**Total**	**222,103**	**245,087**	**249,907**	**254,859**	**258,008**
	City of Aurora	222,103	245,087	249,907	254,859	258,008
Boulder	**Total**	**225,339**	**256,737**	**264,975**	**272,841**	**282,445**
	Boulder	225,339	256,737	264,975	272,841	282,445
MHCD/ABC	**Total**	**467,610**	**500,541**	**517,194**	**521,644**	**532,066**
	Denver	467,610	500,541	517,194	521,644	532,066
Jefferson	**Total**	**449,119**	**503,447**	**516,841**	**525,371**	**534,128**
	Clear Creek	7,619	8,675	8,868	8,984	9,167
	Gilpin	3,070	3,683	4,058	4,273	4,571
	Jefferson	438,430	491,089	503,915	512,114	520,390
Southern Colorado		**701,312**	**807,553**	**839,048**	**855,929**	**873,779**
Pikes Peak	**Total**	**416,656**	**494,390**	**514,251**	**526,154**	**537,654**
	El Paso	397,014	466,172	481,780	492,180	502,133
	Park	7,174	10,713	12,583	13,331	14,218
	Teller	12,468	17,505	19,888	20,643	21,303
San Luis Valley	**Total**	**40,207**	**44,035**	**45,711**	**46,469**	**47,423**
	Alamosa	13,617	14,941	15,703	16,048	16,461
	Conejos	7,453	7,750	7,881	7,936	8,024
	Costilla	3,190	3,411	3,500	3,538	3,499
	Mineral	558	630	679	696	718
	Rio Grande	10,770	11,748	12,037	12,205	12,382
	Saguache	4,619	5,555	5,911	6,046	6,339
Southeastern	**Total**	**48,770**	**51,218**	**52,267**	**52,592**	**53,577**
	Baca	4,556	4,443	4,584	4,556	4,551
	Bent	5,048	5,676	5,819	6,211	6,241
	Crowley	3,946	4,499	4,704	4,747	5,608
	Kiowa	1,688	1,726	1,779	1,779	1,783
	Otero	20,185	21,189	21,457	21,296	21,272
	Prowers	13,347	13,685	13,924	14,003	14,122
Spanish Peaks	**Total**	**142,825**	**152,692**	**157,202**	**159,851**	**162,270**
	Huerfano	6,009	7,071	7,537	7,626	7,653
	Las Animas	13,765	15,440	15,795	15,914	16,119
	Pueblo	123,051	130,181	133,870	136,311	138,498

Table 32: Population by Catchment Area, 1990, 1995, 1997, 1998, 1999[38]

CMHC	County	1990 Population	1995 Population	1997 Population	1998 Population	1999 Population
West Central	**Total**	**52,854**	**65,218**	**69,617**	**70,863**	**72,855**
	Chaffee	12,648	14,868	15,716	15,882	16,347
	Custer	1,926	2,718	3,220	3,369	3,596
	Fremont	32,273	40,202	42,378	43,271	44,519
	Lake	6,007	7,430	8,303	8,341	8,393
Northern Colorado		401,820	468,135	491,112	502,583	514,341
Centennial	**Total**	**83,863**	**96,489**	**101,811**	**103,171**	**104,788**
	Cheyenne	2,397	2,344	2,401	2,466	2,414
	Elbert	9,646	14,631	17,487	18,639	19,810
	Kit Carson	7,140	7,309	7,452	7,584	7,707
	Lincoln	4,529	6,300	6,549	6,631	6,689
	Logan	17,567	18,527	18,828	18,671	18,786
	Morgan	21,939	25,396	26,696	26,718	27,016
	Phillips	4,189	4,536	4,654	4,661	4,620
	Sedgwick	2,690	2,648	2,729	2,679	2,716
	Washington	4,812	5,363	5,386	5,355	5,243
	Yuma	8,954	9,435	9,629	9,767	9,787
Larimer	**Total**	**186,136**	**217,127**	**226,326**	**231,548**	**237,494**
	Larimer	186,136	217,127	226,326	231,548	237,494
North Range	**Total**	**131,821**	**154,519**	**162,975**	**167,864**	**172,059**
	Weld	131,821	154,519	162,975	167,864	172,059
Western Colorado		332,297	395,159	416,088	428,965	440,797
Colorado West	**Total**	**211,656**	**249,242**	**262,808**	**271,000**	**278,377**
	Eagle	21,928	28,860	32,099	33,882	35,522
	Garfield	29,974	35,980	38,252	40,458	41,796
	Grand	7,966	9,219	9,879	10,140	10,519
	Jackson	1,605	1,733	1,771	1,788	1,801
	Mesa	93,145	106,035	110,668	113,383	115,783
	Moffat	11,357	12,111	12,464	12,687	12,882
	Pitkin	12,661	14,372	14,400	14,342	14,341
	Rio Blanco	6,051	6,966	7,117	7,139	7,103
	Routt	14,088	16,718	17,348	17,713	18,195
	Summit	12,881	17,248	18,810	19,468	20,435

Table 32: Population by Catchment Area, 1990, 1995, 1997, 1998, 1999[38]

CMHC	County	1990 Population	1995 Population	1997 Population	1998 Population	1999 Population
Midwestern	**Total**	**62,091**	**75,490**	**78,827**	**81,766**	**83,660**
	Delta	20,980	25,175	25,979	26,791	27,365
	Gunnison	10,273	11,906	12,307	13,322	13,598
	Hinsdale	467	642	714	746	750
	Montrose	24,423	29,494	30,996	31,541	32,407
	Ouray	2,295	3,046	3,264	3,384	3,537
	San Miguel	3,653	5,227	5,567	5,982	6,003
Southwestern	**Total**	**58,550**	**70,427**	**74,453**	**76,199**	**78,760**
	Archuleta	5,345	7,113	8,541	9,142	9,581
	Dolores	1,504	1,598	1,721	1,822	1,876
	La Plata	32,284	39,190	40,939	41,896	43,601
	Montezuma	18,672	21,965	22,696	22,800	23,163
	San Juan	745	561	556	539	539
State of Colorado		**3,294,473**	**3,782,170**	**3,954,452**	**4,054,840**	**4,160,842**

In addition to the overall pressure created by growth in statewide population, the increasing number of uninsured persons in Colorado adds additional pressure. The U.S. Census Bureau reported in September 2000, that the percent of Colorado residents without insurance jumped in 1999 to 16.8% after remaining steady at 15.1% in 1997 and 1998. This is contrast to the overall United States figures that saw the number of uninsured fall to 15.5% in 1999 from 16.3% in 1998, the first annual decline in 12 years.

Focus group participants strongly endorsed the pressure of an increasing uninsured population on the Colorado inpatient system and CMHIs. This issue was rated "most important" and was discussed in two groups with 25 participants (psychiatric leadership and state leadership groups). The related issue of inadequate resources for persons without insurance was focused upon by the consumer and family member groups held on the Front Range. This was also rated "most important" and was discussed in two groups with 30 participants.

The following table presents data examining trends in population, the number of uninsured and Medicaid and non-Medicaid persons served in the Colorado public mental health system. The estimated growth in the number of uninsured persons in Colorado in the past year was over five times the rate of growth in the statewide population. Growth in the number of non-Medicaid and Medicaid mental health consumers served also rose much faster than population growth in 1998-1999.

The decrease in the number of non-Medicaid consumers served in 1999-2000 has been attributed by Colorado Mental Health Services to limited service availability, not a reduction in need.

Mental Health Services data comparing the total level of state and federal funding for non-Medicaid (i.e., indigent) mental health services to Medicaid mental health funding underscores this point, showing Medicaid funding to be nearly five times that of non-Medicaid funding per person served. Notice also that per capita non-Medicaid mental health funding has failed to keep up with population growth on a per capita basis, let alone keep up with inflation.

Table 33: Population and Mental Health Funding Data – Trends Over Last 3 Years

	1997-1998	1998-1999	1999-2000
State Population (calendar year)	3,954,452	4,054,340	4,160,842
Percent Change from Previous Year	n/a	2.53%	2.63%
Estimated percent uninsured	597,122	612,205	699,021
Percent Change from Previous Year	n/a	2.53%	14.18%
Non-Medicaid Consumers Served	37,779	44,135	43,325
Percent Change from Previous Year	n/a	16.82%	-1.84%
Medicaid Consumers Served	31,561	35,153	38,948
Percent Change from Previous Year	n/a	11.38%	10.80%
Non-Medicaid Mental Health Funding[39]	$ 28,800,000	$ 29,541,567	$ 30,190,983
Per capita spending	$ 7.28	$ 7.29	$ 7.26
Per Non-Medicaid Consumer	$ 762.33	$ 669.35	$ 696.85
Medicaid Mental Health Funding[40]	n/a	$ 113,968,686	$ 126,075,900
Per capita spending	n/a	$ 28.11	$ 30.30
Per Medicaid Consumer	n/a	$ 3,242.08	$ 3,237.03

The implication of these data seem clear that current capacity in the Colorado mental health system has not kept up with increasing population levels and an even larger increase in the numbers of persons without insurance. Using Epidemiological Catchment Area (ECA) study data[41] and the 1999 Colorado population census estimate, Colorado Mental Health Services estimates that upwards of 23,770 adults with serious mental illness are currently not served by the Colorado public mental health system. This most recent ECA study has produced the best, most up-to-date knowledge that exists regarding estimates of the number of people with serious mental illness in the population. Thus, in utilizing the ECA study, Colorado Mental Health Services has produced the best available estimate of the number of consumers with serious mental illness residing in Colorado. Although many of these people may be served in the private mental health system, this estimate reinforces the conclusion that current mental health system capacity has not kept pace with need.

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[39] The funding amounts and associated ratios for non-Medicaid consumers in 1998-99 and 1999-00 were revised per feedback from D. Kupfer of MHS.

[40] The funding amounts and associated ratios for Medicaid consumers in 1998-99 and 1999-00 were revised per feedback from D. Kupfer of MHS.

[41] Narrow, Regier, Norquist, Rae, Kennedy, Arons. (2000). Mental health service use by Americans with severe mental illness. Social Psychiatry Psychiatric Epidemiology, 35: 147-155, cited by T. Barrett, December, 2000.

A final population issue impacting need for Institute services is geographic distribution. Many focus group participants discussed the important problem of inadequate geographic distribution of CMHI resources. This was generally seen as negatively impacting care in Western and Northern Colorado. The issue was rated on average 2.16 ("important") and was discussed by 94 participants across six groups, including psychiatric leaders, regional mental health leaders, both consumer groups, and family members.

The following two tables present the distances between the CMHC in each catchment area and the Institute programs to which they admit consumers. Note that many catchment areas admit to programs at both Institutes. Also note that many catchment areas are very large, so the distance from the CMHC is not necessarily representative of the distances traveled by many or even most consumers in that area. A good example of this is the Colorado West Regional Mental Health Center in Glenwood Springs, which is much closer to both Institutes than the majority of the region it represents.

Only seven catchment areas have average drives to CMHI programs where they admit of less than 50 miles. Spanish Peaks Mental Health Center falls into this category because three programs it admits to are in the same city, down averaging the distance to the Fort Logan child program, which is 116 miles away. These seven catchment areas represent 59.9% of the 1999 state population (2,494,186 persons).

Table 34: Distance Between CMHCs and CMHIs Where They Admit – Under 50 Miles Average[42]

CMHC	Child	Adolescent	Adult	Older Adult
Adams Community Mental Health Center - Thornton, CO	11 miles (FL)	11 miles (FL)	11 miles (FL)	11 miles (FL)
Arapahoe/Douglas Mental Health Network Englewood, CO	7 miles (FL)	7 miles (FL) 109 miles (P)	109 miles (P)	7 miles (FL)
Aurora Community Mental Health Center - Aurora, CO	9 miles (FL)	9 miles (FL)	9 miles (FL)	9 miles (FL)
Jefferson Center for Mental Health - Arvada, CO	11 miles (FL)	11 miles (FL)	11 miles (FL)	11 miles (FL)
Mental Health Center of Boulder County - Boulder, CO	31 miles (FL)	31 miles (FL)	31 miles (FL)	31 miles (FL)
Mental Health Corporation of Denver – Denver, CO	Same city (FL)	Same city (FL)	Same city (FL)	Same city (FL)
Spanish Peaks Mental Health Center - Pueblo, CO	116 miles (FL)	Same city (P)	Same city (P)	Same city (P)

[42] Data on Institutes to which CMHCs admit was obtained from Appendix B of the 2000 CMHI Operational Study RFP. Miles between cities obtained from Microsoft Expedia Streets and Trips 2000 software.

The remaining 10 catchment areas require driving over 50 miles on average. Distances range from 46 miles from Pikes Peak Mental Health Center to CMHI-Pueblo to the 272 miles consumers from Durango must travel to CMHI-Pueblo. Note that the bed allocation approach does not always match an area to the closest Institute. For example, consumers from North Range Behavioral Health's catchment area must drive 56 miles to the child, adolescent and older adult programs at Fort Logan and 168 miles to the adult program at Pueblo. As noted above, these distances seem to have impacted utilization of some programs.

Table 35: Distance Between CMHCs and CMHIs Where They Admit – Over 50 Miles Average[43]

CMHC	Child	Adolescent	Adult	Older Adult
Centennial Mental Health Center - Sterling, CO	130 miles (FL)	130 miles (FL)	242 miles (P)	242 miles (P)
Colorado West Regional Mental Health Center - Glenwood Springs, CO	158 miles (FL)	158 miles (FL) 269 miles (P)	269 miles (P)	269 miles (P)
Larimer Center for Mental Health - Fort Collins, CO	64 miles (FL)	64 miles (FL) 176 miles (P)	176 miles (P)	176 miles (P)
Midwestern Mental Health Center - Montrose, CO	300 miles (FL)	225 miles (P)	225 miles (P)	225 miles (P)
North Range Behavioral Health - Greeley, CO	56 miles (FL)	56 miles (FL)	168 miles (P)	56 miles (FL)
Pikes Peak Mental Health Center - Colorado Springs, CO	70 miles (FL)	46 miles (P)	46 miles (P)	46 miles (P)
San Luis Valley Community Mental Health Center - Alamosa, CO	236 miles (FL)	123 miles (P)	123 miles (P)	123 miles (P)
Southeastern Colorado Family Guidance and Mental Health Center - La Junta, CO	177 miles (FL)	66 miles (P)	66 miles (P)	66 miles (P)
Southwest Colorado Mental Health Center - Durango, CO	337 miles (FL)	272 miles (P)	272 miles (P)	272 miles (P)
West Central Mental Health Center - Canon City, CO	117 miles (FL)	40 miles (P)	40 miles (P)	40 miles (P)

Data from other Western states

[43] Data on Institutes to which CMHCs admit was obtained from Appendix B of the 2000 CMHI Operational Study RFP. Miles between cities obtained from Microsoft Expedia Streets and Trips 2000 software.

State hospital capacity in Colorado can also be gauged by comparing it to other states. The states of Arizona, Oregon and Wyoming were selected as points of comparison for Colorado. Initial letters were mailed out to 15 Western states inviting participation in the study. Nine states (Arizona, California, Oregon, Ohio, New Mexico, Texas, Utah, Washington, Wyoming) identified points of contact. Three of these were selected as most representative of issues facing Colorado and the CMHIs:

- Arizona, because to its fast growing population and long history of Medicaid reforms
- Oregon, because of its similar size to Colorado, history of state hospital downsizing, generally positively viewed mental health system, and population distribution with one major urban area within a more rural and frontier state
- Wyoming, because of its frontier population and experience with distance issues

Data from these states should be treated as points of comparison, not ideals or benchmarks. Review of the national literature and key informant interviews revealed no single state that stands out as a benchmark or ideal in terms of its state psychiatric hospital configuration.

The following table presents overview data on Colorado compared to these three states showing their similarities and differences. Data are from key informants, unless otherwise specified. See the November 6, 2000, report by TriWest Group entitled ***CMHI Operational Plan Study: Focus Group Background Materials - Attachment Three - Brief Case Studies of Arizona, Wyoming and Oregon State Psychiatric Hospital Systems*** for additional detail.

Table 36: Comparison data: Colorado, Arizona, Oregon and Wyoming

	Colorado	Arizona	Oregon	Wyoming
Population (1999 estimate)[44]	4,056,133	4,778,332	3,316,154	479,602
Number of hospitals	2	1	2	1
Number of campuses	2	1	3	1
Total civil beds	400	191 (220 projected)	367	46
Beds-Child	16	0	60	0
Beds-Adolescent	52	16	Included above	8
Beds-Adult	247	137 (increasing to 200 with new facility)	193	38
Beds-Geriatric	85	38 (will be part of the 200 bed adult facility)	114	Included in adult capacity
Beds-Medical/Surgical	20	None	5	None
Beds-Forensic	278	144	400	40

[44] Census Bureau data

	Colorado	Arizona	Oregon	Wyoming
Clinical sub-populations	Long-term facility, some acute beds	Long-term facility, few acute beds	Long-term facility, few acute beds	Long-term facility, few acute beds
Financing	Mostly state general fund	Mostly state general fund	Mostly state general fund	Mostly state general fund
Admission criteria	CMHCs control access and have a bed allocation	Require 25 day prior stay at acute facility (can be waived)	Counties control access and have a bed allocation	No allocation or community control
Percent of 1997state-directed funding for mental health going to community services (vs. state hospitals)[45]	Over 65%	55% to 65%	Over 65%	Under 45%

The following table looks at indicators commonly associated with capacity. The first is civil beds per 100,000 residents. As can be seen, Colorado falls near to Oregon and Wyoming and much higher than Arizona. It should be noted that Arizona is generally regarded as having too few state hospital beds and is in fact in the process of building additional capacity. Another comparison figure was computed using NASMHPD data on 1998 average daily censuses for combined civil and forensic beds (civil beds alone were not available). Average daily census per 100,000 residents shows Colorado to be again much higher than Arizona, but Oregon's census was 18% higher and Wyoming's 25% higher. While not definitive, these data suggest that Colorado's state hospital use overall is comparable and perhaps even lower than that of states such as Oregon and Wyoming with similar features of their state hospital systems.

[45] Percent of funding going to community services: Glover, R.W. (October 1999). Looking Beyond 2000: Exploring the future of public mental health systems. NASMHPD, Exploring the changing role of state psychiatric hospitals, October 14-16.

Table 37: Capacity and census data: Colorado, Arizona, Oregon and Wyoming

	Colorado	Arizona	Oregon	Wyoming
Population (1999 estimate)	4,056,133	4,778,332	3,316,154	479,602
Total civil beds	400	191 (220 projected)	367	46
Civil beds per 100,000	9.9	4 (4.6 projected)	11.1	9.6
Beds-Forensic	278	144	400	40
Overall beds	678	335	767	86
Average Daily Census (1998)[46]	663	305	638.5	98
Average Daily Census per 100,000	16.3	6.4	19.3	20.4

Impact of Advanced Psychotropic Medications[47]

Medication advances in the last decade have significantly impacted the treatment and cost of treatment of psychiatric disorders. Medications are a significant portion of the cost of treatment, as well as an important tool for treatment. The cost of the treatment of psychotic disorders in the United States accounts for a large proportion of the cost of total treatment of mental illness. For example, in 1990, $33 billion was spent on the treatment of schizophrenia, accounting for 22% of the money spent to treat mental illness, and for 2.5% of total health care expenditures. Medication costs for the treatment of schizophrenia that year ($397 million) accounted for 5% of direct treatment costs and for 1.2% of total treatment costs, with a majority of expenses being attributable to the use of services such as hospitals, nursing homes and ancillary services.[48]

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[46] NASMHPD Research Institute, Inc. State Profiling System

[47] TriWest Group wishes to acknowledge the assistance of Sheri Dodd (Assistant Director of Regional Outcomes Research), Angela McCoy (Manager of Public Health Systems and Reimbursement), and Ann Clark (Medical Services Associate) of Janssen Pharmaceutica, as well as Robert Browne, MD (Senior Health Outcomes Research Consultant), Guy Ruble (Medical Information Administrator), Bruce Kinon (Senior Clinical Research Physician), and Marcelo Kort (Ally Specialist, State Government Affairs) of Eli Lilly and Company, for their generous assistance in providing information and source materials on atypical antipsychotics and their relationship to resource utilization and quality of life. In incorporating these materials, TriWest Group generally limited citations used to those from peer-reviewed journals or conferences in order to balance any appearance of undue influence by pharmaceutical manufacturers. In some instances, for example discussion of emerging medications and medication delivery systems, peer-reviewed information was not available and pharmaceutical industry reports or personal communications were utilized. These are noted where they occur and the reader should interpret them accordingly.

[48] Buckley, P.F. (1998). Treatment of schizophrenia: Let's talk dollars and sense. *American Journal of Managed Care*, 4, 369-383. Glazer, W.M. and Johnstone, B.M. (1997). Pharmacoeconomic evaluation of antipsychotic therapy for schizophrenia. *Journal of Clinical Psychiatry*, 58, 50-54.

With the advent of the new generation of atypical antipsychotic medications in the latter half of the 1990s, there has been renewed hope among some that treatment will become more effective and cost-efficient. Risperidone, olanzapine, clozapine, and quetiapine are approved for use in the treatment of schizophrenia. Olanzapine has been approved for use in the treatment of acute mania, and risperidone is currently in clinical trials for a similar use. The following table shows an increase in expenditures for these atypical antipsychotics at CMHI-Pueblo over the past four years. Data on medication expenditures at CMHI-Fort Logan are not available, but similar changes in use have been reported.

Table 38: Pharmaceutical Expenditures at CMHI-Pueblo

Medication Type	1996-1997	1997-1998	1998-1999	1999-2000
Antidepressants	$74,500	$137,000 (84% over 96-97)	$251,000 (337% over 96-97)	$319,200 (428% over 96-97)
Antipsychotics – Traditional	$234,000	$187,000 (20% under 96-97)	$116,000 (50% under 96-97)	$92,000 (61% under 96-97)
Antipsychotics – New Agents	$597,000	$846,200 (42% over 96-97)	$1,028,000 (72% over 96-97)	$1,107,200 (85% over 96-97)
Other psychiatric medications	$70,500	$86,800 (23% over 96-97)	$94,000 (33% over 96-97)	$102,100 (45% over 96-97)
General Medications	$421,000	$504,000 (20% over 96-97)	$526,000 (25% over 96-97)	$618,500 (47% over 96-97)
Overall Pharmaceutical Costs	$1,397,000	$1,761,000 (26% over 96-97)	$2,015,000 (44% over 96-97)	$2,239,000 (60% over 96-97)

There is significant evidence that the use of atypical antipsychotics has resulted in a variety of efficiencies, improved outcomes and cost savings over the past five years. These include several categories of improvements described below.

Reductions in state hospital treatment costs – Compared with the older antipsychotics (chlorpromazine and haloperidol), treatment with atypical antipsychotics (risperidone and clozapine) has been associated with a reduction in total costs of care per year in a state-run hospital in one study.[49]

Reductions in overall costs – Another study[50] found that when consumers were switched from conventional antipsychotics to either risperidone or clozapine, the cost of treatment (medication, medication services, and non-pharmacologic services) was reduced for those switched to risperidone, although it increased for those switched to clozapine. There are some studies that suggest that the use of atypical antipsychotics, which tend to be more costly, may actually lead to decreased overall costs due to medication costs being offset by decreases in costs incurred for

[49] Galvin, P.M., Knezek, L.D., Rush, A.J., Toprac, M.G., and Johnson, B., (1999). Clinical and economic impact of newer versus older antipsychotic medications in a community mental health center. *Clinical Therapeutics*, 21, 1105-1116.

[50] Thompson, D. (1997). Cost of switching from neuroleptics to risperidone and clozapine: A pilot study of the San Diego mental health services. *Clinical Drug Investigation*, 14, 428-433.

other mental health services[51] and by a reduction in readmission rates.[52] Olanzapine, when compared with haloperidol, has also been shown to lead to reductions in inpatient and outpatient costs that offset olanzapine's higher medication costs.[53] Others have found decreased total mental health care costs for consumers in managed care plans using risperidone compared to those on other antipsychotics[54] and decreased costs for other psychotropic agents among consumers taking risperidone in addition to other agents.[55]

Reductions in state hospital use – In another study of consumers diagnosed with schizophrenia and/or schizoaffective disorder in Texas state hospitals, those treated with either clozapine or traditional antipsychotics were compared. The groups had been taking either type of medication for 1.5 to 4.5 years, and the group treated with clozapine showed a rapid and continuing decrease in hospital bed days. Also, the consumers taking clozapine showed marked decreases in need for virtually continuous state hospitalization when compared with those taking traditional antipsychotics.[56]

Reductions in hospital use – Viale and colleagues, in a retrospective study of consumers with treatment-resistant conditions diagnosed with schizophrenia or schizoaffective disorder, found that after risperidone initiation, days spent in acute care facilities decreased by 26% and days spent in residential treatment decreased by 57% (although the use of lower-cost services increased, yielding a non-statistically significant increase of 3.4% in total health care costs).[57] A decrease in the mean number of hospital days among consumers taking risperidone has also been

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[51] These include:

Albright, P., Livingstone, S., Keegan, D.L., Ingham, M., Shrikhande, S., and LeLorier, J. (1996). Reduction of healthcare resource utilization and costs following the use of risperidone for patients with schizophrenia previously treated with standard antipsychotic therapy. *Clinical Drug Investigation*, 11, 289-299.

Nightengale, B.S., Garrett, L., Waugh, S., Lawrence, B.J., and Andrus, J. (1998a). Economic outcomes associated with the use of risperidone in a naturalistic group practice setting. *American Journal of Managed Care,* 4; 360-366.

Nightengale, B.S., Crumly, J.M., Liao, J., Lawrence, B.J., and Jacobs, E.W., (1998b). Economic outcomes in antipsychotic agents in a Medicaid population: Traditional agents vs. risperidone. *Psychopharmacology Bulletin,* 34, 373-382. Thompson, 1997.

[52] Coley, K.C., Carter, C.S., DaPos, S.V., Maxwell, R., Wilson, J.W., and Branch, R.A., (1999). Effectiveness of antipsychotic therapy in a naturalistic setting: A comparison between risperidone, perphenazine, and haloperidol. *Journal of Clinical Psychiatry*, 60, 850-856.

[53] Hamilton, S.H., Revicki, D.A., Edgell, E.T., Genduso, L.A., and Tollefson, G., (1999). Clinical and economic outcomes of olanzapine compared with haloperidol for schizophrenia. *Pharmacoeconomics,* 15, 469-480.

[54] Gianfrancesco, F., Mahmoud, R., and Wang, R. (1998). Use of health care resources by patients treated with risperidone versus other antipsychotic agents. Poster presented at the eleventh CINP Congress. Glasgow, Scotland, July 12-16.

[55] Carter, C., Stevens, M., and Durkin, M. (1998). Effects of risperidone therapy on the use of mental health care resources in Salt Lake County, Utah. *Clinical Therapeutics*, 20, 32-363.

[56] Reid, W. H., (1998). Psychiatric hospital utilization in patients treated with clozapine for up to 4.5 years in a state mental health care system. *Journal of Clinical Psychiatry*, 59, 189-194.

[57] Viale, G., Mechling, L., Maislin, G., Durkin, M., Engelhart, L., and Lawrence, B.J. (1997). Impact of risperidone on the use of mental healthcare resources. *Psychiatric Services,* 48, 1153-1159.

found at one-year follow-up,[58] at two-year follow-up,[59] and among other consumers with schizophrenia who were considered unresponsive to conventional therapies.[60]

Treatment with other atypical antipsychotics has also been found to reduce the use of hospital bed days. In one study comparing consumers treated with haloperidol to those treated with olanzapine, the consumers taking olanzapine used an average of 14 fewer hospital days per year, experienced 40% lower re-hospitalization rates, and made less use of emergency room services, day hospital sessions, and visits to other physicians and mental health professionals, while making greater use of outpatient psychiatric services.[61]

Reductions in readmission – Readmission rates have also been reported to be affected by the use of atypical antipsychotics. In one study, consumers taking risperidone, clozapine, and fluphenazine decanoate, when compared to consumers on conventional therapies, were found to have lower readmission rates at one and two years.[62] Risperidone, when compared with haloperidol, has also been found to be associated with reduced relapse rates and with longer mean time intervals between psychiatric relapses.[63]

Other improved treatment outcomes – Even when no differences have been found in the utilization of services between consumers treated with atypical antipsychotics and those treated with conventional antipsychotics, atypicals have been found in some studies to be more effective in reducing symptoms[64] and improving quality of life.[65] In one study, treatment with olanzapine,

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[58] Philipp, M. (1996). Risperidone in patients with chronic schizophrenia: Acute response and effects on one-year hospitalization rates. Poster presented at the 149th annual meeting of the American Psychiatric Association. New York, NY, May 4-9.

[59] Lindstrom, E., Eriksson, B., Hellgren, A., von Knorring, L., and Eberhard, G. (1995). Efficacy and safety of risperidone in the long-term treatment of patients with schizophrenia. *Clinical Therapeutics,* 17, 402-412.

[60] Addington, D.E., Jones, B., Bloom, D., Chouinard, G. Remington, G., and Albright, P., (1993). Reduction of hospital days in chronic schizophrenic patients with risperidone: A retrospective study. *Clinical Therapeutics*, 15, 917-926.

[61] Glazer and Johnstone, 1997. Lilly Research Laboratories. Correspondence with G.C. Ruble, Pharm.D. and B.J. Kinon, M.D. November, 2000.

[62] Conley, R.L., Love, R.C., Kelly, D.L., and Bartko, J. (1997). Rehospitalization rate of recently discharged patients treated with risperidone. Poster presented at the 36th annual meeting of the American College of Neuropsychopharmacology. Kamuela, HI, December 8-12.

[63] Csernansky, J. et al. (1999). Proceedings from the Meeting of the Society of Biological Psychiatry. May, 1999. Article accepted for upcoming publication in the New England Journal of Medicine.

[64] These include:

Engelhart, L. and Mahmoud, R. (1998). After schizophrenia relapse: Findings from a prospective 684 patient cohort. Poster presented at the 151st annual meeting of the American Psychiatric Association. Toronto, Ontario, Canada, May 30-June 4.

Revicki, D.A., Genduso, L.A., Hamilton, S.H., Ganoczy, D., and Beasley, C.M., (1999). Olanzapine versus haloperidol in the treatment of schizophrenia and other psychotic disorders: Quality of life and clinical outcomes of a randomized clinical trial. *Quality of Life Research,* 8, 417-426.

[65] These include:

Aronson, S. (1997). Cost-effectiveness and quality of life in psychosis: The pharmacoeconomics of risperidone. *Clinical Therapeutics*, 19, 139-147.

Chouinard, G., and Albright, P.S. (1997). Economic and health state utility determinations for schizophrenic patients treated with risperidone or haloperidol. *Journal of Clinical Psychopharmacology*, 17, 298-307.

when compared with treatment with haloperidol, resulted in significant improvement relative to interpersonal relations, social role function, the ability to perform normal life activities, the quality and frequency of meaningful employment, and suicidality.[66] Quality of life improvements have also been reported among consumers taking risperidone after one, three, and six months of treatment.[67]

Decreased side effects – Because the newer atypical antipsychotics have been found to have fewer motor side effects and greater impact on cognitive functioning, they are hypothesized to enable more consumers to benefit from rehabilitation programs and to be competitively employed.[68]

Studies with children and adolescents – The use of atypical antipsychotics with child and adolescent populations has also been studied to some extent. For example, clozapine, risperidone, and olanzapine have been found to be effective in the treatment of schizophrenia, bipolar disorders, and pervasive developmental disorders among children and adolescents.[69] In addition, adolescent consumers appear to experience improved tolerability to atypical agents than to typical antipsychotics.[70]

Evidence that the use of atypical antipsychotics has impacted the use of the Institutes has been put forward by analysts at CMHI-Pueblo. In their analysis of readmission rates over the past 24 years, the following figure shows a marked increase in time between readmissions that correlates with the broad introduction of atypical antipsychotics in the latter half of the 1990s.

Franz, M., Lis, S., Pluddeman, K., and Gallhofer, B. (1997). Conventional versus atypical neuroleptics: Subjective quality of life in schizophrenic patients. *British Journal of Psychiatry,* 170, 422-425. Revicki, et al, 1999.

[66] Tollefson, G. D., Deasley, C. M., Tran, P. V., et al, (1997). Olanzapine versus haloperidol in the treatment of schizophrenia and schizoaffective and schizophreniform disorders: Results of an international collaborative trial. *American Journal of Psychiatry*, 154, 457-465.

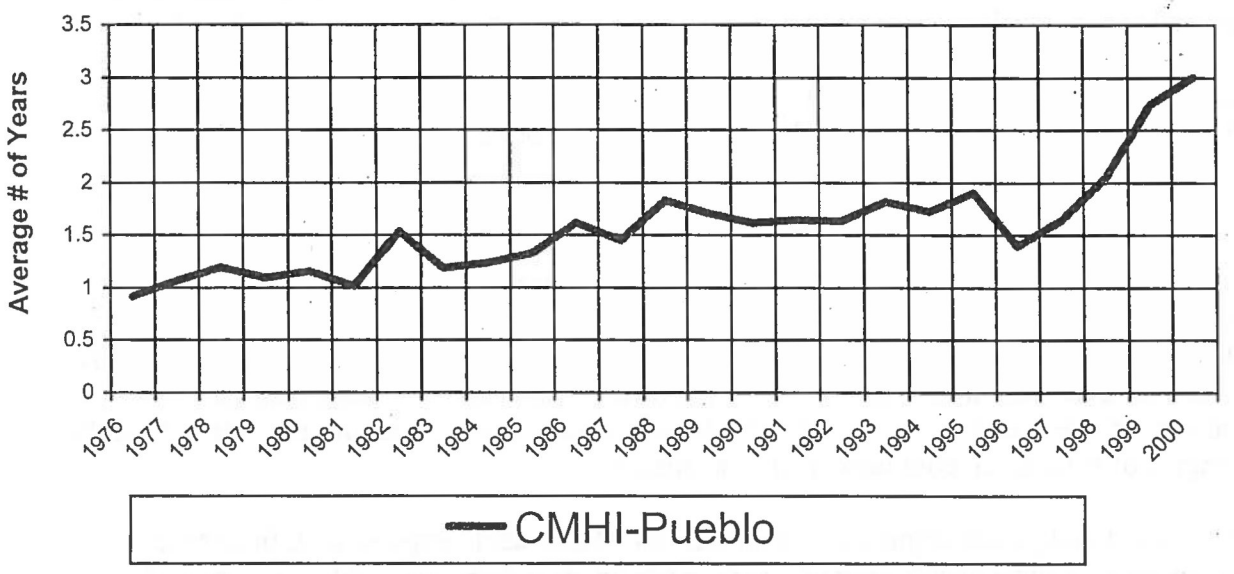
[67] Ayuso-Gutierrez, J.L., Barcia, D., Herraiz, M.L., et al, (1996). Quality of life in schizophrenic patients treated with risperidone. Poster presented at the 149th Annual Meeting of the American Psychiatric Association. New York, NY, May 4-9.

[68] Bond, G. R. and Meyer, P. S., (1999). The role of medications in the employment of people with schizophrenia. *Journal of Rehabilitation,* Oct.-Dec., 9-16.

[69] Toren, P., Laor, N., and Weizman, A., (1998). Use of atypical neuroleptics in child and adolescent psychiatry. *Journal of Clinical Psychiatry*, 59, 644-656.

[70] Lewis, R., (1998). Typical and atypical antipsychotics in adolescent schizophrenia: efficacy, tolerability, and differential sensitivity to extrapyramidal symptoms. *Canadian Journal of Psychiatry*, 43, 596-604.

Figure 2: Changes in Length Between Readmissions Over Time at CMHI-Pueblo



As detailed in the December 20, 2000, ***CMHI Focus Group Report***, psychiatric leaders assessed the potential impact of emerging psychotropic medications upon future CMHI need. The psychiatrists broadened the discussion to include not just new medications, but also the potential for improved delivery systems (e.g., depot formulations) and improved practice (e.g., increased use of involuntary medications).

Rated as the "most important" factors related to improved practice were increased use of involuntary medications in general, and specifically the need to increasingly pursue court-ordered involuntary medications while persons were still hospitalized at the CMHIs, rather than waiting until after discharge. The need to improve reliability when transferring certification for involuntary medications post-discharge was rated as "important."

In the contemporary dialogue on mental health services, consumer leaders and activists continue to stress the importance of facilitating consumer choice and the provision of voluntary services, whenever it is even remotely possible to do so.[71] It should be noted that there are burgeoning efforts to pay close attention to matters of voluntary status and to develop technologies and clinical approaches that increase the chances for consumers to become more active in the service process and to play an effective, voluntary role in their own treatment.[72] One particularly useful tool that is available in all 50 states, including Colorado, is the advance directive.

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[71] Ahern, L., & Fisher, D. (2000). *Personal Assistance in Community Existence.* National Empowerment Center, Inc. 599 Canal Street, Lawrence, MA 01840.

[72] These include:

Beauford, J.E., McNiel, D.E., and Binder, R.L. (1997). Utility of the initial therapeutic alliance in evaluating psychiatric patients' risk of violence. *American Journal of Psychiatry*, 154(9), 1272-1276.

New medications that will become available over the next couple years were also seen as among the "most important" factors that could improve CMHI inpatient practice. Participants discussed emerging medications such as ziprasidone, as well as potential access to medications such as those currently available in Canada and Europe. Additional factors that were identified as "important," included the anticipated availability of depot formulations for atypical antipsychotic medications within 18 to 24 months and depot formulations for persons with bipolar disorder (e.g., olanzapine for acute mania).

Pharmaceutical industry representatives reported that risperidone[73] and olanzapine[74] both have depot formulations in clinical trials that could be approved for use in 18 to 24 months. Olanzapine also has a zydis (fast dissolving) preparation that has been approved, but with limited availability currently, and a rapid IM formulation awaiting final FDA approval.[75] Although many in the pharmaceutical industry expect emerging depot formulations to decrease hospital utilization further, the use of newer depot formulations to date has not been found to significantly change lengths of stay, when compared with oral agents.[76]

It should be noted that psychotropic usage patterns at CMHI-Pueblo suggest that, in addition to increased use over atypical agents overall, practice continues to keep pace with new atypical agents as they emerge. The following table shows changes in expenditures for different atypical antipsychotics over the past four years, showing expenditures for new agents as they become available and shifts from initial agents such as clozapine to newer agents with fewer side effects.

Table 39: Changes in Expenditures for Newer Antipsychotics at CMHI-Pueblo

Medication Type	1996-1997	1997-1998	1998-1999	1999-2000
Clozapine	$235,000	$204,000 (13% under 96-97)	$233,000 (1% under 96-97)	$166,000 (29% under 96-97)
Risperidone	$286,000	$345,000 (21% over 96-97)	$282,000 (1% under 96-97)	$275,000 (4% under 96-97)
Olanzapine	$76,000	$288,000 (379% over 96-97)	$449,000 (591% over 96-97)	$574,000 (755% over 96-97)
Quetiapine	$0	$9,200	$64,000 (696% over 97-98)	$92,200 (44% over 98-99)
Total Atypicals	$597,000	$846,200 (42% over 96-97)	$1,028,000 (72% over 96-97)	$1,107,200 (85% over 96-97)

Elbogen, E.B., & Tomkins, A.J. (1999). The psychiatric hospital and therapeutic jurisprudence: Applying the law to promote mental health. In W.D. Spaulding (ed.), The role of the state hospital in the twenty-first century. *New Directions for Mental Health Services*, no. *84* (Winter). San Francisco: Jossey-Bass. (pp. 71-84)

[73] Pharmaceutical Approvals Monthly (2000). Risperdal, Seroquel Filings Planned. *Pharmaceutical Approvals Monthly*, 5(12).

[74] Browne, R., of Eli Lilly, November 8, 2000, Personal communication; Pharmaceutical Approvals Monthly (2000). Risperdal, Seroquel Filings Planned. *Pharmaceutical Approvals Monthly*, 5(12).

[75] Browne, R. November 8, 2000; The Pink Sheet (2000). 2000 NDA Planned. *The Pink Sheet*, 62 (20).

[76] Remington, G., Khramov, I., Coulter, K., and Arndt, M. (1999). Health service utilization comparing clozapine, risperidone, and depot neuroleptics: A 2-year follow-up. *The International Journal of Neuropsychopharmacology*, (2, Suppl. 1), pg. S102.

The psychiatric leaders attending the focus group were asked to cumulatively rate the potential impact upon the need for CMHI services of these various potential improvements to psychotropic medication practice within the CMHIs. The psychiatrists were split between viewing this potential as small, leading to improved practice but not necessarily reducing need for CMHI capacity, and viewing the potential as medium, reducing somewhat the need for beds. Only one psychiatrist saw the potential impact as potentially large enough to close a unit or facility.

Conclusions Regarding Future Need

Overall, it seems clear that CMHI services are a key component of an overall mental health system in Colorado. The Colorado system is increasingly under pressure from the combination of tremendous population growth and static or shrinking levels of funding for overall mental health services. The overall use of CMHI services is high, with the exceptions of the adolescent inpatient and medical/surgical services inpatient services. In addition, the growing Colorado population served is increasingly uninsured and diverse.

Populations served by the CMHIs appear increasingly to be severely impaired and the national literature suggests that this trend will continue and perhaps increase to the extent that consumers cannot access needed services in the community. The impact of atypical and other new psychotropic medications, despite their increased expense, appear useful in meeting needs that would have otherwise put more population-based pressures on CMHI resources. This trend should also continue.

Analysis of lengths of stay and the 1998 Open Cases Study suggest that many persons are being served in CMHIs that could be served either in other acute hospital settings or other alternatives in local communities. Current community alternatives appear to be inadequate, but the level and quality of available alternatives have yet to be defined; once they are, specific recommendations regarding the specific scope of CMHI program services can be developed. Overall, a need to increase some mental health services seems warranted. Analysis forthcoming in future reports will address this issue with greater specificity and definitive recommendations.

APPENDIX IV-A

TRIWEST GROUP

CMHI Operational Plan Study

Focus Group Report

Submitted to the State of Colorado Department of Human Services Office of Direct Services

December 20, 2000

Introduction

The State of Colorado Department of Human Services (DHS) has contracted with TriWest Group, LLC, to conduct a study of its state Mental Health Institutes. The public mental health system in Colorado has undergone many changes in the past twenty years, leading to a variety of changes for the Colorado Mental Health Institutes (CMHIs). The number of beds at the CMHIs has decreased significantly while the numbers of patients served have increased, most recently due to the capitation of services for Medicaid-eligible mental health clients and the transfer of clients to the most appropriate, least costly, and least restrictive setting.

Whereas previously the CMHIs housed numerous individuals for extended periods of time, currently they treat persons with the most severe mental illnesses with a goal of stabilizing the patients, treating the problem causing the admission, and returning them to the community. The CMHIs have responded to each additional change by offering to provide new or different services, or by downsizing to reflect decreased usage. Now, the CMHIs are in need of an operational plan to guide their future role in Colorado's public mental health system.

The purpose of the study is to perform analyses and develop recommendations that will be used to produce an operational plan that defines the future role of the CMHIs in Colorado's public mental health system. Results and reports from the study are expected to be completed in March, 2000, and available for public release sometime thereafter.

The TriWest Team developed an initial framework to inform policy decisions related to the role of the CMHIs within Colorado's mental health system, recommended program types and models, financing approaches (including capitation), administrative structure, and clinical staffing. This framework was based on:

- Review and analysis of existing Colorado-specific studies and planning documents related to the future of the Colorado Mental Health Institutes and community programs within Colorado's public mental health system, as well as information from DHS and CMHI databases.
- Review and analysis of data from other states regarding the organization and delivery of public inpatient psychiatric services and models of community service delivery that have been developed as alternatives to inpatient care. Key points of comparison include number of beds, spending per capita, types of services provided, and plans for future operations.
- Description and analysis of the potential impact of improved psychotropic medications, community capacity, and other new treatment technologies that may affect the future need for inpatient treatment.

These data will be summarized and subjected to an intensive stakeholder involvement process to review, expand on, and refine their findings. The focus groups also gave input on how the results of these initial analyses will be used to define the future role of the CMHIs in Colorado's public mental health system.

The stakeholder focus groups serve a critical role in the overall study and planning process, taking key results from the detailed analyses already completed, weighing them in the context of the current Colorado mental health system's needs and strengths, and developing priorities to guide the final recommendations, report development, and operational planning for the CMHIs. To ensure the integrity of the input gained from these groups and maximize their utility to the planning process, the TriWest team employed an approach that combines a collaborative process of identifying and recruiting key stakeholders with a rigorous methodology for obtaining actionable information and data. This is described in detail in the following methodology section.

Methodology

The purpose of this study was to draw upon the expertise of key informants from across Colorado representing the primary stakeholders for CMHI services: consumers of mental health services, family members of adult consumers, parents and caregivers of child and adolescent consumers, CMHI staff, regional mental health leaders, state human service leaders and leading psychiatrists. A focus group approach was used to convene these groups of stakeholders, present them with basic data on the current capacity of Colorado's CMHIs and other state's psychiatric facilities, and document their views regarding the following issues:

- An assessment of the adequacy of Colorado's state psychiatric hospital system, in the context of Colorado's overall mental health system
- Services the CMHIs should and should not provide
- The ideal role for the CMHIs within Colorado's mental health system
- The impact of moving direct funding for the CMHIs to the local level
- Ways to protect the viability of the CMHIs if funding moves to the local level
- Opportunities to improve practice in the CMHIs regarding the use of psychotropic medication (asked only of the psychiatrist focus group)
- The impact on the need for CMHI inpatient resources if psychotropic practice was optimized

Approach – A focus group approach was chosen within the context of an iterative, case method qualitative approach (Eisenhardt, 1989; Keller, 1995). Strauss and Corbin (1990) contend that a comparative method alternating between qualitatively gathered data and developing constructs (e.g., the population to be served by the CMHIs) provides a useful grounding for emerging theory in a given area. In her review of qualitative research techniques, Eisenhardt (1989) described a specific method for theory building regarding unexplored areas of phenomena or existing areas that need to be examined from a new perspective. Her method is predicated on structural checks and balances to counter the basic dilemma in qualitative research, namely that it relies heavily on the subjective experiences of the researchers.

Eisenhardt's (1989) method begins with a clarification of the research focus. This is important because qualitative theory generation centers on the incorporation of divergent data sources, making it prone to becoming overwhelmed by data without the help of initial guiding constructs drawn from existing understanding of the issue. In this study, we began with the issues raised by the Colorado Department of Human Services (DHS) in the announcement of this project and the related key findings describing the role of the CMHIs in Colorado . We added information about

how the CMHIs compare with state hospitals in other states. This grounded the study questions and was presented to all focus groups prior to soliciting their views, in order to ensure that participants were knowledgeable of key information regarding the CMHIs and to give all focus groups a common base of understanding. This information has been previously reported to the Colorado Department of Human Services in the November 6, 2000, report by TriWest Group entitled ***CMHI Operational Plan Study: Focus Group Background Materials.***

In addition, a conceptual matrix based upon the key questions of the RFP was developed. As data emerged from the focus groups, this initial conceptual matrix was reworked through multiple iterations. This method assumes that initial hypotheses, whether drawn from the literature, from early findings or subsequent analyses must be verified and refined by repeated comparison to emerging data. Therefore, our methodology incorporated a loop of data analysis, hypothesis generation and hypothesis testing that was repeated until criteria for reliability and conceptual elaboration were satisfied. This iterative method was used within a grounded theory approach (Strauss and Corbin, 1990). We used each of the nine focus group's input to individually re-verify and refine the guiding set of constructs and findings that originally were generated from the key questions articulated in the RFP for this study and that were detailed in the November 6, 2000 report.

Subjects – Eisenhardt (1989) also reasons that samples should be selected more for theoretical reasons than those traditionally used for statistically-based quantitative designs such as random selection. Since the goal of the current study is policy development, as opposed to statistically-based hypothesis testing, ultimate questions of generalization are secondary to the advantages offered by expert key informant data to elucidate the constructs of interest. Key informants are knowledgeable about the complex issues involved in Colorado's mental health system and offer a source of analysis and insight into multiple, interrelated factors.

Nevertheless, significant attention was paid to the representativeness of persons sampled. For the current study, the key factor here was representation of key stakeholder groups. Table 1 on the following page presents the overall demographics of respondents, which demonstrates the rich array of stakeholder views drawn upon in the current study, representative of the ethnic, geographic, and gender diversity of Colorado's mental health stakeholders. The breakdown for each set of stakeholders is shown separately in each section of the report. Overall, the focus groups were balanced by stakeholder type and gender, inclusive of key ethnic groups in Colorado (African American, Caucasian, and Latino), and representative of a high degree of relatively recent experience with the two CMHIs.

Another sampling technique drawn upon for the current study was triangulating sampling procedures. Given the nature of qualitative data, sampling needs to be structured in such a way as to incorporate multiple perspectives on the data and to cross-check the reliability of the responses across stakeholder groups. The use of multiple stakeholder groups with multiple vantages from which to analyze the data allows for the incorporation of divergent perspectives and facilitates convergence into a single comprehensive set of observations.

Table 1: Overall Participant Demographics (N=123)

Variable	Data	Variable	Data
Gender		Direct Experience with CMHIs?	
Female	81 (66.4%)	Yes	101 (86.3%)
Male	31 (33.6%)	No	16 (13.7%)
Stakeholder Type	(duplicated)	If "Yes," which CMHI?	
Consumer	20	CMHI – Fort Logan	28 (28.0%)
Family Member of Adult	33	CMHI – Pueblo	37 (37.0%)
Parent of Child/Adolescent	9	Both CMHIs	35 (35.0%)
Clinician	31		
Advocate	5	How long ago?	
CMHC/MHASA Admin	22	Under six months ago	73 (73.0%)
CMHI Administration	18	Six to twelve months ago	4 (04.0%)
DHS Administration	6	One to two years ago	5 (05.0%)
Other Administration	2	Over two years ago	18 (18.0%)
Legislative Staff	1		
Governor's Budget Office	1	Total time of direct experience	
		Over three years total	58 (60.4%)
Ethnicity/Race		Between one and three years	18 (18.8%)
African American	9 (07.5%)	Between three and 12 months	7 (07.3%)
Asian American	1 (00.8%)	Under three months	13 (13.5%)
Caucasian	100 (83.3%)		
Latino	10 (08.3%)	County of Employment	(duplicated)
		Adams	2
County of Residence		Arapahoe	4
Adams	1 (00.9%)	Archuleta	1
Arapahoe	11 (09.6%)	Boulder	5
Archuleta	1 (00.9%)	Delta	5
Boulder	7 (06.1%)	Denver	35
Delta	12 (10.5%)	Douglas	2
Denver	19 (16.7%)	El Paso	4
Douglas	7 (06.1%)	Fremont	1
El Paso	8 (07.0%)	Jefferson	8
Fremont	1 (00.9%)	Larimer	3
Gilpin	1 (00.9%)	LaPlata	1
Jefferson	19 (16.7%)	Logan	1
LaPlata	1 (00.9%)	Mesa	4
Larimer	4 (03.5%)	Montrose	1
Logan	1 (00.9%)	Otero	1
Mesa	5 (04.4%)	Pueblo	17
Montrose	1 (00.9%)	Weld	2
Otero	1 (00.9%)	Statewide	3
Pueblo	15 (13.2%)	Retired	2
Weld	1 (00.9%)	Disabled	2

The final number and composition of focus groups held was determined in collaboration with the Colorado Department of Human Services (DHS) and the multi-stakeholder CMHI Study Group. The most critical factor was the need to assemble a group of stakeholders with sufficient knowledge and inclusiveness to establish firmly the credibility of the recommendations emerging from the process.

Leadership groups in Colorado for each set of stakeholders were the primary source for participant recruitment. Stakeholder leaders were oriented to the purpose and design of the focus group section of the study. They then identified key stakeholders to invite. Invitations were mailed and participants asked to RSVP. Some participants received follow-up phone calls to respond to questions or solicit specific involvement. The key components of recruitment for each stakeholder group are presented below:

- **Consumers** – The State Mental Health Ombudsprogram and Consumer Centered Services of Colorado helped identify and convene consumers with recent experience with the CMHIs. Two focus groups were held to accommodate travel needs, one on the Western Slope and one on the Front Range.
- **Family members of adult consumers** – NAMI-Colorado state and regional leadership identified participants and helped recruit them. A large number of participants were NAMI members and leaders. In addition, the social work staff at the CMHIs helped identify additional family members with relevant experience who may not have been as involved in advocacy. Two focus groups were held to accommodate travel needs, one on the Western Slope and one on the Front Range.
- **Parents of child and adolescent consumers** – The Colorado Chapter of the Federation of Families for Children's Mental Health helped identify and convene parents of child and adolescent consumers with recent experience with the CMHIs.
- **CMHI Staff** – CMHI leadership identified a cross-section of clinical and direct supervisory staff from both CMHIs. CMHI leaders sent out an initial invitation letter, followed-up by a second letter from the focus group facilitators.
- **Regional Leaders** – Community mental health center (CMHC) and Mental Health Assessment and Service Agency (MHASA) executive directors were sent letters from the state Director of Mental Health Services, followed-up by a second letter from the focus group facilitators. Most participants were executive directors and the remainder were deputy director or clinical director representatives.
- **Psychiatric Leaders** – The public psychiatry sub-committee of the Colorado Psychiatric Society identified a statewide list of psychiatrists in leadership positions with relevant experience for this study. An invitation letter was sent to each person identified by the focus group facilitators.
- **State Leaders** – The Administrators for CMHI-Fort Logan and CMHI-Pueblo identified top CMHI leaders and DHS Managers and Directors identified key leaders from that Department and other areas of state government. An invitation went to each from the Executive Director of DHS, followed-up by a second letter from the focus group facilitators.

Data Collection Procedures – All nine focus groups employed a standardized protocol to promote comparability of data across groups. This protocol included:

- **Number of participants** – Groups targeted 15 to 20 participants and actual attendance ranged from 8 to 23 participants.
- **Focus group length** – Focus groups ranged in length from 2 and ½ to 3 hours.
- **Remuneration** – Consumers, family members and parents were offered a $25 stipend (in cash or gift certificate). They were also reimbursed for mileage and child care for meeting attendance. All participants were also provided with a meal and/or refreshments depending on the time of day the meeting was held.
- **Continuity of focus group facilitators** – At least two facilitators attended each group, one of whom attended all the groups but one. The remaining group was attended by facilitators who had been at the other groups. As a result, each group had at least one facilitator able to draw upon the experience of the prior groups to help ensure continuity of findings.
- **Written record of key themes** – Each group had a written record of key themes recorded by one of the facilitators during the group.
- **Standardized introduction** – All groups were given basic information about the study goals, design, and confidentiality.
- **Standardized data presentation** – As described above, all nine groups were presented with a standard set of data on the CMHIs and state hospitals in other states and nationally.
- **Stimulus questions** – Seven of the nine focus groups had identical stimulus questions. The remaining two, the Psychiatric Leaders and State Leaders groups, had identical initial questions, but different emphases to take advantage of each groups special expertise. For the Psychiatric Leaders, specific questions were substituted to focus upon psychotropic medication practice at the CMHIs. For the State Leaders, preliminary recommendations for the CMHIs were reviewed to increase understanding of the contextual issues regarding the CMHIs future role.
- **Importance ratings** – The majority of themes generated by the groups were reviewed with the group to establish consensus as to their meaning and rated in terms of their importance using a four-point ordinal scale: (1) One of the most important, (2) Important, (3) Somewhat important, and (4) Not as important. This allowed for comparisons across groups in terms of average relative importance. It also corrected the tendency of focus groups to pay a disproportionately high amount of attention to the input of persons who talk more often. The ratings allowed every participant to convey their view, regardless of their level of participation in the focus group discussion.

Data Analysis – The protocols used in the focus groups were predicated on another key component of the iterative case method approach, specifically the need to ground qualitative data with quantitative data and indicators. Quantitative data were used in several ways to ground the qualitative findings of the focus groups:

1. **Data Presentation** – As noted above, a standardized set of basic quantitative data and findings from the CMHIs, state hospitals in other states, and a review of the literature on state hospitals was presented to each focus group prior to any collection of focus group data. This helped ground each group in a common understanding of the current status of the CMHIs in light of regional and national information regarding state psychiatric hospitals.

2. **Demographic Survey** – All stakeholders completed a survey of their basic demographic and CMHI experience to demonstrate how well the overall sample represents the ethnic, geographic and gender diversity of Colorado's mental health stakeholders, as well as the CMHI-specific experience of each group member.
3. **Importance Ratings** – All participants completed ratings of the importance of each theme, as discussed above.

Importance ratings were the key tool for prioritizing, reporting and contrasting the importance of themes generated by the groups. To keep the focus on relative importance as opposed to actual numeric scores, average importance ratings were categorized as belonging to one of four groups: scores of 1.0 – 1.74 were used to define themes that were "One of the most important" (referred to as "most important" throughout the report; scores of 1.75 – 2.49 were referred to as "Important;" scores of 2.50 – 3.24 as "Somewhat Important;" and 3.25 – 4.0 as "Not as important."

In addition, the number of different focus groups in which a theme was generated was also examined. This factor was used to gauge the prevalence of themes across different focus groups or stakeholder groupings. The more groups in which a theme was discussed, the more prevalent across different groups of people and stakeholders the theme was deemed to be.

Overall CMHI Planning Themes Across Stakeholder Groups

Top Themes Overall

Nine focus groups were conducted with 123 overall participants. Two were held for adult consumers with experience at the CMHIs (in Montrose and Denver), two for family members of adult consumers (in Delta and Jefferson County), one for parents of child and adolescent consumers (in Denver), one for CMHI direct care and supervisory staff (in Pueblo), one for regional mental health leaders (held in conjunction with a statewide meeting in Denver), one for psychiatrist leaders from across Colorado (in Denver), and one for state human services leaders (in Denver).

The stakeholders attending the nine focus groups generated 227 total unduplicated themes. To determine the most significant themes overall, two factors were examined. **Importance ratings** were examined to determine which themes were most important to the stakeholders rating them. The **number of different focus groups** in which a theme was generated was also examined, on the premise that a theme was more prevalent if it was identified by multiple groups than if only identified by a single group.

The top ten findings are reported below in three different categories:
(1) Ten highest rated themes that were identified by three or more of the nine focus groups – these should be viewed as the most important of the prevalent themes. These themes are presented in Table 2.

(2) The ten themes rated by the most different focus groups – these should be viewed as the most prevalent themes across different stakeholders that are rated with mixed levels of importance. These themes are presented in Table 3.
(3) The ten highest rated themes identified by one or more of the focus groups – these should be viewed as the most important of the themes when prevalence is not a consideration. These themes are presented in Table 4.

Table 2: Top 10 Themes: Both Important and Prevalent

Theme	Average Importance Rating	Number of Groups Identifying Theme	Number of Individuals in Those Groups
The need to increase the availability of community alternatives to CMHI inpatient care	1.30 (most important)	7	99
The need to build evaluation and accountability into any transfer of control of CMHI funds to the local level	1.44 (most important)	4	60
The need to develop more community-based residential services and placements	1.50 (most important)	3	39
That there should be more involvement of families and caregivers in the delivery of CMHI services	1.57 (most important)	4	44
That there should be more coordination of care between the CMHIs and community providers	1.59 (most important)	5	57
That there should be better discharge planning	1.67 (most important)	4	49
That the CMHIs should provide long term inpatient care (asylum care) to persons with refractory psychiatric needs	1.72 (most important)	8	106
That a transfer of CMHI funds to the local level would result in more creative and efficient services	1.72 (most important)	3	41
That Colorado's overall psychiatric inpatient capacity is inadequate	1.74 (most important)	5	74
That there is a particular lack of hospitals and inpatient care in rural and frontier areas of Colorado	1.80 (most important)	3	33

Table 3: Top 10 Themes: Based on Prevalence Only

Theme	Number of Groups Identifying Theme	Number of Individuals in Those Groups	Average Importance Rating
That the CMHIs should provide long term inpatient care (asylum care) to persons with refractory psychiatric needs	8	106	1.72 (most important)
The need to increase the availability of community alternatives to CMHI inpatient care	7	99	1.30 (most important)
Inadequate geographic distribution of CMHI resources which results in distance negatively impacting care in Western and Northern Colorado	6	94	2.16 (important)
That Colorado's child and adolescent psychiatric inpatient capacity in particular is inadequate	5	83	1.82 (important)
That Colorado's overall psychiatric inpatient capacity is inadequate	5	74	1.74 (most important)
That there should be more coordination of care between the CMHIs and community providers	5	57	1.59 (most important)
The need to build evaluation and accountability into any transfer of control of CMHI funds to the local level	4	60	1.44 (most important)
That the CMHIs should integrate primary health care into the inpatient psychiatric care they provide	4	52	1.81 (important)
That there should be better discharge planning	4	49	1.67 (most important)
That there should be more involvement of families and caregivers in the delivery of CMHI services	4	44	1.57 (most important)

Table 4: Top 10 Themes: Based on Importance Ratings Only, Regardless of Prevalence

Theme	Average Importance Rating	Groups Where This Was Discussed	Number of Individuals in Those Groups
That current CMHI staffing is inadequate	1.13 (most important)	CMHI Staff & Parent Groups	31
That CMHI staff are overwhelmed and have low morale	1.14 (most important)	CMHI Staff & Western Slope Family Member Groups	31
That funds for community alternatives need to be enhanced	1.16 (most important)	Regional Leader & Western Slope Family Member Groups	25
That consumers inappropriately end up in jail or forensic services due to limitations in the current mental health system	1.19 (most important)	Parent & Western Slope Family Member Groups	16
That the CMHIs should be seen as a vital, essential part of the Colorado mental health continuum of care	1.20 (most important)	Parent & CMHI Staff Groups	31
That the CMHIs should focus upon care for those who assessed to be dangerous to themselves or others	1.20 (most important)	Western Slope Consumer and CMHI Staff Groups	34
The importance of preserving direct state funding for core inpatient safety net capacity	1.25 (most important)	CMHI Staff & State Leader Groups	40
Multiple issues related to a perception of inadequacy of the mental health system of care on Colorado's Western Slope	1.25 (most important)	Western Slope Family Member Group	8
That the CMHIs could be lost if control of funding transfers to the local level	1.27 (most important)	Front Range Family Member Group	17
That CMHI and overall mental health services would be more responsive if CMHI funding were controlled at the local level	1.29 (most important)	Regional Leader Group	17

Themes by Conceptual Area

In the sections below, themes from the focus groups are reported that were most important and prevalent in certain key domains, including 1) the populations that participants thought the CMHIs should serve; 2) needed CMHI services; 3) estimates of the size of the population needing CMHI services; 4) adequacy of community alternatives to CMHI-level care; 5) potential transfer of control of CMHI funding to local communities; and 6) staffing issues. Some of these themes appeared in the three tables above, but some were not represented in the lists above. They are presented below to present the overall feedback from the groups by domain. In general, only themes receiving a rating of "most important" (mean rating of 1.00 to 1.74) or "important" (mean rating of 1.75 to 2.49) are reported. See the methodology section at the end of the report for more detail on the importance rating process utilized by the groups.

Population to be served by the CMHIs – All the focus groups discussed the population to be served by the CMHIs. Three themes emerged that fall into the "most important" range, including:

- **That the CMHIs should focus upon care for those who assessed to be dangerous to themselves or others** (mean rating of 1.20, discussed in two groups with 34 participants) – The role of the CMHIs in treating "those most difficult" to treat was discussed in multiple ways by the Western Slope Consumer and CMHI Staff focus groups, as well as others. Expertise related to acuity (level of active symptomatology and need for clinical management) of persons treated was a key feature of the CMHIs discussed in multiple groups.
- **That the CMHIs should not provide care to sexual offenders needing primarily containment to protect the community instead of psychiatric treatment** (mean rating of 1.63, discussed in three groups with 48 participants) – Participants in the Psychiatric Leadership, Regional Leadership and State Leadership groups did discuss a clear role for the CMHIs in treating sexual offenders and perpetrators in need of psychiatric inpatient care, as well as an existing expertise at the CMHIs for such care. The State Leadership group particularly focused upon the increasing need to treat children who are inappropriately acting out sexually. However, those needing containment only in order to protect the community were clearly defined as inappropriate for care within the CMHIs.
- **That the CMHIs should provide long term inpatient care for persons with intensive psychiatric needs who do not respond well to treatment (i.e., refractory conditions) or who pose a danger to self or others that cannot be adequately managed in the community (sometimes referred to as "asylum" care)** (mean rating of 1.72, discussed in eight groups with 106 participants) – This theme was discussed specifically in eight groups, and at some level in all nine groups. A related theme that emerged was the assessment that current long term inpatient capacity is inadequate in Colorado, which was rated as "important" across three groups.

Needed CMHI services – In describing the services that should be provided by the CMHIs, only one specific service was discussed that fell into the "most important" range. This was the need for a state-guaranteed inpatient psychiatric capacity located on the Western Slope of Colorado (mean rating of 1.28, discussed in two groups with 28 participants), specifically discussed in the

State Leadership and Western Slope Family Member groups. A capacity for adult inpatient care was particularly stressed, although some did endorse a need for child, adolescent and geriatric capacity on the Western Slope. In general, the discussion focused on the funding of capacity, which did not necessarily imply establishing a third state-administered facility. Some felt that the capacity should be distributed in multiple sites on the Western Slope, although most felt the capacity should be in a central location such as Grand Junction.

Several observations were made about the quality of services provided by the CMHIs, including desired changes. Those rated "most important" included:

- **A need for more family and caregiver involvement in current CMHI services** (mean rating of 1.57, discussed in four groups with 44 participants) – This was stressed by all three family member and parent focus groups, as well as by the Western Slope consumer group.
- **The importance of psychoeducation** (mean rating of 1.61, discussed by two groups with 21 participants) – The Front Range Consumer and Parent of Child/Adolescent Consumer focus groups stressed the importance of education regarding one's illness, medications, the role of inpatient care, and coping skills.
- **A need for better coordination of care between the CMHIs and community providers** (mean rating of 1.61, discussed in five groups with 57 participants) – Family member, consumer, and parent participants were those focusing on this issue.
- **More focus on specific child issues including medication reviews, stability-based discharges, and parent/caregiver empowerment** (mean rating of 1.28, discussed in one group with eight participants) – These were discussed and rated quite highly by the Parent of Child/Adolescent Consumer focus group.
- **The need to limit the use of seclusion and restraint** (mean rating of 1.50, discussed in two groups with 21 participants) – This was noted by the Front Range Consumer and Parent focus groups.

Other services rated as "important" by one or more groups included integrated primary health care on campus at the CMHIs, dual diagnosis care (e.g., persons with mental illness co-occurring with developmental disabilities, substance abuse, organic brain injuries, or chronic medical conditions) and acute inpatient care (particularly for uninsured persons). Residential services were debated in some groups, with some suggesting that the CMHIs should provide such services to fill needed gaps and others expressing a clear preference for residential services available in person's communities.

Estimating the size of the population needing services –While specific estimates regarding the population in need of care were not provided by any of the groups, the groups did note multiple factors related to the issue of those in need of CMHI care. In general, participants described factors putting pressure on the capacity of the CMHIs. Those themes rated in the "most important" range included:

- **The pressure of an increasing uninsured population on the Colorado inpatient system and CMHIs** (mean rating of 1.38, discussed in two groups with 25 participants) – This was only rated by the Psychiatric Leadership group, but it was also discussed by the State Leadership group. The overall issue of an increasing state population with decreasing CMHI beds was also discussed.

- **Inadequate resources for persons without insurance** (mean rating of 1.73, discussed in two groups with 30 participants) – The larger issue of inadequate resources for persons without insurance was focused upon by the Consumer and Family Member groups held on the Front Range.
- **Inadequate management and resources in other human service systems** (mean rating of 1.50 for child welfare and 1.73 for developmental disabilities, discussed in three groups with 42 participants) – These two specific issues were rated only in the Regional Leaders group, but they were discussed in the State Leadership and Psychiatric Leadership groups as key factors putting pressure on current CMHI capacity. Other related issues discussed but rated less highly included inadequate services available for persons with organic brain disorders and sexual offender issues.
- **Inadequate overall inpatient services in Colorado** (mean rating of 1.65, discussed in five groups by 74 participants) – While only rated by the Psychiatric Leadership, CMHI Staff, and Parent groups, this was also discussed in the Regional and State Leadership groups. The decrease in overall psychiatric inpatient capacity over the past decade, reduced private child and adolescent capacity in the past year due to facility closing by Cleo Wallace, and the recent closing of psychiatric inpatient capacity in Durango were noted as putting upward pressure on the number of persons needing CMHI services.

Adequacy of community alternatives to CMHI care – There was much discussion across the groups regarding the adequacy of community alternatives to inpatient care. The overall issue of their adequacy was the single highest rated theme discussed in three or more groups, making it both the most important and most prevalent issue discussed (mean rating of 1.30, discussed by seven groups with 99 participants). Although only five groups gave numerical ratings for this issue, all but the two consumer groups specifically discussed it. Two groups did not rate the issue because of time limitations during the group. The consumer groups did, however, discuss several themes that implied a need for improved community-based services.

Other specific issues related to the adequacy of community alternatives were discussed. These included:

- **The need to develop more community-based residential placements and services** (mean rating of 1.50, discussed by three groups with 39 participants) – This was discussed by the Psychiatric Leadership, CMHI Staff and Western Slope Family Member groups. The Regional Leadership group focused on the more specific issue of a need to develop more child and adolescent residential placements, with its 17 participants rating this on average "most important" (1.40).
- **The inadequacy of the local system of care on Colorado's Western Slope** (mean rating of 1.25, discussed by one group with 8 participants) – This was discussed in detail by the Western Slope Family Member group, who discussed and rated multiple factors including the need for specific services such as mobile crisis response, inpatient care, and Assertive Community Treatment as "most important" issues. They also rated the quality of care, describing care on the Western Slope as less progressive and the area as "marginalized" within the state. For more detail on these issues, see the Family Member detail below.
- **The need to develop Assertive Community Treatment (ACT) services** (mean rating of 1.34, discussed by two groups with 16 participants) – The Psychiatric Leadership and

Western Slope Family Member groups specifically focused upon the need to develop ACT services. These two groups explored in significantly greater detail than other groups needed community alternatives.

- **The sense that current community alternatives are of good quality** (mean rating of 1.50, discussed by one group with 17 participants) – The Regional Leadership group wanted to make clear its sense that while community alternatives were lacking in capacity due to limited funding, those that are in place are of good quality.

Potential transfer of control of CMHI funding to local communities – Discussions regarding this issue fell into two broad groups clearly differentiated by stakeholder type. In general, family members of adult consumers and CMHI staff reacted negatively to this issue. The two family member and the CMHI staff group discussed this as, in general, a "bad idea" given that the community might not manage the funding appropriately to serve those currently served by the CMHIs (mean rating of 2.02 – important).

Regional mental health leaders and consumer reacted more favorably, but with some reservations. The Western Slope Family Member group was more in the middle, with significant concerns regarding the issue, but a sense that developing alternatives closer to where persons live would be preferable. The issue was not raised by the psychiatrist, parent or state leadership groups.

Key negative outcomes related to this issue and rated as "most important" on average included:

- The potential loss of the CMHIs (Front Range Family Member group, mean rating of 1.27).
- That more people will end up in the correctional system and other inappropriate institutions (Front Range Family Member group, mean rating of 1.40).
- That such a transfer would dilute the state's responsibility for the care of persons with mental illness (Front Range Family Member group, mean rating of 1.43).
- That more people will end up homeless (Front Range Family Member group, mean rating of 1.47).
- That the CMHIs would become destabilized and lose capacity (Front Range Family Member group, mean rating of 1.64).

Key positive outcomes associated with such a transfer and rated as "most important" on average included:

- That mental health services in general would become more responsive (Regional Leaders, mean rating of 1.25).
- That CMHI services would become more responsive (Regional Leaders, mean rating of 1.25).
- More regionally decentralized care (Western Slope Consumers, Regional Leaders, mean rating of 1.67).
- More creative and efficient use of mental health resources (Front Range Consumers, Western Slope Consumers, Regional Leaders, mean rating of 1.72).

However, Regional Leaders were concerned that the change might be accompanied by problematic additional changes that would negate its potential benefits, including:

- Promotion of unrealistic expectations at the state level to resolve multiple existing problems with this single set of funds (mean rating of 1.45).
- A reduction in overall mental health funding (mean rating of 1.40).

Participants were also asked to discuss strategies that could help sustain the viability of the CMHIs in the event of a transfer of funding control to the local level. Many ideas were generated, including the following themes rated as "most important":

- The need to build evaluation and accountability into any transfer of control of CMHI funds to the local level (discussed by four groups with 60 participants, mean rating of 1.44).
- The importance of increasing overall mental health funding to allow development of community alternatives (Western Slope Family Member and Regional Leader groups, mean rating of 1.16).
- The importance of preserving direct state funding for core inpatient safety net capacity (CMHI Staff and State Leader groups, mean rating of 1.25).
- The need to protect dedicated state facilities for persons without Medicaid (mean rating of 1.40) and Medicaid (mean rating of 1.54) (Front Range Family Member group).
- Several items related to the importance of adequate planning and collaboration between the CMHIs, MHASAs, and other human service agencies (Regional Leader and CMHI Staff groups, mean ratings ranging from 1.64 to 2.14).

A hypothetical version of such a transition plan was also discussed and critiqued in detail by the State Leadership group. See the section detailing the State Leadership focus group below for additional detail.

Staffing Issues – The groups also explored staffing issues. The single highest rated issue in this domain discussed across the groups was the theme of inadequate current staffing levels at the CMHIs (rated by the CMHI Staff and Parent of Child/Adolescent Consumers groups on average 1.13). Other specific staffing issues rated "most important" included:

- That staff are overwhelmed currently and have low morale (CMHI Staff and Western Slope Family Member groups, mean rating of 1.14)
- That staff are of high quality (Front Range and Western Slope Family Member groups, mean rating of 1.57)
- A need for more specific types of staff, including evaluation staff (Parent group, mean rating of 1.67), an activities director (Parent group, mean rating of 1.67), and improved access to psychiatrists (Front Range Family Member group, mean rating of 1.93)

The specific findings for each set of stakeholder will now be examined in turn. Consumer, family member, parent, CMHI staff, regional leader, psychiatrist and state leader perspectives are examined in detail and their specific demographic breakdowns provided.

Stakeholder CMHI Planning Themes: Consumers

Top Themes Overall

Consumers from across Colorado were convened in two focus groups, one held at a clubhouse program in Jefferson county (Front Range focus group) and the other in Delta (Western Slope focus group). Participants were asked to respond to three areas: their assessment of the adequacy of the current Colorado CMHI and overall mental health system, the ideal role for the CMHIs within the mental health system (including services that should and should not be provided at the CMHIs), and the potential impact of transferring control of CMHI funding to community providers.

The 24 consumers that participated in the focus groups identified 65 themes related to the current and future roles of the CMHIs which were rated in terms of their importance to understanding these issues. Seven (7) themes were generated by both groups, 27 by the Western Slope group only and 31 by the Front Range group only. Participants rated these on average as "important" (overall mean of 1.96).

Overall, 17 themes were rated among the "most important" themes to consider in understanding the CMHIs. To be categorized as one of the "most important" themes, a theme had to receive an average rating of 1.75. Only one (1) "most important" theme was generated by both groups and focused on the importance of discharge planning, including social workers assisting the transition to the community and referrals and linkages to community-based services and supports. The Western Slope group generated an additional theme related to this that it rated among the "most important," specifically the importance of providing consumers with resources to maintain connections and communicate with family members (mean rating of 1.63).

Another theme was generated in both groups and ranked by one as "most important" (mean rating of 1.71) and the other as just below that range (mean rating of 1.80). This focused on the potential benefit of transferring control of CMHI funds to the community, specifically increased emphasis on community-based treatment, less restrictive environments, decreased institutionalization, and enhanced community alternatives such as group homes, support groups, and consumer-run services.

Two themes related to the potential benefit of transferring control of CMHI funding to the community were generated only by the Western Slope group and rated among the "most important":

- That a transfer of control over CMHI funding to the local level could lead to innovation through increased interaction between providers and consumers, assuming that consumers are given an equal role in policy and decision making (mean rating of 1.50).
- That a transfer of control over CMHI funding would decentralize care resources in Colorado and allow other non-CMHI institutions to be used (mean rating of 1.57).

Another theme related to this was generated only by the Front Range group, specifically the idea that there would be less chance of fraud through better monitoring in the community if there was a transfer of control over CMHI funding to the local level (mean rating of 1.50).

Eight (8) additional "most important" themes were generated only by the Front Range group, including:

- The importance of determining who currently does not have access to CMHI services (mean rating of 1.50).
- A need to improve the seclusion and restraint process at the CMHIs (mean rating of 1.50).
- The importance of focusing on rehabilitation at the CMHIs, not just "warehousing" (mean rating of 1.50).
- Perceived current overuse of medication by the CMHIs as a "chemical restraint" (mean rating of 1.50).
- The importance of psychoeducation, education regarding one's illness including the effects of medication, reasons for hospitalization, and ways to cope with mental illness (mean rating of 1.55).
- The importance of monitoring each patient's activity at the CMHIs so that all patients feel safe (mean rating of 1.58).
- The importance of providing in-home services such as a home aid fixing meals or medications administration at home, instead of hospitalization (mean rating of 1.60).
- The need to improve access to mental health services and the CMHIs for the uninsured (mean rating of 1.67).

Three (3) additional themes were rated among the "most important" by the Western Slope focus group. These included:

- That consumers feel unsafe at the CMHIs (mean rating of 1.43).
- That the CMHIs help people deal with suicidality (mean rating of 1.50).
- The importance of expanding the array of services available in the community to include dental services (mean rating of 1.56).

Themes by Conceptual Area

The themes are summarized below by domain of inquiry. Please note that some of the themes from above are repeated in the sections below in order to describe the most important themes as they relate to the different domains of inquiry.

Population to be served by the CMHIs – Consumers noted only one issue directly related to populations needing CMHI services, namely the importance of providing a "safe place" and a "second home" for persons who cannot remain in the community (rated as "most important" by both groups).

Needed CMHI Services – Consumers noted several issues related to CMHI services. Those rated as "most important" (average rating under 1.75) included:

- That consumers feel unsafe at the CMHIs (Western Slope group only, mean rating of 1.43)

- That the CMHIs help people deal with suicidality (Western Slope group only, mean rating of 1.50)
- A need to improve the seclusion and restraint process at the CMHIs (Front Range group only, mean rating of 1.50)
- The importance of focusing on rehabilitation at the CMHIs, not just "warehousing" (Front Range group only, mean rating of 1.50). One consumer noted that CMHI-Fort Logan hires paid consumer staff, which supports rehabilitation. The Western Slope group rated as "important" the need for more peer presence and involvement in the CMHIs and community.
- Overuse of medication as a "chemical restraint" (Front Range group only, mean rating of 1.50)
- The importance of psychoeducation, education regarding one's illness including the effects of medication, reasons for hospitalization, and ways to cope with mental illness (Front Range group only, mean rating of 1.55)
- The importance of monitoring each patient's activity at the CMHIs so that other patients feel safe (Front Range group only, mean rating of 1.58)
- The importance of providing consumers with resources to maintain connections and communicate with family members (Western Slope group only, mean rating of 1.63).
- The importance of discharge planning, including social workers assisting the transition to the community and referrals and linkages to community-based services and supports (both groups, mean of 1.70). Consumers stressed the importance of this, given that lengths of stay have shortened and that persons are often discharged in a less stable condition than previously.

Several issues rated as "important" (average rating 1.75 to 2.49) related to the issue of consumer involvement and empowerment:

- A partnership stance toward consumers, in which consumers are included as part of the treatment team and involved in decision-making (Front Range group only)
- Either an in-house ombudsprogram or more information supporting linkages to the Mental Health Services Ombudsprogram (both groups, Front Range rating as "most important" and Western Slope as "important")
- Protection of personal and civil rights for consumers while in the hospital (Front Range group only)
- Services that build self-worth and are individualized to prevent hospitalization (Front Range group only)
- Ongoing advocacy meetings and forums while in the hospital (Front Range group only)
- Ongoing feedback from community-based consumers regarding the CMHIs (Front Range group only)
- Informing consumers of what possessions they can take with them to the CMHIs when admitted (Western Slope group only)
- Improving the morale of consumers while they are in the CMHIs, boosting morale and giving hope (Western Slope group only)
- Support in choosing transition helpers and inpatient staff (Western Slope group only)
- Providing plans and pets for consumers while in the CMHIs to help them feel comfortable (Western Slope group only)

Other overall issues rated as "important" included:

- That the CMHIs are too distant from consumers on the Western Slope (Western Slope group only). Related to this, Western Slope consumers noted that the transportation process is sometimes abusive and frightening, describing how consumers are often handcuffed or shackled when transported by law enforcement personnel, sometimes resulting in increased potential for violence
- The observation that the CMHIs have improved (Front Range group only) and that therapy activities are better and more available than in the past (Western Slope group only).
- The need for an easier, less stressful admissions process (Front Range group only). For example, participants complained about paperwork that they must sign without adequate review, as well as being subjected to seclusion upon admission.
- Providing a calming place for people in distress (Western Slope group only)
- Providing calming rooms (such as a video room) where consumers can get away from chaos (Western Slope group only)
- The need for more communication with the outside world while in the CMHIs (Western Slope group only, in between "important" and "somewhat important")
- The opportunity for CMHI staff to train local community inpatient providers (Western Slope group only)

Issues related to specific services that were rated "important" included:

- The need for active treatment of victimization issues by the CMHIs (Front Range group only)
- The need for more 1:1 therapy with therapists, as opposed to only medications (Front Range group only)
- The need for holistic treatments (both groups)
- The CMHIs should provide all needed health care services (Front Range group only)
- That advanced assessment should be provided by the CMHIs (Western Slope group only)
- The need for help with the transition to the community through education regarding options and step-down programs (Front Range group only)

The provision of ECT by the CMHIs was seen as "somewhat important" by the Western Slope group.

Participants rated the following services as "important" to <u>not</u> be provided in the CMHIs:

- In-home services should instead be provided in the community (most important, Front Range group only)
- Vocational and community-integrated employment services should instead be provided in the community (important, both groups)
- Independent living programs and living skill education should instead be provided in the community (in between "most important" and "important," Western Slope group only)
- Individual psychotherapy should instead be provided in the community (important, Western Slope group only)
- Empowerment training should instead be provided in the community (important, Front Range group only)
- Transportation services should instead be provided in the community (important, Western Slope group only)

- Housing services and supports should instead be provided in the community (somewhat important, Western Slope group only)

Estimating the size of the population needing services – Consumers noted two issues pertinent to the number of persons in need of CMHI services, both rated as "most important." These included:

- The importance of determining who currently does not have access to CMHI services (Front Range only, mean rating of 1.50)
- The need to improve access to mental health services in general and the CMHIs specifically for the uninsured (Front Range only, mean rating of 1.67)

Potential transfer of control of CMHI funding to local communities – Consumers identified multiple issues related to the potential transfer of control of some CMHI funding to the local level. The theme that this would increase the emphasis on community-based treatment and lead to enhanced community alternatives was rated by both groups, receiving a rating of "most important" (mean rating of 1.71) by the Western Slope group and "important" (mean rating of 1.80) by the Front Range group. Four specific issues related to this were also rated as "most important:"

- That a transfer of control over CMHI funding to the local level could lead to innovation through increased interaction between providers and consumers, assuming that consumers are given an equal role in policy and decision making (Western Slope group only, mean rating of 1.50). Consumers talked about how community programs for youth and other needed services do not currently exist on the Western Slope. It was noted that people would rather be treated outside the hospital: "Once the label of mentally ill is attached to a person, it is difficult to be treated differently. People stand a better chance of getting adequate and effective treatment in the community, because once on a mental health hold, they are subject to state hospital treatment."
- That a transfer of control over CMHI funding would decentralize care resources in Colorado and allow other non-CMHI institutions to be used (Western Slope group only, mean rating of 1.57). Consumers noted positive examples of how this has already been done in the developmental disabilities system.
- That there would be less chance of fraud through better monitoring in the community if there was a transfer of control over CMHI funding to the local level (Front Range group only, mean rating of 1.50)
- The possibility of expanding dental and other services in the community (Western Slope group only, mean rating of 1.56)

Additional issues were discussed and rated as "important." These included:

- An overall sense that moving funds would be positive because communities have more of a vested interested in their people than do hospitals (Front Range group only)
- That more community control would lead to less expensive, more appropriate services (Front Range group only)
- The hospitals would need to collaborate more to survive (Front Range group only)
- The risk that the CMHI system could "go broke," resulting in less dollars available for services for consumers (Front Range group only)

- The risk that more community control could lead to bad funding choices (Front Range group only)
- That funding for nursing home care should be decreased (Front Range group only)
- New transportation issues would arise within rural and frontier areas (as opposed to between that area and the CMHI) (Western Slope group only)

When asked to identify strategies that could help sustain the viability of the CMHIs in the event of a transfer of funding control to the local level, participants rated the following considerations as among the "most important" or "important" issues discussed during the group:

- That downsizing of the CMHIs is an acceptable outcome (rated as "important" by the Western Slope group)
- That the CMHIs could be used to serve other populations if their psychiatric capacity was decreased, such as criminal justice or general medical services (rated as "important" by the Western Slope group)

Staffing Issues – Consumers offered several observations regarding staff at the CMHIs. Those rated as "important" included:

- Concerns about the need to prevent potential abuse of consumers by staff (Front Range group only – rated between "most important" and "important")
- That CMHI nursing staff are good (Front Range group only)
- That the CMHIs can make increased, creative use of volunteers (Western Slope group only)

Table 5: Consumer Participant Demographics (Total N=24, Front Range N=13, Western Slope N=11)

Variable	Front Range Data	Western Slope Data	Combined Data
Gender			
Female	8	6	14 (60.9%)
Male	5	4	9 (39.1%)
Stakeholder Type (duplicated)			
Consumer	12	6	18
Family Member	0	7	7
Clinician	0	1	1
Ethnicity/Race			
African American	2	0	2 (08.7%)
Asian American	1	0	1 (04.3%)
Caucasian	9	11	20 (87.0%)
County of Residence			
Delta	0	10	10 (50%)
Denver	4	0	4 (20%)
Jefferson	6	0	6 (30%)
County of Employment			
Delta	0	5	5 (45.5%)
Denver	1	0	1 (09.1%)
Jefferson	4	0	4 (36.4%)
"Western Slope"	0	1	1 (09.1%)
Direct Experience with CMHIs?			
Yes	9	6	15 (68.2%)
No	2	5	7 (31.8%)
If "Yes," which CMHI?			
CMHI – Fort Logan	4	0	4 (30.8%)
CMHI – Pueblo	0	5	5 (38.5%)
Both CMHIs	3	1	4 (30.8%)
How long ago?			
Under six months ago	0	3	3 (20.0%)
One to two years ago	1	1	2 (13.3%)
Over two years ago	8	2	10 (67.7%)

Variable	Front Range Data	Western Slope Data	Combined Data
Total time of direct experience			
Over three years total	1	1	2 (15.4%)
Between one and three years	2	1	3 (23.1%)
Between three and 12 months	2	1	3 (23.1%)
Under three months	4	1	5 (38.5%)

Stakeholder CMHI Planning Themes: Family Members of Adult Consumers

Top Themes Overall

Family members of adult consumers attending the focus groups on the Front Range and Western Slope were asked to respond to three areas: their assessment of the adequacy of the current Colorado CMHI and overall mental health system, the ideal role for the CMHIs within the mental health system, and the potential impact of transferring control of CMHI funding to community providers. In addition, the Western Slope group occurred toward the end of the focus group process and several potential recommendations were posed to the group for reaction.

The 24 family members who participated in the focus groups identified 61 themes related to the current and future roles of the CMHIs, all of which were rated in terms of their importance to understanding these issues. Eight (8) themes were generated in both groups, 25 in the Western Slope group only and 28 in the Front Range group only. Average importance ratings for all 61 themes fell into the "most important" range.

Overall, 40 themes were rated among the "most important" (average rating of under 1.75) themes to consider in understanding the CMHIs. Five (5) were common to both groups and they included:

- That there are too few community alternatives to inpatient care currently and that local systems of care are inadequate (mean rating of 1.33).
- That accountability and stakeholder-driven evaluation need to be built into any transition of funding for the CMHIs to the local level (mean rating of 1.32).
- The belief that the CMHIs should provide a long-term care capacity (asylum care) (mean rating of 1.54).
- That current staff at the CMHIs are of high quality (mean rating of 1.63).
- That the CMHIs currently have inadequate family and caregiver involvement (mean rating of 1.63).

Ten (10) "most important" themes were generated only by the Front Range group. Most of these related to concerns regarding the possible implications of a transfer of funding for the CMHIs to the local level:

- The concern that a transfer of funding for the CMHIs to the local level would result in the loss of the CMHIs (mean rating of 1.27).

- The concern that a transfer would result in more consumers ending up in the correctional system (mean rating of 1.40).
- The concern that a transfer would dilute the State's responsibility to care for persons with mental illness (mean rating of 1.43).
- The concern that a transfer would result in more consumers ending up homeless (mean rating of 1.47).
- The concern that a transfer would destabilize the CMHIs and CMHI capacity would be lost (mean rating of 1.64).
- The overall concern that such a transfer was a bad idea (mean rating of 1.64).

Of the remaining four "most important" themes, three related to the desire to protect current capacity:

- The need to protect dedicated state inpatient capacity for persons without Medicaid (mean rating of 1.40)
- The need to protect dedicated state inpatient capacity for persons with Medicaid (mean rating of 1.54)
- That current long-term inpatient capacity (asylum care) is inadequate (mean rating of 1.53)

The remaining "most important" issue involved questioning the adequacy of studies that do not show consumer drift to correctional systems when state hospital capacity is diminished (mean rating of 1.73).

Twenty-five (25) themes were rated among the "most important" in the Western Slope focus group. Overall, this group rated 30 of its 33 themes (90.9%) in this highest importance range. This seemed to result from two issues. One was a relative homogeneity across many issues related to a very lengthy and detailed discussion of the local mental health service system in Western Colorado, which participants felt very strongly was inadequate. As this overall sense was explored more specifically, participants used a similarly high score across items.

Second, participants felt very strongly about the issues discussed. Participants seemed to want to emphasize the importance of the issues they raised, because as one participant noted, "This is the first time in 20 years that we've been invited to talk about this."

Five themes were rated as "most important" by all seven members of the group. Three (3) of these related to the inadequacy of the local mental health system of care, specifically:

- That local mobile crisis capacity is inadequate (mean rating of 1.00)
- That local coordination of care among providers is inadequate (mean rating of 1.00)
- That the Western Slope overall is less progressive than the rest of Colorado in its system of care (mean rating of 1.00)

The other two themes rated by the entire group in the "most important" range involved a critique of potential recommendations for changes to the CMHIs. These included:

- Endorsement of the need for CMHI capacity physically located on the Western Slope (mean rating of 1.00)

- Endorsement of a four year plan to move CMHI capacity to the Western Slope, fund increased community alternatives through an RFP process, maintain direct state funding for the core long-term capacity of the CMHIs, and move remaining CMHI funding to the local level at the end of the four year period, assuming a stakeholder-driven process of evaluation and accountability (mean rating of 1.00)

Themes by Conceptual Area

The themes are summarized below by domain of inquiry. Please note that some of the themes from above are repeated in the sections below in order to describe the most important themes as they relate to the different domains of inquiry.

Population to be served by the CMHIs – The family members noted a variety of sub-populations that should be served by the CMHIs. Only one theme was rated by both groups and its mean rating fell into the "most important" range. This was the theme that the CMHIs should provide long-term, refractory inpatient care. The Front Range focus group rated this even more strongly in the "most important" (1.54) range, while the Western Slope group only rated it on average as "important" (2.00). The Front Range group went on to note that current long-term, "asylum" capacity is inadequate (mean rating of 1.53).

Needed CMHI Services – One issue was identified regarding treatment provided by the CMHIs and rated in the "most important" range, specifically that the CMHIs currently have inadequate family and caregiver involvement (mean rating of 1.63). Other specific issues regarding treatment provided by the CMHIs were rated in the "important" range, including:

- That there is too much emphasis currently on involuntary treatment criteria (27-10) as a threshold for entry into the CMHIs (both groups). In some cases, dangerousness and/or level of acuity was reported to have been exaggerated in order to meet criteria for admission. Even when acuity is high, police and mental health centers were perceived as being unwilling to help consumers, particularly on the Western Slope.
- That current services are too restrictive and need to provide a more positive environment in order to be effective (both groups). One member described the CMHI-Pueblo treatment environment as seeming like a "penal institution," with a high level of restrictiveness, even for cooperative persons.
- That there is currently an inadequate focus on rehabilitation and recovery at the CMHIs (Front Range group only)
- That current lengths of stay are too short (Front Range group only)
- That there is inadequate discharge planning (Front Range group only). Participants stated that sometimes very short notice is given to hospitalized consumers and family members prior to discharge, and that discharges can occur without adequate discharge plans or medication orders. Hospital staff were also described as at times not understanding the nature of the resources available in the community.
- That there is inadequate coordination between the CMHIs and local providers (Front Range group only). Hospital staff were described as being sometimes unwilling to communicate with local mental health center service providers (Western Slope group).

- That there are too many repeat admission (Front Range group only).
- That the mix of acute and long-term patients on the same unit is problematic (Front Range group only). They noted that as the CMHIs become more acute care oriented, it is "not fair" for consumers in need of long-term care to be in these more acute settings.
- That there is a lack of common sense at times when consumer rights are supported at the expense of treatment (Western Slope group only). For example, participants observed that in over-emphasizing consumer confidentiality, the CMHIs give up the opportunity to involve family members in the treatment who could provide valuable input and support.

Estimating the size of the population needing services – Family members noted two specific factors impacting the adequacy of current capacity. They rated as "important" the issues of:

- Inadequate current inpatient services for persons without Medicaid or other insurance (Front Range group only)
- Inadequate current overall inpatient capacity for children and adolescents (Front Range group only)

Adequacy of community alternatives to CMHI care – Family members, especially those on the Western Slope, rated as among the "most important" issues various aspects of the local mental health system of care that they viewed as inadequate. Both groups discussed the inadequacy of current community alternatives to the CMHIs, rating this on average among the highest rated themes discussed (mean rating of 1.33).

As described above, the Western Slope group noted several themes rated among the "most important" that detailed specific aspects of the local system of care that they viewed as inadequate. Some related to an absence of certain specific services:

- Mobile crisis availability is inadequate (mean rating of 1.00). As a result, local law enforcement personnel who may not be equipped or trained to handle mental health emergencies must respond to these situations.
- Hospital availability is inadequate (mean rating of 1.14)
- Intensive case management and assertive community treatment availability is inadequate (mean rating of 1.29)
- More acute treatment unit (ATU) capacity is needed on the Western Slope (mean rating of 1.29)
- Psychiatrist availability is inadequate (mean rating of 1.43)
- That Western Slope routine case management availability is inadequate (mean rating of 1.50). As a result, participants noted that consumers often cannot access services in a timely manner, resulting in the need for more intensive, more costly services when they do receive care.

Other "most important" themes related to practices across treatment modalities:

- That coordination of care among Western Slope providers is inadequate (mean rating of 1.00)
- That there needs to be increased respect for consumers and family members by mental health professionals on the Western Slope (mean rating of 1.14)
- That Western Slope is marginalized compared to other parts of Colorado, a "step-child" to Denver and the rest of the state (mean rating of 1.33)

- That family involvement by providers on the Western Slope is inadequate (mean rating of 1.43)
- That transportation to many Western Slope services is problematic (mean rating of 1.57)

In addition, Western Slope participants rated as "most important" several specific issues demonstrating just how difficult it is to get needed services on the Western Slope:

- That the service system on the Western Slope is overall less progressive than more urban areas of Colorado (mean rating of 1.00)
- That stakeholders throughout the system (e.g., professional staff, family members, consumers, police, and others) sometimes have to exaggerate about the severity of symptoms in order to access needed services (especially inpatient services) (mean rating of 1.29)
- That consumers often have to enter the criminal justice system in order gain access to a "safe" place (mean rating of 1.14). Ironically, participants noted that an unintended consequence for consumers accessing help was sometimes that of ending up charged with legal offenses (e.g., assault, destruction of property).
- That the system of care puts too much burden on family members (mean rating of 1.33)
- That the system of care puts too much burden on consumers (mean rating of 1.57)

Other themes related to this perception of the system putting too much burden on consumers were rated as "important," on average:

- The distance that persons in Western and Northern Colorado have to travel to the CMHIs (while rated on average as "important," the larger Front Range group rated this as "important," while the Western Slope group rated it as "most important")
- The Western Slope group went on to discuss the need for one or more CMHIs to be developed on the Western Slope. While all were rated as "most important," the group rated the need for one Western Slope CMHI serving adults highest, a Western Slope CMHI serving children and adolescents next, a second CMHI on the Western Slope for adults next, and a second CMHI on the Western Slope serving children and adolescents after that.
- An absence of local psychiatric inpatient services in many rural areas (Front Range group only – the Western Slope group discussed this same issue in more detail, however, and rated it more highly). However, the Front Range group questioned whether adequate services in rural areas would be possible in many areas, given that urban areas are more likely to attract providers.
- The need to improve services for persons without Medicaid to make them more equitable to those available to Medicaid recipients (Front Range group only).

Potential transfer of control of CMHI funding to local communities – Family members identified multiple concerns related to the potential transfer of control of some CMHI funding to communities. While both focus groups noted concerns related to this, those of the Front Range group were more elaborated and those of the Western Slope group were more balanced by a desire to gain access to funds to develop more local services. Those themes rated as "most important" included:

- That such a transfer was in general a bad idea (Front Range group only)
- The concern that a transfer of funding for the CMHIs to the local level would result in the loss of the CMHIs (Front Range group only)

- The concern that a transfer would result in more consumers ending up in the correctional system (Front Range group only). More specifically:
  - The Western Slope group noted that consumers currently end up in jail or forensic psychiatric facilities instead of accessing appropriate mental health services.
  - The Front Range group questioned the adequacy of any studies casting doubt upon a clear link between reductions in state psychiatric hospital capacity and movement of persons with mental illness into the correctional system.
- The concern that a transfer would dilute the State's responsibility to care for persons with mental illness (Front Range group only).
- The concern that a transfer would result in more consumers ending up homeless (Front Range group only).
- The concern that a transfer would destabilize the CMHIs and CMHI capacity would be lost (Front Range group only) due to an incentive to use community resources rather than the CMHIs.

When asked to identify strategies that could help sustain the viability of the CMHIs in the event of a transfer of funding control to the local level, family members rated the following considerations as among the "most important" issues discussed during the group:

- That accountability and stakeholder-driven evaluation need to be built into any transition of funding for the CMHIs to the local level (both focus groups)
- The need to protect dedicated state inpatient capacity for persons without Medicaid (Front Range group only)
- The need to protect dedicated state inpatient capacity for persons with Medicaid (Front Range group only)
- Endorsement of a four year plan to move CMHI capacity to the Western Slope, fund increased community alternatives through an RFP process, maintain direct state funding for the core long-term capacity of the CMHIs, and move remaining CMHI funding to the local level at the end of the four year period, assuming a stakeholder-driven process of evaluation and accountability (Western Slope group only)
- Endorsement of the idea presented by the facilitator of an RFP process to fund and develop local community alternatives to the CMHIs, assuming that the process was stakeholder driven (Western Slope group only)

Several additional issues were rated as "important" by the Front Range group:

- The need to protect non-Medicaid funding
- The need to change the system so that persons did not lose their Medicaid eligibility upon entering the CMHIs

Staffing Issues – Family members offered several observations regarding staff at the CMHIs. Two issues were generated in both groups. The observation that current CMHI staff are of high quality was rated among the "most important" ideas discussed. Both groups also observed that current staff have low morale and seem overwhelmed at times, rating this theme as "important." This was seen as negatively impacting quality of care.

The Front Range group added three additional themes, all rated as "important:"

- That CMHI staff need enhanced supports
- That there is not currently sufficient access to psychiatrists at the CMHIs
- That psychiatrist turnover is too high at the CMHIs

Table 6: Family Member Participant Demographics (Total N=25, Front Range N=17, Western Slope N=8)

Variable	Front Range Data	Western Slope Data	Combined Data
Gender			
Female	13	4	17 (73.9%)
Male	3	3	6 (26.1%)
Stakeholder Type (duplicated)			
Family Member – Adult Consumer	14	7	21
Parent of Child/Adolescent Consumer	1	1	2
Advocate	1	2	3
Clinician/Provider	1	1	2
Ethnicity/Race			
Caucasian	15	5	20 (87.0%)
Latino	1	2	3 (13.0%)
County of Residence			
Arapahoe	2	0	2 (09.1%)
Archuleta	0	1	1 (04.5%)
Boulder	3	0	3 (13.6%)
Delta	0	2	2 (09.1%)
Douglas	1	0	1 (04.5%)
El Paso	2	0	2 (09.1%)
Jefferson	4	0	4 (18.2%)
La Plata	0	1	1 (04.5%)
Larimer	1	0	1 (04.5%)
Mesa	0	3	3 (13.6%)
Pueblo	2	0	2 (09.1%)

Variable	Front Range Data	Western Slope Data	Combined Data
County of Employment			
Archuleta	0	1	1 (06.3%)
Boulder	2	0	2 (12.5%)
Douglas	1	0	1 (06.3%)
El Paso	2	0	2 (12.5%)
Jefferson	1	0	1 (06.3%)
La Plata	0	1	1 (06.3%)
Mesa	0	2	2 (12.5%)
Pueblo	1	0	1 (06.3%)
Weld	1	0	1 (06.3%)
Retired	2	0	2 (12.5%)
Disabled	0	2	2 (12.5%)
Direct Experience with CMHIs?			
Yes	15	6	21 (91.3%)
No	1	1	2 (08.7%)
If "Yes," which CMHI?			
CMHI – Fort Logan	3	0	3 (13.6%)
CMHI – Pueblo	9	5	15 (68.2%)
Both CMHIs	3	1	4 (18.2%)
How long ago?			
Under six months ago	8	6	14 (70.0%)
Six to twelve months	2	0	2 (10.0%)
One to two years ago	2	0	2 (10.0%)
Over two years ago	2	0	2 (10.0%)
Total time of direct experience			
Over three years total	1	1	2 (10.0%)
Between one and three years	7	3	10 (50.0%)
Under three months	6	2	8 (40.0%)

Stakeholder CMHI Planning Themes: Parents and Caregivers of Child and Adolescent Consumers

Top Themes Overall

Parents of child and adolescent consumers were asked to respond to three areas: their assessment of the adequacy of the current Colorado CMHI and overall mental health system, the ideal role for the CMHIs within the mental health system (including services that should and should not be provided at the CMHIs), and the potential impact of transferring control of CMHI funding to community providers. The latter category regarding the transfer of funding control was discussed, but not rated due to time constraints.

The eight (8) family members that participated in the focus groups identified 30 themes related to the current and future roles of the CMHIs, 22 of which were rated in terms of their importance to understanding these issues. The cumulative average importance rating for all 22 themes fell into the "most important" range.

Overall, 18 of the rated themes were individually rated among the "most important" themes to consider in understanding the CMHIs. The top 10 included:

- That the CMHIs should provide intensive medication review and ongoing evaluation by a trained professional (mean rating of 1.14).
- That the CMHIs currently have an inadequate # of staff (mean rating of 1.17).
- That the CMHIs should be a place of safety and recovery for those times when other places are not sufficient (mean rating of 1.20).
- That the CMHIs should be seen and appreciated (and used/funded) as a vital, essential part of the continuum of care (mean rating of 1.20).
- The importance of family involvement in the hospital setting, where the family is trained in the therapy done while children are in the hospital for purposes of transitioning back to the home (mean rating of 1.29).
- That the CMHIs should discharge child and adolescent consumers based on clinical stability, not funding pressures (mean rating of 1.29).
- That current lengths of stay at the CMHIs are inadequate (mean rating of 1.33), that is they are often too short to achieve clinical stability.
- That the CMHIs should provide follow-up care (mean rating of 1.33).
- That the CMHIs should empower parents and other caregivers to ensure that child and adolescent consumers remain in a safe environment, recognizing caregivers' importance and giving them an active role (mean rating of 1.40).
- That the CMHIs should be a focal point for ensuring and advancing the effective use of advanced directives (mean rating of 1.40). This was seen as a way to help prevent difficulties resulting from differences of opinion regarding treatment and disposition between parents and hospital care providers.

Themes by Conceptual Area

The themes are summarized below by domain of inquiry. Please note that some of the themes from above are repeated in the sections below in order to describe the most important themes as they relate to the different domains of inquiry.

Population to be served by the CMHIs – The parents and caregivers rated as "most important" the following themes describing sub-populations that should be served by the CMHIs. They include:

- That the CMHIs should be a place of safety and recovery for those times when other places are not sufficient (mean rating of 1.20), implying a focus on children and adolescents that cannot be served in less restrictive settings.
- That the CMHIs should play a role in diverting people from the correctional system, in coordination with community programs (mean rating of 1.20). Participants described a sense that there is too much "criminalization" of mental illness currently. Participants especially noted that a good public relations campaign spearheaded by the CMHIs is needed regarding these issues, stressing that the stigma attached to having a mental illness at times seems to leave communities more accepting of youth with legal involvement than with mental illness. The CMHIs were seen as a key location to engage in more visible advocacy activities on behalf of people with mental illness to foster community acceptance.

Needed CMHI Services – Overall, the group endorsed as "most important" the value of CMHI services, noting that the CMHIs should be seen and appreciated (and used / funded) as a vital, essential part of the continuum of care (mean rating of 1.20). Participants further noted that this role should center upon the value of CMHI services, not their costs.

Most specific issues discussed related to the services provided by the CMHIs. Those rated in the "most important" range included several related to specific types of treatments:

- That the CMHIs should provide follow-up care, in particular both individual and family oriented education and support (mean rating of 1.33).
- That restraints should not be used, unless they are the only means to respond to persons dangerous to self or others (mean rating of 1.50). One participant noted that "consumers need structure without incarceration . . . when in the hospital, they need a hospital, not seclusion and restraint . . ."
- Locked units should be available for those times when they are needed, that is when less structure will not work (mean rating of 1.71).

Several themes involved issues related to the involvement of parents and caregivers in the treatment provided by the CMHIs. Participants clearly saw the CMHIs in an advocacy role as well as a care provision role. Family services and involvement while in the hospital were also stressed. The following themes were rated in the "most important" range:

- The importance of family involvement in the hospital setting, where the family is trained in the therapy done while children are in the hospital for purposes of transitioning back to the home (mean rating of 1.29).

- That the CMHIs should empower parents and other caregivers to ensure that child and adolescent consumers remain in a safe environment, recognizing caregivers' importance and give them an active role (mean rating of 1.40).
- That the CMHIs should be a focal point for ensuring and advancing the effective use of advanced directives (mean rating of 1.40).
- A need to provide intensive family education (mean rating of 1.71).

Several examples of current lack of family involvement were given. One parent described having to meet in a day room without privacy and the sense that the psychiatrist paid little attention to the family's input. Another parent described driving from Boulder to Pueblo for a scheduled staffing and having no CMHI staff show up.

Other issues critiqued the current treatment provided at the CMHIs, more so than had been done by other groups. Key issues ranked in the "most important" range included:

- That the CMHIs should discharge child and adolescent consumers based on clinical stability, not funding pressures (mean rating of 1.29).
- That current lengths of stay at the CMHIs are inadequate (mean rating of 1.33).
- An inappropriate lack of attention to general medical needs related to a need for more primary medical care staff (mean rating of 1.50). Participants cited an example where acne medication was not given to one teen despite much previous effort to improve his acne condition, which had an effect on his self-image and self-esteem. It was also noted that there is frequent inattention to other medical issues such as weight gain.

Several issues focused on the issues of medication use. Two themes criticized overuse of medications currently. Although they were rated below other issues discussed ("important" instead of "most important"). They included:

- Inappropriate increases in medications for individual children and adolescents at the CMHIs (mean rating of 1.83).
- Overmedication currently to get youth to comply and follow rules, and a related need for other tools to manage behavior (mean rating of 2.00).

However, the role of the CMHIs in medication issues was the single most highly rated theme discussed by parent/caregiver participants. They gave a mean rating of 1.14 to the idea that the CMHIs should provide intensive medication review and ongoing evaluation by a trained professional. The critique of current medication practice seemed to stem as much from a valuing of this role of the CMHIs as from concerns about the manner of that practice currently.

One specific issues regarding treatment provided by the CMHIs was rated in the "important" range, specifically the need for more attention to nutrition and well-being (mean rating of 2.33). Another theme was rated as "somewhat important," namely that smoking cessation programs should not be provided (mean rating of 2.50). The issue of inadequate physical structures at Fort Logan was also noted: "We build new ballfields and convention centers, but when it comes to mentally ill, we just store them."

Estimating the size of the population needing services – The parents and caregivers made the overall observation that the current number of child and adolescent inpatient beds at the CMHIs

is inadequate (mean rating of 1.67). There was a clear fear that beds might be reduced further, and this issue was rated in the "most important" range.

Adequacy of community alternatives to CMHI care – No issues were specifically identified and rated in this domain, but several un-rated themes were discussed. These included the perception that services in the community did not increase after the start of Medicaid managed care and that current community services were not adequate to replace CMHI services.

Potential transfer of control of CMHI funding to local communities – When asked to identify strategies that could help sustain the viability of the CMHIs in the event of a transfer of funding control to the local level, no issues were specifically identified and rated. However, several un-rated themes were discussed, including:

- That the CMHIs should specialize more and work to be recognized for their core competencies.
- Diversifying payer sources.
- To change state funding policies so that "managed care groups" are not "penalized" for using the CMHIs.
- Use the CMHIs to provide continuing education to providers in the community.

Staffing Issues – Family members offered several observations regarding staff at the CMHIs. Overall, participants expressed a positive view and support for CMHI staff. They noted that mental health workers are doing a difficult job and often do not get enough praise, pay, or benefits. They did not that some staff were "burned out" ("they stay to reach retirement"), but most were viewed positively. Specific issues rated included:

- That the CMHIs currently have an inadequate number of staff (mean rating of 1.17).
- That the perceived lack of attention to general medical needs related to a need for more primary medical care staff (mean rating of 1.50).
- That there are not enough evaluation staff (mean rating of 1.67).
- The need for an activities director to attend to physical activity needs (mean rating of 1.67). Participants noted that hospitalized youth often spend long periods of time indoors without adequate physical activity, contributing to additional medical issues such as weight gain.

Table 7: Parent and Caregiver Participant Demographics (N=8)

Variable	Data	Variable	Data
Gender		Direct Experience with CMHIs?	
Female	8 (100.0%)	Yes	7 (87.5%)
		No	1 (12.5%)
Stakeholder Type (duplicated)			
Parent of Child Consumer	6 (60.0%)	If "Yes," which CMHI?	
Family Member of Adult	3 (30.0%)	CMHI – Fort Logan	4 (57.1%)
Consumer	1 (10.0%)	CMHI – Pueblo	1 (14.3%)
		Both CMHIs	2 (28.6%)
Ethnicity/Race			
African American	1 (12.5%)	How long ago?	
Caucasian	6 (75.0%	Less than six months ago	2 (28.6%)
Latino	1 (12.5%)	Six to twelve months ago	1 (14.3%)
		One to two years ago	1 (14.3%)
County of Residence		Over two years ago	3 (42.9%)
Adams	1 (12.5%)		
Boulder	2 (25.0%)	Total time of direct experience	
Denver	2 (25.0%)	Over three years total	1 (14.3%)
Jefferson	2 (25.0%)	Between one and three years	2 (28.6%)
Larimer	1 (12.5%)	Between three and twelve months	4 (57.1%)
County of Employment			
Boulder	2 (25.0%)		
Denver	3 (37.5%)		
Jefferson	2 (25.0%)		
Larimer	1 (12.5%)		

Stakeholder CMHI Planning Themes: Regional Mental Health Leaders

Top Themes Overall

Community mental health center, MHASA and advocacy leaders from across Colorado were asked to respond to three areas: their assessment of the adequacy of the current Colorado CMHI and overall mental health system, the ideal role for the CMHIs within the mental health system, and the potential impact of transferring control of CMHI funding to community providers.

The 17 executive directors and other senior managers that participated in the focus group identified 36 themes related to the current and future roles of the CMHIs. These themes were rated in terms of their importance to understanding the role of the CMHIs. Participants rated these on average as "important" (overall mean of 1.94), with 15 rated among the "most important" themes to consider in understanding the CMHIs. These included:

- That there is too little current capacity of community alternatives to inpatient care currently (mean rating of 1.08).
- That there is a need to increase overall funding for mental health in Colorado to allow community alternatives to be enhanced (mean rating of 1.18).
- That overall services to consumers currently served by the CMHIs would be more responsive if funding was controlled at the local level (mean rating of 1.25).
- That CMHI services would be more responsive if funding was controlled at the local level (mean rating of 1.33).
- That child and adolescent psychiatric inpatient capacity in Colorado is particularly inadequate (mean rating of 1.36).
- That current child and adolescent residential capacity is inadequate (mean rating of 1.40).
- That the transfer of funding for the CMHIs to the local level would be especially problematic if current CMHI funding was reduced prior to being transferred (mean rating of 1.40).
- The concern that the transfer of funding for the CMHIs to the local level might promote unrealistic expectations in state government that multiple additional existing problems in the mental health and human service system could be solved, rather than the expectation to simply use those funds to create community-based alternatives to state hospital care (mean rating of 1.45).
- That poor management of cases, especially residential placements, in the child welfare system contributes to inappropriate use of the CMHIs (mean rating of 1.50).
- That current community alternatives to inpatient care are of good quality (mean rating of 1.50).
- That the transfer of funding for the CMHIs to the local level would require a transition period of collaborative planning among the different MHASAs or other local entities receiving the funds (mean rating of 1.64).
- That overall services to consumers currently served by the CMHIs would be more creative if funding was controlled at the local level (mean rating of 1.67).
- That the transfer of funding for the CMHIs to the local level would require a transition period of collaborative planning between the different MHASAs or other local entities receiving the funds and other local community partners (mean rating of 1.67).
- That the transfer of funding for the CMHIs to the local level would result in the development of mental health resources closer to home, thus correcting the current distance problem between the CMHIs and persons living in rural and frontier Colorado (mean rating of 1.73).
- That inadequate capacity in the developmental disabilities system contributes to inappropriate use of the CMHIs (mean rating of 1.73).

Themes by Conceptual Area

The themes are summarized below by domain of inquiry. Please note that some of the themes from above are repeated in the sections below in order to describe the most important themes as they relate to the different domains of inquiry.

Estimating the size of the population needing services – The regional leaders saw several factors impacting the adequacy of current capacity. They rated as among the "most important"

factors the concern that child and adolescent psychiatric inpatient capacity in particular in Colorado is inadequate (mean rating of 1.36). For example, participants observed that Denver metro area hospitals are busy and frequently on divert status. In one case, an adolescent consumer was in the emergency room for over 24 hours because of the unavailability of beds. This was described as not an uncommon scenario for children and adolescents.

Also, child and adolescent beds have closed, in some cases because of the lack of financial assistance to treat the indigent. In Fort Collins, child, adolescent, and adult beds were described as being reduced, putting further strain on the state hospital. While an RTC was opened, the new capacity used beds that in turn limited the acute bed capacity. It was noted that creating another state hospital would not address the issue of needing to treat people where they live.

It was also noted that consumers in need of longer term treatment (4-8 months) are often in acute beds in the community and that there are as many as 40 consumers at one time in acute community hospital beds who are on the waiting list for Fort Logan.

The regional leaders also rated many issues related to inadequacies in other human service systems as among the "most important" or "important" issues. Overall, the view was that these inadequacies lead to inappropriate use of the CMHIs by persons who would be better served in other systems. These included:

- That poor management of cases, especially residential placements, in the child welfare system contributes to inappropriate use of the CMHIs (mean rating of 1.50)
- That inadequate capacity in the developmental disabilities system contributes to inappropriate use of the CMHIs (mean rating of 1.73). It was also noted that the developmental disabilities system in particular could make better use of its existing institutional resources at the Regional Centers. This was rated as "important," but not among the "most important" issues (mean rating of 2.00).
- Inadequacies in the substance abuse system were rated as "important," but not among the "most important" issues (mean rating of 1.93).
- That other human service systems in general should be able to make better use of their existing resources (mean rating of 2.13).
- Inadequacies in the availability of services for sexual perpetrators (mean rating of 2.27).
- The participants rated as only "somewhat important" the impact of inadequacies in the availability of services for persons with organic brain disorders (mean rating of 2.67).

Overall, participants observed that the CMHIs are being asked to play a variety of roles in providing treatment to different subpopulations (e.g., persons with developmental disabilities, those with organic brain disorders). As those beds are inappropriately filled, the remaining number of beds are inadequate since their functional capacity is lower than their actual number. It was suggested that adequacy should be determined by how funding is determined, such that if no other facilities are available for special populations and they need to be in the state hospital, then funding from those systems needs to be made available.

The regional leaders also rated as "important" the issues of:

- Inadequate long-term inpatient capacity (asylum capacity).
- Inadequate long-term unlocked residential capacity (asylum capacity).
- That the CMHIs could make better use of existing resources to enhance the availability of its services.
- That too many persons with mental illness who need long-term care are currently served in nursing homes, which were seen as inadequate placements.
- Inadequate overall adult inpatient capacity across Colorado.

The regional leaders rated as "somewhat important" the issues of:

- Inadequate overall forensic capacity, which leads to inappropriate use of the state hospitals. This has multiple effects, given that when behavioral transfers to forensic beds are needed and forensic beds are not available, civil units are affected by higher acuity levels, as well as by not having available a new bed available for a civil admission.
- Inadequate overall geriatric inpatient capacity across Colorado.
- That the increasing need to meet 27-10 criteria for involuntary treatment prior to entry into the CMHIs increases stress on the inpatient units and practically lowers their capacity.

Adequacy of community alternatives to CMHI care – Regional leaders placed most of their emphasis on an assessment of the adequacy of current community alternatives to CMHI services. They rated as among the "most important" issues the following:

- That there is too little capacity for community alternatives to inpatient care currently (mean rating of 1.08).
- That there is a need to increase overall funding for mental health in Colorado to allow community alternatives to be enhanced (mean rating of 1.18).
- That current child and adolescent residential capacity is inadequate (mean rating of 1.40).
- That current community alternatives to inpatient care are of good quality (mean rating of 1.50).

The distance that persons in Western and Northern Colorado have to travel to the CMHIs was discussed in several ways as an "important" issue:

- The actual distance traveled by persons in Western and far Southern and Northern Colorado.
- The compounding of actual distance issues for persons in Northern Colorado through the allocation system that assigns this catchment area adult beds at CMHI-Pueblo rather than CMHI-Fort Logan.

While Southeastern Colorado is currently developing acute inpatient capacity at a hospital in Farmington, NM, this was seen as problematic in the sense that it dilutes responsibility for the consumer and gives the appearance that Colorado is not caring for its mentally ill. However, the presence of such a service closer to the communities in Southeastern Colorado where people live was endorsed.

Potential transfer of control of CMHI funding to local communities – Regional leaders identified multiple issues related to the potential transfer of control of some CMHI funding to the local level. Those issues rated as among the "most important" included:

- That overall services to consumers currently served by the CMHIs would be more responsive if funding was controlled at the local level (mean rating of 1.25).
- That CMHI services would be more responsive if funding was controlled at the local level (mean rating of 1.33).
- That the transfer of funding for the CMHIs to the local level would be especially problematic if current funding was diminished (mean rating of 1.40).
- The concern that the transfer of funding for the CMHIs to the local level might promote unrealistic expectations in state government that multiple additional existing problems in the mental health and human service system could be solved, rather than the expectation to simply use those funds to create community-based alternatives to state hospital care (mean rating of 1.45). One participant summed it up: "Moving inadequate funds from the hospital to the community still leaves inadequate funds."
- That the transfer of funding for the CMHIs to the local level would require a transition period of collaborative planning between the different MHASAs or other local entitites receiving the funds and other local community partners (mean rating of 1.67).
- That the transfer of funding for the CMHIs to the local level would result in the development of mental health resources closer to home, thus correcting the current distance problem between the CMHIs and persons living in rural and frontier Colorado (mean rating of 1.73).

Additional issues were discussed and rated as "important." These included:

- The need to reconceptualize CMHI services as services that can be provided in multiple ways rather than the services of specific facilities. One participant stated, "State hospitals are a service, not a building."
- That the transfer of funding for the CMHIs to the local level could result in increased demand for mental health services given the current unmet needs of uninsured persons.

Participants also discussed the possibility that the transfer of funding to the local level could lead to downsizing of CMHI facilities, but this was rated as "not as important" (the lowest rating possible).

When asked to identify strategies that could help sustain the viability of the CMHIs in the event of a transfer of funding control to the local level, participants rated the following considerations as among the "most important" or "important" issues related to these issues:

- That increasing overall funds for mental health to enhance community alternatives to the CMHIs was the single "most important" potential idea (mean rating of 1.18)
- The need for collaborative planning at multiple levels, including:
    - Collaborative planning among the MHASAs or other local entities receiving the funds (mean rating of 1.64)
    - Collaborative planning between the local entities receiving the funds and other local community partners (mean rating of 1.67)
    - The importance of collaborative planning between the local entities and the CMHIs was rated as just between the "most important" and "important" (mean rating of 1.75)
- That accountability and evaluation need to be built into the transition (mean rating of 1.75)
- That bridge funding to support the building of community-based alternatives would help support CMHI viability (mean rating of 1.91)

Table 8: Regional Leader Participant Demographics (N=17)

Variable	Data	Variable	Data
Gender		Direct Experience with CMHIs?	
Female	13 (76.5%)	Yes	15 (93.8%)
Male	4 (23.5%)	No	1 (06.2%)
Stakeholder Type	(duplicated)	If "Yes," which CMHI?	
CMHC Administration	12	CMHI – Fort Logan	2 (13.3%)
MHASA Administration	8	CMHI – Pueblo	2 (13.3%)
Advocate	2	Both CMHIs	11 (73.3%)
Consumer	1		
Clinician	3	How long ago?	
Parent of Child Consumer	1	Less than six months ago	14 (93.3%)
Family Member of Adult	2	Six to twelve months ago	1 (06.7%)
Ethnicity/Race		Total time of direct experience	
African American	1 (05.9%)	Over three years total	14 (93.3%)
Caucasian	16 (94.1%)	Between one and three years	1 (06.7%)
County of Residence		County of Employment	(duplicated)
Arapahoe	3 (17.6%)	Adams	2
Boulder	1 (05.9%)	Arapahoe	4
Denver	3 (17.6%)	Boulder	1
Douglas	2 (11.8%)	Denver	3
El Paso	1 (05.9%)	El Paso	2
Fremont	1 (05.9%)	Fremont	1
Jefferson	2 (11.8%)	Jefferson	1
Larimer	1 (05.9%)	Larimer	1
Logan	1 (05.9%)	Logan	1
Montrose	1 (05.9%)	Montrose	1
Weld	1 (05.9%)	Weld	1

Stakeholder CMHI Planning Themes: CMHI Staff

Top Themes Overall

Clinical staff and unit managers from the CMHI-Pueblo and CMHI-Fort Logan were asked to respond to three areas: their assessment of the adequacy of the current Colorado CMHI and overall mental health system, the ideal role for the CMHIs within the mental health system, and the potential impact of transferring control of CMHI funding to community providers.

The 23 staff members who participated in the focus group identified 48 themes related to the current and future roles of the CMHIs, of which 23 were rated in terms of their importance to understanding these issues. Participants rated these 23 on average as "important," with seven (7) rated among the "most important" themes to consider in understanding the CMHIs. These included:

- That the current staffing level is inadequate (mean rating of 1.09).
- The need to preserve direct funding for core safety net capacity at the CMHIs in the event of a transfer of funding control to the local level (mean rating of 1.17).
- The need for the CMHIs to collaborate more actively with each other (mean rating of 1.33).
- That moving governance of the CMHIs to a private authority model would help make a transfer of some funding control to the local level work (mean rating of 1.50).
- That overall psychiatric inpatient capacity in Colorado is inadequate (mean rating of 1.52).
- That current community-based residential capacity is inadequate (mean rating of 1.59).
- That child and adolescent psychiatric inpatient capacity in particular in Colorado is inadequate (mean rating of 1.73).

Themes by Conceptual Area

The themes are summarized below by domain of inquiry. Please note that some of the themes from above are repeated in the sections below in order to describe the most important themes as they relate to the different domains of inquiry.

Population to be served by the CMHIs – Staff noted a variety of sub-populations that should be served by the CMHIs, but their relative importance was not rated by the group given time constraints posed by the high number of issues identified by the group. These included:

- Persons with high levels of dangerousness and overall acuity.
- Persons who cannot be served elsewhere due to refractory psychiatric conditions or dangerousness.
- Adults with serious and persistent mental illness in need of specialized and intensive treatment.
- Forensic populations.

The following populations were identified as potentially inappropriate for treatment at the CMHIs:

- Persons without a primary psychiatric diagnosis. Provision of services to these persons was suggested to be based in the community in order to avoid "warehousing."
- Persons in need of intensive care who should be served in other systems (e.g., persons with developmental disabilities or substance abuse disorders).
- Persons in need of acute medical care who should be served in other settings (e.g., avoid "medical dumping").

Needed CMHI Services – The following services were suggested as potential CMHI services, but their relative importance was also not rated by the group due to time constraints. These included:

- Intensive asylum inpatient care for persons with refractory psychiatric conditions.
- Highly acute inpatient care for those persons highest risk who cannot be served adequately in the community.
- Longer-term medication stabilization, with capacity for multiple trials.
- Residential care that fits an unfilled need and makes use of specific CMHI clinical expertise. Some persons suggested that residential care of any type should not be provided by the CMHIs and should instead be provided locally.
- Medical/surgical services for patients with severe psychiatric needs and conditions.
- Forensic services.

Several specific treatment modalities were also identified regarding the services provided by the CMHIs:

- Psychosocial rehabilitation models.
- Therapeutic community models.
- Approaches that promote a non-stigmatizing culture.
- Holistic approaches that integrate primary physical health care.
- Mobile transitional services to support discharges to rural communities without local resources. In communities where local resources are available, participants noted that transitional teams could still work with providers and families as step-down providers.

In addition, staff noted that the CMHIs should provide specialized training to community-based inpatient providers based on the CMHI's core clinical competencies.

Estimating the size of the population needing services – Staff saw several factors impacting the adequacy of current capacity. Staff rated as among the "most important" factors related to this the overall inadequacy of psychiatric inpatient capacity across the state. They particularly singled out decreased child and adolescent inpatient capacity. Staff noted that child capacity has been decreased at the CMHIs, leading to "incredible" pressure on child beds in the past 16 months. It was stated that there is a "serious crisis" related to a shortage in 11-and-under inpatient child beds in the state, as a number of private facilities have closed. Participants stated that the state "went too far with cuts" of CMHI child beds. At CMHI-Pueblo, the age cut-off for admission to the adolescent unit has been lowered to 9 years old (from 10) to accommodate the lack of suitable alternatives. In addition, discharge placement for youth was described as very

difficult, with child inpatients for whom there may be no appropriate post-discharge placement often remaining hospitalized.

Staff also rated as "important" the issues of:

- Inadequate statewide adult psychiatric inpatient capacity. Participants observed that some inpatient programs in the community did not survive because of the complexity of the problems in the populations served and an inability to deal with regulation and compliance issues.
- Inadequate statewide geriatric psychiatric inpatient capacity. They noted that geriatric populations are growing, and their needs are increasing as the aging population of persons with serious mental illness move increasingly into geriatric settings.
- Inadequate statewide general hospital capacity able to appropriately treat persons with significant psychiatric symptoms.
- Inadequate current CMHI dual diagnosis treatment capacity, especially locked capacity. For example, medical and psychiatric acuity have been seen to increase in CMHI-Pueblo's Circle Program.
- Inadequate current CMHI acute inpatient capacity. While the units may already be acute care oriented, it is believed that the community tries to use them more as longer-term placements.
- Inadequate current unlocked residential capacity for persons with refractory psychiatric conditions. While CMHCs need the use of CMHI beds, they often do not have community placements available for discharge. By one participant's estimate, about 30% of the population in the state hospital were able to be discharged six months ago, but remained hospitalized due to inadequate placement alternatives in the community.
- Inadequate current locked inpatient asylum capacity for persons with refractory conditions or who cannot be treated safely in the community.
- Inadequate forensic capacity overall.

Staff rated as "somewhat important" the issues of:

- Inadequate forensic capacity for women, which then results in the need to care for some women with forensic needs using civil beds.
- Inadequate ECT capacity.
- That persons referred through the courts under the M3 category put pressure on the adequacy of current resources.
- Inadequate observation capacity at the CMHIs for all age groups.

Adequacy of community alternatives to CMHI care – Staff rated as among the "most important" issues discussed the inadequacy of current residential services and placements in the community. The distance that persons in Western and Northern Colorado have to travel to the CMHIs was also rated as an "important" issue.

Potential transfer of control of CMHI funding to local communities – Staff identified multiple concerns related to the potential transfer of control of some CMHI funding to communities. Due to time constraints, the majority of these were not rated. Most were endorsed by multiple participants. These included:

- The overall notion that a shift in control of hospital funds is a bad idea.

- That communities might use the funds for inappropriate purposes or to serve populations other than those using CMHI services currently.
- That funds might go to support administrative expenses.
- That community providers lack expertise in treating persons with severe impairments and that the features that make the CMHIs unique are not available in local systems of care.

Staff rated the importance of several related issues, however. They noted as "important" the lack of planning regarding past closures of units at the CMHIs. They also noted the need for the CMHIs to collaborate more in light of the potential of the transfer of funding control to the local level. It was noted that "it's easier to close something than to open it, and with capitation, that's what happened, going too far with kids' beds." Some felt that the state reacted by eliminating beds too early, leaving it without adequate capacity when community beds began to close up. There is a fear that "we won't learn from history, and the same thing will happen to adult beds as happened to child and adolescent beds [referring to bed decreases]. It would be mistake for adult beds to go through that." In addition, staff noted that of 30 adolescent beds at CMHI-P, six are DYC-funded beds, further decreasing the number of beds available to non-DYC consumers.

When asked to identify strategies that could help sustain the viability of the CMHIs in the event of a transfer of funding control to the local level, staff rated the following considerations as among the "most important" issues discussed during the group:

- The need to maintain direct state funding for a core capacity to provide asylum care for persons with refractory psychiatric conditions or levels of dangerousness that cannot be served in the community.
- That conversion of CMHI governance to a private authority model could help ensure CMHI viability in general, and specifically in the event of a transfer of funding control to the local level.

Although they did not rate the following additional ideas, they were identified and endorsed by multiple group members. They included:

- The need for formal evaluation and monitoring to ensure that community-based entities follow through on their commitments should control of some CMHI funding move to them.
- The need to involve consumers and advocates in the oversight of any funding transition to the local level.

Staffing Issues – The single "most important" issue rated by the CMHI staff was the view that current CMHI staffing levels were inadequate. The pressure of seclusion and restraint reforms which lead to increases in the number and severity of acute situations that need to be managed within the unit milieu (and resulting in increased safety risks) was noted as an "important" related issue.

A couple issues were also noted, but not rated in terms of their importance. These included:

- The perceived need to improve staff morale through better recruitment, improved recognition and increased benefits.
- The perceived need for enhanced staff development and support resources, including more accessible trauma debriefing and employee assistance program (EAP) services.

- The idea that an annual conference sponsored by the CMHIs and showcasing inpatient best practices would improve staff morale, as well as be a good idea overall.
- The sense that morale would improve if the CMHIs positioned themselves as model programs, rather than a service of last resort.

Table 9: CMHI Staff Participant Demographics (N=23)

Variable	Data	Variable	Data
Gender		Stakeholder Type (duplicated)	
Female	16 (69.6%)	CMHI Administration	8
Male	7 (30.4%)	Clinicians	17
Ethnicity/Race		Direct Experience with CMHIs?	
African American	3 (13.0%)	Yes	23 (100.0%)
Caucasian	15 (65.2%)		
Latino	5 (21.8%)	If "Yes," which CMHI?	
		CMHI – Fort Logan	10 (43.5%
County of Residence		CMHI – Pueblo	9 (39.1%)
Arapahoe	4 (17.4%)	Both CMHIs	4 (17.4%)
Denver	3 (13.0%)		
Douglas	2 (08.7%)	How long ago?	
El Paso	3 (13.0%)	Less than six months ago	23 (100.0%)
Gilpin	1 (04.3%)		
Jefferson	1 (04.3%)	Total time of direct experience	
Pueblo	9 (39.1%)	Over three years total	21 (100.0%)
County of Employment			
Denver	12 (52.2%)		
Pueblo	11 (47.8%)		

Stakeholder CMHI Planning Themes: Statewide Psychiatric Leaders

Top Themes Overall

Psychiatric leaders from across Colorado identified by the Colorado Psychiatric Society were asked to respond to three areas: their assessment of the adequacy of the current Colorado CMHI and overall mental health system, the ideal role for the CMHIs within the mental health system (including services that should and should not be provided), and the potential for improved psychotropic medication practice within the CMHIs and the implications of such practices for the future need for CMHI capacity.

The eight psychiatrists that participated in the focus group identified 36 themes related to the current and future roles of the CMHIs. They rated these on average as "important," with nine (9)

rated among the "most important" themes to consider in understanding the CMHIs. These themes included:

- That the CMHIs should provide care for persons with refractory psychiatric conditions (mean rating of 1.25).
- That the increasing uninsured population puts additional pressure on current CMHI capacity (mean rating of 1.38).
- That current community alternatives to the CMHIs need to be enhanced (mean rating of 1.38).
- That Assertive Community Treatment (ACT) services for adults with serious mental illness are seen as "most important" to be developed (mean rating of 1.38).
- That psychotropic medication practice at the CMHIs could be improved by increasingly initiating court-ordered involuntary medications while patients were still in the CMHIs, rather than waiting until after discharge (mean rating of 1.50); the need for increased use of involuntary medications in general was also seen as among the "most important" themes (mean rating of 1.67). CMHI psychiatrists were seen by participants as reluctant to go to court to petition for involuntary medications, and without them, the likelihood for noncompliance was seen as high for many patients.
- That the CMHIs should not be serving sexual offenders needing containment due to their risk to the community rather than inpatient psychiatric treatment (mean rating of 1.63).
- That additional community-based residential services and placements were seen as "important" to be developed (mean rating of 1.63).
- That new medications currently in the development pipeline will be able to significantly improve CMHI inpatient practice (mean rating of 1.67).

Themes by Conceptual Area

The themes are summarized below by domain of inquiry. Please note that some of the themes from above are repeated in the sections below in order to describe the most important themes as they relate to the different domains of inquiry.

Population to be served by the CMHIs – As described above, the psychiatrists rated persons with refractory psychiatric conditions that could not be safely or adequately served in the community as the "most important" group to be served. In the past, participants noted that this form of care was more commonly provided by the CMHIs and that currently these consumers are not receiving such care. In addition, they noted that it is hard to attract providers who can work well with this population.

They also rated among the "most important" issues discussed the need to avoid using CMHI resources to provide care to sexual offenders needing containment for social control reasons as opposed to psychiatric inpatient treatment. In treating sexual offenders, participants noted that providers constantly struggle with safety issues. In an ideal system, they observed that there would be specialized skill staffing and physical facility sectioning at the CMHIs, along with differentiation of population groups between those who are treatable and those who only need to be contained.

Other populations rated as "important" to be served (mean rating of 1.75 to 2.49) included:

- Uninsured persons in need of acute inpatient care. Participants observed that increasing numbers of uninsured persons are being hospitalized statewide, decreasing capacity to absorb short-term stays, who then may be hospitalized at the CMHIs, further straining CMHI capacity.
- Persons in need of longer term dual diagnosis care (e.g., persons with psychiatric conditions co-occurring with developmental disabilities, organic brain disorders, and substance abuse disorders). It was noted that these consumers often end up inappropriately using acute psychiatric beds in the community.

However, they also noted that it was "important" to provide acute inpatient care for uninsured persons within their own communities and that additional funds for local inpatient care were needed.

Needed CMHI Services – Longer term inpatient care was seen as an "important" service to be provided, while intermediate length inpatient care and residential care were viewed only as "somewhat important."

Integrated primary health care was seen as "important" to provide on the CMHI campuses. Also, discussion centered on the need for increased collaboration between the mental health and general medical communities, as the mental health system currently absorbs many co-morbid medical issues that it should not.

The psychiatrists also noted that facility design was unsafe on certain units. They rated this issue as between "important" and "somewhat important."

Estimating the size of the population needing services – In estimating the size of the population in need of CMHI services, the psychiatrists saw the increasing uninsured population as among the "most important" issues to consider. They stressed as "important" the impact of inadequate inpatient private psychiatric capacity upon the need for the CMHIs. They singled out as "important" their judgment that child and adolescent inpatient capacity as inadequate, as the number of child beds has decreased in the community without accompanying increases in community-based services. They also noted as "important" the increasing population in Colorado despite decreased CMHI capacity and the inadequacy of the current bed allocation approach. While the bed allocation system has helped to motivate centers to get consumers discharged more quickly, participants observed that the allocation system is no longer seen as adequate.

Adequacy of community alternatives to CMHI care – The need to increase community alternatives overall, and Assertive Community Treatment (ACT) services and community-based residential placements were viewed as among the "most important" issues impacting the need for CMHI services. Intensive, home-based services for children and adolescents were also seen as "important."

Inadequate inpatient capacity in rural and frontier areas of Colorado was viewed as "important" by the overall group and among the "most important" issues by psychiatrists serving rural populations. In addition, increasing numbers of indigent patients were noted as impacting rural inpatient facilities, threatening their viability.

The distance from the CMHIs to rural and frontier populations in Colorado was also seen as "important" and among the "most important" issues by psychiatrists serving rural and frontier populations. The reliability of transportation over mountain passes and in the winter, as well as the reliability of availability of secure transportation by law enforcement was noted as an "important" issue. Participants noted that currently the law does not mandate sheriff departments to provide transportation, but specifies that they may do so, making transportation availability less reliable. They also described mental health center staff transporting consumers to the CMHIs in private vehicles. The expense of transportation was noted as "somewhat important", because some areas must contract with ambulance services for transportation, as no sheriff is available. Distance was also believed to increase lengths of stay, as CMHCs tend to rely on CMHI case managers for discharge planning without much coordination with providers.

Impact of advanced psychotropic medications – In discussing the potential impact of emerging psychotropic medications, the psychiatrists broadened the discussion to include not just new medications, but also improving delivery systems (e.g., depot formulations) and the potential for improved practice (e.g., increased use of involuntary medications).

Rated as the "most important" factors were improved practice through increased use of involuntary medication in general, and specifically the need to increasingly pursue court-ordered involuntary medications while persons were still hospitalized at the CMHIs, rather than waiting until after discharge. The need to improve reliability when transferring certification for involuntary medications post-discharge was rated as "important."

New medications that will become available over the next couple years were also seen as among the "most important" factors that could improve CMHI inpatient practice. Participants discussed emerging medications such as ziprasidone, as well as potential access to medications such as those currently available in Canada and Europe.

Additional factors were identified as "important," including:

- The anticipated availability of depot formulations for atypical antipsychotic medications within 18 to 24 months
- Depot formulations for persons with bipolar disorder (e.g., olanzapine for acute mania)

The psychiatrists were then asked to cumulatively rate the potential impact upon the need for CMHI services of these various potential improvements to psychotropic medication practice within the CMHIs. The psychiatrists were split between viewing this potential as small, leading to improved practice but not necessarily reducing needed capacity, and viewing the potential as medium, reducing the need for beds. Only one psychiatrist saw the potential impact as potentially large enough to close a unit or facility.

Table 10: Psychiatric Leader Participant Demographics (N=8)

Variable	Data	Variable	Data
Gender		Direct Experience with CMHIs?	
Female	2 (25.0%)	Yes	8 (100.0%)
Male	6 (75.0%)		
		If "Yes," which CMHI?	
Stakeholder Type (duplicate)		CMHI – Fort Logan	1 (12.5%)
Clinicians	8	CMHI – Pueblo	2 (25.0%)
CMHI Administration	1	Both CMHIs	5 (62.5%)
CMHC Administration	2		
Private Hospital Admin	1	How long ago?	
		Less than six months ago	7 (87.5%)
Ethnicity/Race		Over two years ago	1 (12.5%)
African American	1 (12.5%)		
Caucasian	7 (87.5%)	Total time of direct experience	
		Over three years total	7 (87.5%)
County of Residence		Between one and three years	1 (12.5%)
Denver	3 (37.5%)		
Douglas	1 (12.5%)	County of Employment	
El Paso	1 (12.5%)	Denver	4 (50.0%)
Jefferson	1 (12.5%)	Larimer	1 (12.5%)
Larimer	1 (12.5%)	Mesa	1 (12.5%)
Otero	1 (12.5%)	Otero	1 (12.5%)
		Statewide	1 (12.5%)

Stakeholder CMHI Planning Themes: Department of Human Services, CMHI and Other State Government Leaders

Top Themes Overall

Department of Human Services, CMHI and other State Government leaders were presented with initial findings from the other eight (8) focus groups and asked to respond to two areas: to assess key contextual factors of the current Colorado CMHIs and overall mental health system and to critique emerging recommendations based on the focus groups, data analyses to date, review of Colorado-specific documents, literature review, and key informant interviews.

The 18 leaders that participated in the focus group identified an array of themes related to these two areas. Many themes were identified related to key contextual factors impacting the current Colorado CMHIs and overall mental health system. Due to the breadth of this discussion and the need to have adequate time to explore and critique initial recommendations, these themes were not rated. They are described below.

Thirty-three (33) themes were identified in response to initial recommendations for the CMHIs. The group rated these on average as "important," with 17 rated among the "most important" themes to consider in understanding the role of the CMHIs. These included:

- Two issues related to the need to be clear about the benefits and risks of change, all rated at a similar high level (mean rating of 1.33). These included:
  - The need to weigh carefully the benefits and costs of developing dedicated state-funded inpatient capacity on the Western Slope of Colorado. For example, although the costs and difficulties of transporting Western Slope consumers to Pueblo are evident, they may not be more significant than the costs of investing in a new hospital administration.
  - The importance of demonstrating a clear need for services before developing additional inpatient capacity on the Western Slope of Colorado.
- Two additional issues rated as highly related to the importance of protecting current CMHI inpatient capacity (mean rating of 1.33). These included:
  - The need to protect more than just a core asylum capacity at the CMHIs by continuing state funding directly to the CMHIs. Maintaining only a core asylum capacity was seen as not being financially feasible given the fixed and marginal costs of operating a hospital. Also, the state was described as having "more responsibility" for its mentally ill citizenry than core asylum care.
  - The need to take steps to protect against a potential irreversible loss of capacity in the event that the CMHIs had to compete for a portion of their funding. The closure of child and adolescent beds in the wake of Medicaid capitation was discussed as not reversible. Furthermore, participants noted that planners need to guard against the phenomenon that they believe occurred with children's services due to Medicaid capitation. This involved "low-ball" bids that were accepted and that contributed to a loss in CMHI capacity, after which inpatient prices were increased due to the resulting lack of competition.
- The need to anticipate and proactively manage negative staff reactions to a governance change such as privatization (mean rating of 1.41).
- The importance of having the State carefully evaluate and sign-off on the adequacy of local community-based alternatives to the CMHIs prior to transferring control of any funds to the local level (mean rating of 1.44).
- Closely related to this was the overall importance of addressing inadequate services for high need consumers apart from the CMHIs (mean rating of 1.47).
- The importance of including a provision requiring the local entities to buy back a set amount of inpatient capacity from the CMHIs as part of a transfer of funding to the local level (mean rating of 1.50). One of the down-sides of market-driven competition was described as the risk of "bait-and-switch practices" where the CMHIs could loose capacity from aggressive competition leaving the State at the mercy of a monopoly provider.
- The importance of the role of maintained or improved staff benefits in order to moderate negative staff reaction to privatization (mean rating of 1.50). It was observed that if employee benefits are not threatened, many staff may support ideas such as privatization because privatization may allow the CMHIs to become more responsive to market-driven changes in employee compensation.

- The importance of developing new, state-funded and guaranteed inpatient bed capacity on the Western Slope of Colorado (mean rating of 1.56).
- The need to consider staffing availability (e.g., locate in a more populated area) when choosing a site for new Western Slope capacity (mean rating of 1.56).
- The importance of including fixed overhead costs (e.g., administrative infrastructure) when determining the cost of continued CMHI capacity (mean rating of 1.56). It was noted, especially by CMHI administrators, that because of overhead costs even a small reduction in beds could have substantial financial consequences.
- The importance of developing adult inpatient capacity as opposed to capacity for other age groups on the Western Slope was highly endorsed (mean rating of 1.59).
- The importance of protecting against "mission drift" as the CMHIs funding and governance change over time (mean rating of 1.61). The tendency of some private providers to "cherry-pick" as a way to stay competitive was noted with the observation the CMHIs could feel financial pressure to do the same, at the possible expense of its target population.
- The importance of limiting any shift of funding to the local level to only those inpatient funds associated with Medicaid recipients (mean rating of 1.67). A first step of piloting changes with adult Medicaid recipients was seen as more prudent than shifting funding for the entire insured and uninsured populations simultaneously.
- The importance of payer mix differences between the CMHIs and private, quasi-governmental authorities such as the University of Colorado Hospital or Denver Health should be considered when planning for any type of potential privatization (mean rating of 1.72).
- The challenges of implementing itemized billing in an institution that has not had to develop such a capacity are a consideration (mean rating of 1.83).

Themes by Conceptual Area

The themes are summarized below by domain of inquiry. Please note that some of the themes from above are repeated in the sections below in order to describe the most important themes as they relate to the different domains of inquiry.

Response to the Hypothetical Recommendation to Develop New Inpatient Capacity on the Western Slope of Colorado – Participants were presented with the hypothetical recommendation of developing an inpatient capacity physically located on the Western Slope of Colorado equivalent to the capacity now available only at the CMHIs. Participants strongly endorsed this policy goal as one of the "most important" themes presented, adding that state-guaranteed capacity did not necessarily imply a state-run facility.

Developing such capacity for adults was rated as among the "most important" themes discussed, whereas developing such capacity for other age groups was seen as less important (rated not as "important" for children, and only "somewhat important" for adolescents and geriatric consumers).

Although it still rated as "important," fewer participants endorsed the idea of adding this capacity to current capacity at the two CMHIs, with a clear split between CMHI administrators and other state government leaders on this point.

Participants also highly endorsed the idea of developing this capacity in an existing facility such as St. Mary's Hospital in Grand Junction (mean rating of "most important" – 1.83). Other private facilities were also mentioned, as was the possible use of facilities and resources at the Grand Junction Regional Center, but these were rated as only "somewhat important" ideas.

Other issues rated as among the "most important" to consider in developing inpatient capacity on the Western Slope included:

- The importance of documenting the balance of costs and benefits before developing such capacity on the Western Slope.
- The importance of choosing a site for the inpatient capacity with a population base that can support sufficient staff availability.

Other ideas were offered, but were endorsed as less important. These included:

- The idea was offered of developing capacity at two sites in Western Colorado. This idea was rated as "not as important" to consider.
- The importance of avoiding the creation of new FTE within the state personnel system during this transition was rated on average as only "somewhat important."

Response to a Hypothetical Four Year Plan – Participants were presented with a hypothetical plan to develop enhanced community-based alternatives, privatize ongoing CMHI services, and shift the majority of funding to the local level. The plan presents an implementation timetable of four years, with the following key activities:

- Year One – Maintain overall CMHI bed capacity; initiate a statewide RFP process with new funds to build community alternatives; initiate a move of the CMHIs to a private authority governance model; and move Western and Northern Colorado adult bed capacity closer to those regions by developing state-funded beds on the Western Slope, moving Northern Colorado adult bed capacity to CMHI-Fort Logan, and closing one CMHI-Pueblo adult unit to offset these costs.
- Year Two – Continue to maintain overall CMHI bed capacity as the private authority model is implemented and local community alternatives are developed.
- Year Three – Same as Year Two, but with increased emphasis on the CMHI preparing for competition and MHASAs preparing to manage CMHI funds.
- Year Four – Maintain direct state funding for core CMHI long-term care capacity and move all remaining funding to be managed by MHASAs.

Assessment of overall plan – Participants were asked to rate their level of endorsement of the hypothetical recommendations at two different points in the group. Participants initially rated the recommendations prior to any discussion or suggested improvements. The mean rating was in the lowest range of ratings available (mean rating of 3.29).

After discussing the recommendations and identifying ways to improve them, participants again rated them. The rating was based on the level of endorsement assuming that changes also recommended by each participant were made to the plan. The mean rating increased two levels to 2.03, solidly within the second highest range of endorsement and a clear positive endorsement.

Participants also noted the importance of building flexibility into the out-year components of the plan.

Maintaining core capacity and moving some funding to the local level - Several critiques and ideas for improvements were made regarding this component of the plan. Those rated as among the "most important" ideas discussed included:

- The need to maintain direct state funding for more than just a core inpatient capacity for persons with refractory psychiatric needs or who otherwise cannot be served in the community (mean rating of 1.33).
- The need to protect against the risk of losing current capacity that cannot be re-created and that might result in monopolies or gaps on the service system (mean rating of 1.33).
- Requiring state evaluation and sign off regarding the adequacy of local inpatient alternatives prior to moving funds to the community (mean rating of 1.44).
- The importance of addressing inadequate services for high need consumers apart from the CMHIs (mean rating of 1.47).
- The idea of requiring a buy back of an additional level of CMHI services by local entities (mean rating of 1.50).
- The need to include the costs of fixed overhead when calculating the cost of ongoing CMHI services (mean rating of 1.56).
- Limiting the funds transferred to the community to only those associated with services to Medicaid recipients (mean rating of 1.67).

Privatization of ongoing CMHI services – Several ideas were also offered to improve this component of the plan. Those rated as among the "most important" ideas discussed or as "important" included:

- The need to respond to likely negative staff reactions to privatization was rated as among the "most important" issues to consider. This was also viewed as something that could be successfully managed (this was rated as "important"). The specific idea of ensuring that staff benefits were either maintained or improved in the privatized entity was also rated as one of the "most important" ideas discussed.
- The importance of protecting against "mission drift" in the new entity (rated among the "most important").
- The need to keep in mind that the CMHI payer mix differs significantly from that of other quasi-governmental private authorities such as University of Colorado Hospital and Denver Health (rated among the "most important"). Participants did not highly endorse the idea that this could be readily overcome (mean rating of 3.11 – "somewhat important").
- The challenge of developing an itemized billing capacity in an institution that has not had to develop such a capacity previously (rated among the "most important" – 1.72) was also noted. Participants rated almost as highly the belief that this capacity could be developed

(rating of 1.94), stressing the importance of allocating sufficient resources. One participant noted that "with time, funding and FTEs, this can be done."

- The challenge of maintaining a level playing field as this new entity competed with existing private inpatient providers was also noted (rated as "important").

Discussion of Contextual Issues Related to the CMHIs and Overall Colorado Mental Health System – The focus group participants offered several comments regarding these issues. Some of the participants cited national trends and were able to point out the value and limitations of comparing Colorado's approach to state hospital services to those of other states.

For example, it was noted that some states have limited the number of state civil beds, but then buy additional capacity back private hospitals. Other states have expanded nursing-staffed facilities at the expense of traditional state hospitals. It was suggested that California, because it is a state with one of the lowest bed to population ratios, may not be a suitable state with which to compare Colorado. Oregon was thought to have relatively higher funding of both state institutes and community alternatives.

The focus group advocated for interpreting CMHI occupancy figures cautiously. Occupancy rates may be lower in more recent years because of the shorter lengths of stay. When hospital stays are brief, there are more unoccupied bed days during the transition from discharge to new admission. In addition, the relatively low occupancy rate in the adolescent unit is influenced by a management decision to permit the clinical staff to restrict the census on the adolescent unit when the severity of the inpatients reaches the limit of the staff's capacity to provide adequate care.

The group participants also stated that analysis of the CMHIs ought to emphasize the remarkable changes in the role of the CMHIs that have occurred recently. Three of the most significant changes are:

- The increase in the acuity level and service needs of the typical CMHI patient.
- The increased rate of bed turnover.
- Reductions in inpatient capacity for children in community hospitals.

One factor noted as evidence for the rise in service needs was the doubling of admissions to CMHI-Fort Logan over the past five years. Some of the increase in admissions has been due to the unofficial "capitation of adult Medicaid beds" because MHASAs had an incentive to move high-need adult Medicaid consumers from community placements to the CMHIs where their care could be paid for by the general fund. When the rate of admissions increase, CMHI staff must complete the additional work associated with admission and discharge more frequently and more rapidly. The doubling of admissions was also seen as related to many more first-admission consumers being served in the CMHIs than was the case in the past. Additionally, because first-time admissions require more expertise, diagnosis and care than patients who are well-known, CMHI resources are spread more thinly.

Other factors increasing the acuity level of CMHI admissions were noted, including the rise in involuntary admissions and the rise in the severity level of the remaining Medicaid population,

due to TANF reforms. The growing severity of the Medicaid population statewide was thought to be indicated by the increase in the number of Medicaid recipients who fall into one of the higher reimbursement categories, such as foster children.

Finally, the care that CMHI patients require has also become more challenging because more consumers requesting admission have serious, co-occurring medical problems. The perception of one of the participants was that these co-occurring medical problems are not handled aggressively in community hospitals until the medical problem reaches a critical stage.

The participants expressed the belief that the child unit at Fort Logan has now become indispensable to the system-of-care for children because of the reduction of inpatient and discharge placements in the community. Not only are less inpatient beds available since the closure of the Cleo Wallace facility, the discharge of children from Fort Logan has been slowed because of the shutdown of the Cedar Springs RTC and the paucity of community alternatives for the type of highly-disturbed children the Institute now treats.

For example, the RTC run by CMHI-Fort Logan currently has a waiting list of over 100 adolescents. Fewer children can go back to their families because of the severity of the child's needs and/or because of dysfunction in the child's family. Participants noted that there has been a long-standing lack of acceptable community step-downs options for children. However, now that the length of stay is shorter, the absence of step-downs is even more noticeable. One person said the fit between community options and the needs of children discharged from the CMHIs is poorer than before. Yet, another participant disagreed with this perception and quoted a study that showed the fit between discharge options and children's needs was no worse after capitation than it was before.

Clinical managers from the Institutes stated that the acuity of children at Fort Logan has dramatically worsened. Also, it was noted that approximately 50% of the children under 12 currently hospitalized at Fort Logan have engaged in sexual perpetration of some sort. Citing a decreasing tolerance for sexual perpetrators in the community, it was noted that more of these children are sent to Fort Logan. One veteran child clinician said she has been amazed and disturbed about "the number children who are trying to hang themselves at 8 or 9 years old."

The stresses on the mental health system of care in general, and on the CMHIs in particular, have been accentuated by an "increase of cost-shifting, politely said" or in other words, "an abdication of responsibility" by MHASAs and county child welfare departments. Even when child welfare has made efforts to help, "the child welfare system has not been able to find appropriate placements."

Another group participant stated that part of the CMHI's mission is to serve consumers who need special services such as the Circle Program, a model which would be financially prohibitive to replicate across the state. Refractory patients and patients whose care is hard to manage because of court involvement were noted as undesirable to private providers. It was noted that the CMHIs themselves have struggled with the increasing lack of cost predictability, often due to the enormous costs of treating just one or two patients.

Some participants acknowledged that Colorado has a problem with a high rate of institutionalization, not only in psychiatric hospitals, but also in the areas of nursing home placements and incarceration in prisons. However, the fear was widespread that if the CMHI's lose capacity, "we will never get it back again" to the detriment of the mentally ill.

Table 11: State Leader Participant Demographics (N=18)

Variable	Data	Variable	Data
Gender		Direct Experience with CMHIs?	
Female	11 (64.7%)	Yes	12 (70.6%)
Male	6 (35.3%)	No	5 (29.4%)
Stakeholder Type		If "Yes," which CMHI?	
CMHI Administration	9 (50.0%)	CMHI – Fort Logan	4 (33.3%)
DHS Administration	6 (33.3%)	CMHI – Pueblo	3 (25.0%)
CDOC Administration	1 (05.6%)	Both CMHIs	5 (41.7%)
Legislative Staff	1 (05.6%)		
Governor's Budget Office	1 (05.6%)	How long ago?	
		Less than six months ago	10 (83.3%)
Ethnicity/Race		Over two years ago	2 (16.7%)
African American	1 (05.6%)		
Caucasian	16 (88.8%	Total time of direct experience	
Latino	1 (05.6%)	Over three years total	11 (91.7%)
		Between one and three years	1 (8.3%)
County of Residence			
Arapahoe	2 (11.1%)	County of Employment	(duplicated)
Boulder	1 (05.6%)	Denver	12
Denver	4 (22.2%)	Douglas	1
Douglas	1 (05.6%)	Mesa	1
El Paso	1 (05.6%)	Pueblo	5
Jefferson	3 (33.3%)	Statewide	1
Mesa	2 (11.1%)		
Pueblo	4 (22.2%)		

TRIWEST GROUP

CMHI Operational Plan Study

Focus Group Background Materials

Submitted to the State of Colorado Department of Human Services Office of Direct Services

November 6, 2000

TriWest Group has developed response materials and questions for the following focus groups:

- Two groups of consumers, one to be held on November 14 in Delta, Colorado, and one to be held November 15 in Jefferson County at the Summit Center.
- Two groups of family members, one to be held on November 15 at CMHI-Fort Logan and the other to be held in a location still to be determined on the West Slope, most likely during the first week of December.
- One group of parents of child and adolescent consumers to be held at the Federation of Families for Children's Mental Health main office in Denver, most likely during the first week of December.
- One group of staff from CMHI-Pueblo and CMHI-Fort Logan to be held at CMHI-Pueblo on November 9.
- One group of CMHC and MHASA executive directors and other regional mental health leaders to be held at CMHI-Fort Logan on November 17.
- One group of leading psychiatrists from across the state to be held at the Mental Health Services offices on November 8.

In addition, a focus group of Department of Human Services and Mental Health Institutes leaders will be convened the second week of December. This group will differ from the eight preceding groups in that it will also review more refined findings that include much of the focus group information. It will also include governance questions based on the more thorough data from other states that continues to be collected.

This document summarizes the information and questions that will be presented to the first eight focus groups. Each group will begin with the following introduction:

Focus Group Introduction

"The Colorado Department of Human Services has asked TriWest Group to pull together stakeholders from across the state to get their input into the future direction of the two state psychiatric hospitals, the Colorado Mental Health Institutes (CMHI) at Pueblo and Fort Logan.

Consumers, family members, parents, CMHI staff, community mental health leaders and leading psychiatrists from across Colorado have been asked to attend focus groups. At these groups, stakeholders will be presented with key findings from a review of Colorado data on the Institutes and a survey of national literature and current practice at state psychiatric hospitals.

As findings are presented, stakeholders will be asked to offer their views and opinions regarding central questions that need to be answered regarding the future role of the Institutes. Stakeholder views will serve a critical role in analyzing and interpreting the results of the data collected regarding the Institutes' future role.

As each question is discussed by the group, key points will be recorded and summarized. Following this, the group will go back through each point and rate its importance to the future

role of the Institutes. This will ensure that all participants have a voice in the focus group, regardless of their level of participation in the discussion.

It is important that participants know that their views and opinions will be treated confidentially. Names will not be linked with any information shared and we will ask that nobody write their name on rating forms used during the groups."

After the introduction, initial findings based on the review of Colorado reports and data, the national state-of-the-art literature review, and initial key informant interviews with other Western state psychiatric hospital leaders will be discussed. The detailed reports underlying the overview that will be presented to the focus groups can be found in Attachments One, Two and Three of this document.

The presentation will be entitled **"Presentation of Initial Findings – Where the Colorado State Hospitals Stand Nationally"** and will consist of the tables following on pages 4 – 10.

TABLE 1: Number of Beds by Type
Colorado Mental Health Institutes

	CMHI-FORT LOGAN				CMHI-PUEBLO		
TYPE OF BED	1992-93	1995-96	2000	1999-00 Occupancy	1992-93	1995-96	2000
Child	98 combined	76 combined	16	90.6%	96 combined	44 combined	0
Adolescent			22	68.8%			30
Adult	121	121	121	91.7%	181	141	126
Geriatric	30	25	25	94.4%	60	60	60
Total Civil Beds	249	222	184	89.22%	337	245	216
Forensic					278	278	278
Medical/Surgical					30	20	20

TABLE 2: State Psychiatric Inpatient Beds and Population Comparison by State

	Arizona	Colorado	Oregon	Wyoming
Number of State Inpatient Beds (civil only)	**191**	**400**	**367**	**46**
--Number of child beds	0	16	60 combined	0
--Number of adolescent beds	16	52		8
--Number of adult beds	137	247	193	38 combined
--Number of geriatric beds	38	85	114	
Number of medical/surgical beds	0	20	5	0
Number of forensic beds	144	278	400	40
Population (1999 est.)	4,778,332	4,056,133	3,316,154	479,602
Civil beds per 100,000 state residents	**4.0**	**9.9**	**11.1**	**9.6**
Number of state hospitals	1	2	2	1
Percent of state-directed M.H. funding going to community services (vs. state hospitals)	**Over 65%**	**55% to 65%**	**Over 65%**	**Under 45%**

TABLE 3: National Trends with Regard to State Psychiatric Hospitals

- **Number of persons in state and county psychiatric hospitals on any given day has gone from 368,000 in 1970 to less than 73,000 in 1998**
- **Between 1990 and 1999, 18% of state psychiatric hospitals closed; most closures were in the Midwest and Eastern United States**
- **National mental health funding has been flat since 1981 ($6.1 then, $5.7 billion now in inflation adjusted dollars)**

TABLE 4: Regional Trends with Regard to State Psychiatric Hospitals

- **Western states tend to have smaller state hospitals at fewer sites**
- **Some Western states are down-sizing, others are building new facilities; most have a primary focus on developing community alternatives**
  - **Oregon down-sizing and building community alternatives**
  - **Arizona building a new facility given limited bed resources and population growth**
  - **Wyoming developing resources to support frontier population**
- **Distance and limited provider resources in frontier areas are key issues in many Western states such as Colorado**

TABLE 5: Percentage of Consumers for Whom Dangerousness and Grave Disability Were Reported as Problems at Admission to the CMHIs

	CMHI-FORT LOGAN			CMHI-PUEBLO		
	1997-98	1998-99	1999-00	1997-98	1998-99	1999-00
Danger to Self--Yes	173 **16.7%**	240 **24.5%**	265 **23.5%**	273 **30.5%**	390 **28.6%**	381 **28.2%**
Danger to Others—Yes	149 **14.4%**	186 **19.1%**	206 **18.2%**	223 **24.9%**	271 **19.9%**	288 **21.5%**
Grave Disability--Yes	183 **17.6%**	249 **25.4%**	302 **26.7%**	258 **28.8%**	305 **22.3%**	334 **24.7%**

TABLE 6: Legal Status of State Hospital Populations on the Last Day of 1998

	Voluntary	Involuntary (civil)	Involuntary (criminal)
Arizona	2%	65%	33%
Colorado	17%	47%	35%
Oregon	1%	40%	49%
Washington	14%	62%	24%
Wyoming	25%	64%	11%

TABLE 7: Distance Between Cities: Community Mental Health Centers To Colorado Mental Health Institutes Where They Admit Consumers – Under 50 Miles

CMHC	CHILD	ADOLESCENT	ADULT	GERIATRIC
Adams Community Mental Health Center Thornton, CO	11 miles (FL)	11 miles (FL)	11 miles (FL)	11 miles (FL)
Arapahoe Douglas Mental Health Network Englewood, CO	7 miles (FL)	7 miles (FL) 109 miles (P)	109 miles (P)	7 miles (FL)
Aurora Community Mental Health Center Aurora, CO	9 miles (FL)	9 miles (FL)	9 miles (FL)	9 miles (FL)
Jefferson Center for Mental Health Arvada, CO	11 miles (FL)	11 miles (FL)	11 miles (FL)	11 miles (FL)
Mental Health Center of Boulder County Boulder, CO	31 miles (FL)	31 miles (FL)	31 miles (FL)	31 miles (FL)
Mental Health Corporation of Denver Denver, CO	Same city (FL)	Same city (FL)	Same city (FL)	Same city (FL)

TABLE 8: Distance Between Cities: Community Mental Health Centers To Colorado Mental Health Institutes Where They Admit Consumers – Over 50 Miles

CMHC	CHILD	ADOLESCENT	ADULT	GERIATRIC
Centennial Mental Health Center Sterling, CO	130 miles (FL)	130 miles (FL)	242 miles (P)	242 miles (P)
Colorado West Regional MHC Glenwood Springs, CO	158 miles (FL)	158 miles (FL) 269 miles (P)	269 miles (P)	269 miles (P)
Larimer Center for Mental Health Fort Collins, CO	64 miles (FL)	64 miles (FL) 176 miles (P)	176 miles (P)	176 miles (P)
Midwestern Mental Health Center Montrose, CO	300 miles (FL)	225 miles (P)	225 miles (P)	225 miles (P)
North Range Behavioral Health Greeley, CO	56 miles (FL)	56 miles (FL)	168 miles (P)	56 miles (FL)
Pikes Peak Mental Health Center CO Springs, CO	70 miles (FL)	46 miles (P)	46 miles (P)	46 miles (P)
San Luis Valley CMH Alamosa, CO	236 miles (FL)	123 miles (P)	123 miles (P)	123 miles (P)
Southeastern Colorado Family Guidance and Mental Health Center La Junta, CO	177 miles (FL)	66 miles (P)	66 miles (P)	66 miles (P)
Southwest Colorado Mental Health Center Durango, CO	337 miles (FL)	272 miles (P)	272 miles (P)	272 miles (P)
Spanish Peaks Mental Health Center Pueblo, CO	116 miles (FL)	Same city (P)	Same city (P)	Same city (P)
West Central M ntal Health Center C n n City, CO	117 miles (FL)	40 miles (P)	40 miles (P)	40 miles (P)

Focus Group Questions

Following the presentation of the preceding findings, each of the eight focus groups will be asked the following questions:

1. *"Based on the information just reviewed and your own experience of the Colorado mental health system, what is your assessment of the adequacy of Colorado's state psychiatric hospital system?"* This question will be asked to elicit the group members' overall views of the Institutes. After recording the responses of the group, the group leader will ask the group to rate the importance of each response in terms of understanding the current functioning of the Institutes. This question, response generation, and response ratings process should take approximately 30 minutes.

2. *"Now look five years down the road. Assume that the report you are helping us write lets the state develop an ideal mental health system over the next five years. By ideal I don't mean magical; I mean that the state provides real services in the way that you believe they really should be provided. The right type and amount of community services are in place, the role of the state hospital is made just right, and the mental health system functions exactly the way it should. We will assume that five years is enough time to implement the changes needed. Now, think about the role and services you would like to see the state hospitals offer in that ideal mental health system."* This will serve as the framework in which the following three questions will be asked. For each question, responses will be generated, recorded, reviewed, and rated in terms of their importance to the group. We estimate that each question will take 20 minutes for the group to complete. The three questions are:
   - *What services should be provided by the state hospital that cannot be provided by anyone else?*
   - *What services should not be provided by the state hospital?*
   - *How would you describe the role of the state hospital within that ideal Colorado system of care you envision five years down the road?*

All focus groups other than the psychiatrist group will then be asked the following question.

3. *"What do you think the impact would be of moving direct funding for the Institutes to the control of community providers?"* This question will be asked to elicit the group members' views of where the locus of control should be for funding the Institutes. After recording the responses of the group, the group leader will ask the group to rate the importance of each response. Then a follow-up question will be asked: *"If funding decisions for the state hospitals move to the community, what should be done to protect the ongoing viability of the Institutes?"* Responses will be generated, recorded, reviewed, and rated in terms of their importance to the group. We estimate that each question will take 20 minutes for the group to complete.

The psychiatrist focus group will not respond to the financing question. Instead, the group will be presented with the data tables presented on the following page. (Data on pharmaceutical expenditures were available for CMHI-Pueblo only.)

TABLE 9: Pharmaceutical Expenditures at CMHI-Pueblo

Medication Type	1996-1997	1997-1998	1998-1999	1999-2000
Antidepressants	$74,500	$137,000 (84% over 96-97)	$251,000 (337% over 96-97)	$319,200 (428% over 96-97)
Antipsychotics – Traditional	$234,000	$187,000 (20% under 96-97)	$116,000 (50% under 96-97)	$92,000 (61% under 96-97)
Antipsychotics – New Agents	$597,000	$846,200 (42% over 96-97)	$1,028,000 (72% over 96-97)	$1,107,200 (85% over 96-97)
Other psychiatric medications	$70,500	$86,800 (23% over 96-97)	$94,000 (33% over 96-97)	$102,100 (45% over 96-97)
General Medications	$421,000	$504,000 (20% over 96-97)	$526,000 (25% over 96-97)	$618,500 (47% over 96-97)
Overall Pharmaceutical Costs	$1,397,000	$1,761,000 (26% over 96-97)	$2,015,000 (44% over 96-97)	$2,239,000 (60% over 96-97)

TABLE 10: Changes in Expenditures for Newer Antipsychotics at CMHI-Pueblo

Medication Type	1996-1997	1997-1998	1998-1999	1999-2000
Clozapine	$235,000	$204,000 (13% under 96-97)	$233,000 (1% under 96-97)	$166,000 (29% under 96-97)
Risperidone	$286,000	$345,000 (21% over 96-97)	$282,000 (1% under 96-97)	$275,000 (4% under 96-97)
Olanzapine	$76,000	$288,000 (379% over 96-97)	$449,000 (591% over 96-97)	$574,000 (755% over 96-97)
Quetiapine	$0	$9,200	$64,000 (696% over 97-98)	$92,200 (44% over 98-99)

After reviewing these data, the group will be asked the following two questions. For each question, responses will be generated, recorded, reviewed, and rated in terms of their importance to the group. We estimate that each question will take 20 minutes for the group to complete. The two questions are:

- *"Based on the data just presented and your own clinical experience, what opportunities do you see to improve practice in the state hospitals regarding the use of psychotropic medication?"*
- *"If practice were optimized, what would be the impact on the need for state hospital inpatient resources?"*

After each focus group, participants will be asked to fill out two forms:

1. **Focus Group Member Survey** – A copy of this survey can be found on the following page. The same survey will be given to all eight groups in order to document basic demographic and experiential information from the participants. This information will allow the focus group participants to be described more clearly in the final report, and will also help identify any significant gaps in the experience base of participants for follow-up data collection.
2. **Additional Information Follow-up Form** – Some focus group participants may want to provide additional information following the groups. Many stakeholders have complex and diverse opinions to offer that can help guide the development of the recommendations for the Institutes. Sometimes a focus group cannot adequately document these views. To accommodate these stakeholders, a follow-up information submission form will be given to each participant. This form will allow stakeholders to submit additional written views for inclusion in the study database. Written responses will be requested in order to clearly document the views of the stakeholders submitting the responses and to keep the workload of collecting these additional views within the scope of allocated resources. However, consumers, parents, and family members who are unable to write their responses or uncomfortable with doing so will be offered a follow-up phone interview to record their views. A copy of this form follows the survey.

Two other forms are also attached to this document:

1. **Importance rating form** – This is the form that participants will be given to rate the importance of responses generated during the focus groups. It includes blank boxes down the left-hand column where participants can record a one or two word summary of each response. Each response will then receive an importance rating recorded in the right-hand column.
2. **Stipend information form** – Consumers, parents and family members will receive a $25 stipend for their participation in the focus group. Certain information needs to be collected to document these stipends. The information will be collected separately from the focus group rating forms and surveys to preserve the anonymity of focus group data. Additionally, participants wanting a gift certificate instead of cash will be able to request this with the form. Reimbursement for travel and child care expenses will also be requested on this form.

Focus Group Member Survey

Thank you for participating in this focus group. Please complete the following survey to help us describe who attended the group. Please do not include your name on the survey.

1. **Please indicate whether you are male or female:** ____ Male ____ Female

2. **Please place a check mark next to the category or categories that best describe your experience with the Colorado state mental health system:**

____ Consumer ____ Family member of consumer ____ Parent of a child consumer

____ Clinician (Type_____) ____ Administrator (CMHI) ____ Administrator (CDHS)

____ Administrator (CMHC) ____ Administrator (MHASA) ____ Other: _____

3. **Please place a check mark next to the category or categories that best describe your race/ethnicity:**

____ African American ____ Asian ____ Caucasian (White)

____ Hispanic/Latino ____ Native American ____ Other: _____

4. **a. What county do you live in? (Please write in the blank)** _____

b. What county do you work in? (Please write in the blank) _____

5. **Have you had direct experience with one of the Colorado mental health institutes (state hospitals), either as an inpatient, family member of an inpatient, staff member or referring provider?**

____ Yes ____ No ***If yes, please answer the next 3 questions (5a., 5b., and 5c.)***

5a. With which of the mental health institutes do you have direct experience?

____ Colorado Mental Health Institute – Fort Logan
____ Colorado Mental Health Institute – Pueblo
____ Both Fort Logan and Pueblo

5b. How long ago was your last significant contact with either of the mental health institutes?

____ Less than 6 months ago
____ 6 months to 1 year ago
____ 1 to 2 years ago
____ More than 2 years ago

5c. How much total time have you (or your family member) spent in a psychiatric hospital as an inpatient, working at the state hospital as a staff member, or working with the state hospital as a referring provider during your life?

____ Less than 3 months
____ Between 3 months and 1 year
____ Between 1 years and 3 years
____ More than 3 years

Additional Information Follow-up

Some focus group participants may have additional views important to the CMHI Study that were not adequately presented during the focus group. To ensure that these views are collected, please write them down on this form and mail the form to:

TriWest Group
Attention: CMHI Study Follow-up
5345 Arapahoe
Suite Five
Boulder, CO 80303

For consumers, family members, or parents who are uncomfortable writing down their views or prefer to talk with someone about their perspective, please call Deb Evans at the following number to arrange a telephone interview: **303-544-0509**. If you are calling long distance, please feel free to call us collect.

Please write your additional views in the space that follows. If you need more room, please write on the back or use additional pages.

Thank you for your participation in today's focus group.

Focus Group Rating Form

Response	Importance Rating			
	1 Among the most important	2 Important	3 Somewhat important	4 Not as important
	1 Among the most important	2 Important	3 Somewhat important	4 Not as important
	1 Among the most important	2 Important	3 Somewhat important	4 Not as important
	1 Among the most important	2 Important	3 Somewhat important	4 Not as important
	1 Among the most important	2 Important	3 Somewhat important	4 Not as important
	1 Among the most important	2 Important	3 Somewhat important	4 Not as important
	1 Among the most important	2 Important	3 Somewhat important	4 Not as important
	1 Among the most important	2 Important	3 Somewhat important	4 Not as important
	1 Among the most important	2 Important	3 Somewhat important	4 Not as important
	1 Among the most important	2 Important	3 Somewhat important	4 Not as important

Stipend Information Form

We very much appreciate the commitment of time you made to attend today's group. We would like to respond by providing you with a modest stipend in recognition for your time and input into the group. In addition, if you have incurred transportation or child care costs in order to attend today, we would like to reimburse you for those.

In order to do so, we need you to provide us with the following information. This information is being gathered on a separate sheet of paper so that your name will not be associated with your responses or the other forms you filled out during the focus group. This will allow us to keep your input into the group anonymous.

1. Would you like to be paid $25 by check or to receive a $25 gift certificate to King Soopers?

   _____ $25 check _____ $25 King Soopers Gift Certificate

   If you want a check, we need you to provide your social security number: _____

2. Name: _____

3. Address: _____

   _____

4. Please provide your telephone number in case we need additional information: _____

5. If you drove today, please list your total mileage. We will reimburse you $0.31 per mile.

   Total mileage driven by you: _____

6. If you had child care expenses today, please write the total cost below.

   Child care expenses to attend today's meeting: _____

   Please list the names and ages of the children being cared for: _____

   _____

   Please list the name of the child care provider: _____

7. We need your signature below verifying that the above information is true:

   _____ _____
   Signature Date

APPENDIX V

TRIWEST GROUP

CMHI Operational Plan Study

Summary of Colorado Specific Documents

Submitted to the State of Colorado Department of Human Services Office of Direct Services

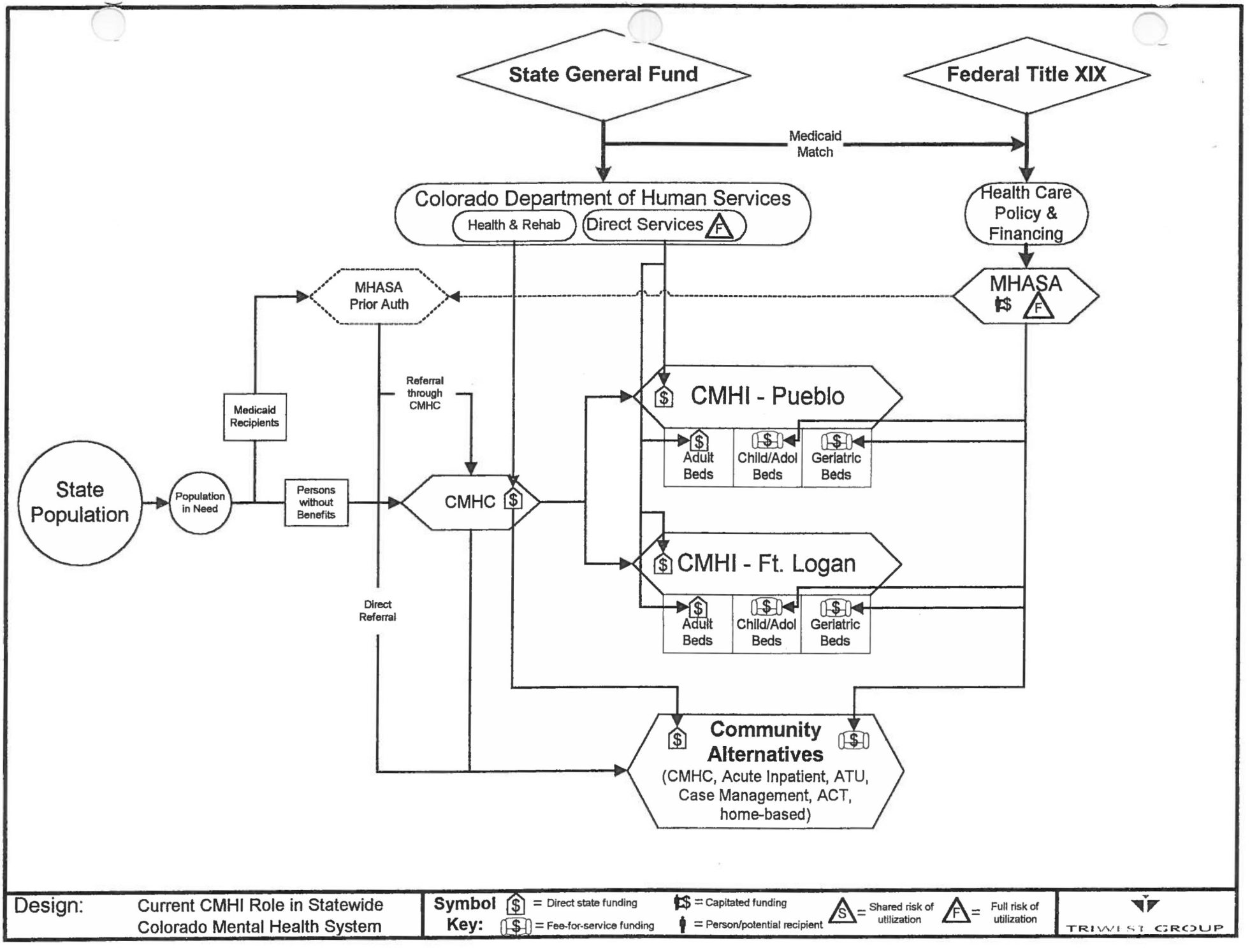
November 6, 2000

Colorado Mental Health Institute Operational Study: Summary of Colorado-Specific Documents

In the past two decades, the public mental health system in Colorado has undergone various adaptations in response to changing demands, and the two Colorado Mental Health Institutes (CMHIs) have restructured over time in the context of these changing demands. An initial draft *Blueprint* of the role of the CMHIs in the Colorado mental health system is presented on the following page. Key features of the current system include:

- **Civil Inpatient Capacity** – CMHI-Pueblo and CMHI-Fort Logan currently have a combined capacity of 400 civil inpatient beds, which serve children, adolescents, adults, and geriatric populations.
- **General Hospital Capacity** – In addition, CMHI-Pueblo has a 20-bed general hospital that provides medical services to CMHI-Pueblo inpatients, Department of Corrections patients, and some federal prison patients.
- **Forensic Capacity** – The Institute for Forensic Psychiatry, located at CMHI-Pueblo, has a capacity of 278 beds. These beds enable CMHI-P to serve those in need of evaluations to determine competency to stand trial, and to treat those determined by a court to be "not guilty by reason of insanity," "incompetent to proceed," or "impaired by a mental condition."
- **Population Served** – As part of the public mental health system in Colorado, the Institutes serve those considered to be most in need of mental health treatment, including adults and older adults with serious and persistent mental illness, adults and older adults with serious mental illness, children and adolescents with serious emotional disturbances, and individuals with psychiatric emergencies.

In 1995, Colorado instituted a capitated managed care program for Medicaid recipients in 51 pilot counties. The change to capitation is credited with changing the public mental health landscape markedly, resulting in decreases in CMHI use. Consistent with the effects of the introduction of capitation and other forms of managed care financing in other states, Mental Health Assessment and Service Agencies (MHASAs) assumed financial risk for the costs of services, including hospitalization in the CMHIs for children and adolescents, and immediately began to try to serve more consumers and families in the community (State of Colorado Auditor's Office, 1996), thus decreasing hospitalization in the CMHIs. Following the implementation of the Medicaid capitation pilot (between 1995 and 1996), average daily inpatient civil bed census dropped by 21% at CMHI-Pueblo and 9% at CMHI-FL. In 1996, the proportion of CMHI funding financed by the State General Fund was 71%, while Medicaid made up 15%. Prior to capitation, during fiscal year 1994, the State General Fund financed 56% of CMHI expenditures, while Medicaid financed 23%. In conjunction with these reductions in utilization, capitation led to downsizing at the Institutes (State of Colorado Auditor's Office, 1996).


State General Fund
Federal Title XIX
Medicaid Match
Colorado Department of Human Services
Health & Rehab
Direct Services
F
Health Care Policy & Financing
MHASA Prior Auth
MHASA
F
Referral through CMHC
Medicaid Recipients
CMHI - Pueblo
Adult Beds
Child/Adol Beds
Geriatric Beds
State Population
Population in Need
Persons without Benefits
CMHC
CMHI - Ft. Logan
Adult Beds
Child/Adol Beds
Geriatric Beds
Direct Referral
Community Alternatives
(CMHC, Acute Inpatient, ATU, Case Management, ACT, home-based)
Design:
Current CMHI Role in Statewide Colorado Mental Health System
Symbol Key:
= Direct state funding
= Fee-for-service funding
= Capitated funding
= Person/potential recipient
= Shared risk of utilization
= Full risk of utilization
TRIWEST GROUP

The future is expected to bring more changes to the Colorado public mental health system, and, in an effort to clearly define the role of the Institutes within it, a number of studies have been conducted by the State in the last decade. An overview of those studies most pertinent to the development of recommendations for the future role of the Institutes is offered below.

1993 Integrated Plan[1]

The 1993 report by the then Colorado Division of Mental Health (DMH), *Long-Range Plan for Colorado's Public Mental Health System: Integrating Hospital and Community Programs*, also commonly known as the *Integrated Plan*, was developed to address issues facing the state mental health system. One issue included the state's goal to develop community-based systems for the delivery of mental health services to Colorado residents with severe mental illness and serious emotional disorders.

The Plan noted that inpatient psychiatric treatment provided by the Colorado Mental Health Institutes continued to consume a large portion of the state's mental health resources and that community programs did not have sufficient capacity to provide services to all those in need. While community-based programs received a larger proportion of funding than CMHIs when considering all sources of funding, the CMHIs received a larger portion of state-directed funds.

Prior to the release of the Integrated Plan, the Joint Budget Committee of the Colorado General Assembly had encouraged the transfer of funds from the Institutes to programs that intended to build community capacity with the goal of reducing lengths of stay at the Institutes. In addition, the Legislative Audit Committee had recommended that DMH develop a comprehensive plan for system reform to address the issue of redirecting resources from the Institutes to the community.

Considering the CMHIs to be part of an integrated entity that encompasses both community and institutional programs, the Plan defined the future role of the Institutes as providers of medium-term, intensive treatment for consumers requiring assessment and stabilization of difficult psychiatric disorders, often complicated by dangerous behavior, developmental disabilities, medical disorders, substance abuse, and other problems. In addition, the Plan identified the CMHIs as providers of long-term care for individuals with severe psychiatric disorders who pose very difficult management problems that cannot be safely controlled in a less intensive setting. Under the Plan, development of new residential services would occur in the community, and the Institutes would be reserved for a sub-population of consumers with behaviors too dangerous or too unmanageable for community programs.

Assumptions were made that state hospital bed capacity would be reduced and that resources for community programs would increase to meet the needs of about 144,000 Colorado residents who met the criteria for highest priority to receive publicly funded mental health services.

In order to develop long-range goals and recommended strategies for implementation, the Integrated Plan relied on input from affected stakeholders, special research studies gathering data about mental health system consumers, and financial analyses focusing on examining the

feasibility and implications of shifting resources at that time devoted to the Institutes to expand community program capacity.

Stakeholder input elicited was generally favorable to the concept of re-examining the balance of programs and resources between the Institutes and the community, although Institute staff expressed concern about the proposed closure of state hospital beds and its advisability. Stakeholders also cautioned that appropriate community programs be developed before discharge of consumers from the Institutes, and that dollars shifted from the Institutes remain in the public mental health system.

The special research studies, commonly referred to as *Open Cases Studies*, evaluated child, adolescent and adult consumers receiving treatment at a particular point in time, at both the Institutes and within the community system of care. The community sample focused on high-risk consumers who might potentially be admitted to a CMHI.

The Plan made recommendations for initially reducing Institute beds by a maximum of 20%, primarily targeting child/adolescent beds. However, financial analyses indicated that moving some forensic consumers to the community would gain savings sufficient to support program development for children and adolescents.

It was also recommended that reductions be phased in gradually, over a two- to three-year period, and that both Institutes be maintained, as neither Institute alone could accommodate the inpatient capacity needs foreseen at that time. In the first year of implementation, the target for downsizing was set at 60-75 beds (4.5%-9.6% of current capacity) by closing one child/adolescent (C/A) unit (20-25 beds) and one or two forensic units (40-50 beds) during FY 1994-95.

Local and regional programs would be developed to serve targeted populations, who would otherwise be hospitalized, through a Request for Proposals (RFP) process. The determination of which particular units would be closed would be partly dependent on proposals developed through the RFP process.

No policy recommendations about adult beds were made, but an assessment of adult beds was carried out. The analysis suggested that a range of 31% to 54% of 1993 adult CMHI beds be considered for reallocation decisions in the future.

Recommendations were also made about how reallocation of resources should be accomplished to ensure that community services were developed to meet the needs of consumers who would have otherwise been treated at the Institutes. The plan noted that it would be two full months after the last person was discharged before any major savings would start, due to the fact that most of the variable costs in the CMHIs were related to personnel, and it was assumed that CMHI and community programs would be jointly funded for a period of six months.

1998 Open Case Evaluation of State Institute and High Risk Community Consumers[2]

According to this 1998 Open Cases Study, as it is commonly known, the recommendations of the 1993 Integrated Plan were not directly implemented. The pilot MHASA Medicaid capitation programs initiated in 1995 placed Medicaid funds for hospitalization under MHASA or community control, which led, at least indirectly, to a 49% reduction in child/adolescent beds between 1993 and 1997 (from 204 to 104 beds). In addition, total beds were reduced by 17.6% at the end of 1997, with 11.4% coming from child/adolescent beds and 6.2% coming from other beds. As a result, the CMHIs downsized their workforce by about 140 positions at the end of 1995.

The 1998 Open Cases Study was conducted in response to an October, 1996 performance audit report: *Department of Human Services Impact of Managed Care on the State Mental Health Institutes* by the Legislative Audit Committee. This report included a review of the impact of capitated managed care on the Institutes. The Committee had recommended that Mental Health Services conduct an open cases study of Institute and high-risk community consumers, patterned after the 1993 Integrated Plan, but focusing on the adult population.

This Open Cases Study by Colorado Mental Health Services was intended to address two issues with respect to the balance between hospital and community resources:

1. How many adults served in the Colorado Mental Health Institutes could be served appropriately in the community?
2. How many adults served in the Colorado Public Mental Health System would need to be served in the Colorado Mental Health Institutes?

The study surveyed two groups of consumers in treatment on a particular date in 1997. One group consisted of all adults in treatment at either of the CMHIs. The other group consisted of a sample of adult consumers of community services (community mental health centers (CMHCs) or MHASAs) deemed to be at risk for hospitalization either because they were treated at a CMHI in the previous six months, had a psychiatric admission to a community hospital or community hospital alternative in the previous six months, or were currently at high risk of hospitalization. Information collected using the Colorado Client Assessment Record and an assessment of treatment and service needs was analyzed to yield ordered severity groups, focusing on five primary indicators: 1) an estimate of the number of Institute beds currently occupied by members of the group; 2) the relative need for Institute care at the time of admission or in times of maximum crisis; 3) the current level of problem severity and need for security; 4) the proportion of consumers within a group currently in treatment in the community; and, 5) the proportion of consumers in the community currently at risk of admission to an Institute.

The first (lowest) severity group, characterized as having been at lowest need for Institute care at the time of their admission (based on low to moderate security needs and moderate problem severity levels) was found to occupy 23.5% of adult Institute beds. Of individuals with this profile, 95% were in treatment in the community, with 24% considered at risk of being admitted to a state Institute. The second severity group, characterized as probably being in need of security and management services available at the Institutes during periods of crisis, such as at

the point of their hospital admission, were found to occupy 14.1% of adult Institute beds. This group was described as having low current security needs and moderate levels of overall problem severity. Of individuals with this profile, 90% were in treatment in the community, with 43.3% of them considered currently at risk of admission to an Institute. The third severity group, those with moderate security needs and moderate problem severity, were found to occupy 12.4% of adult Institute beds. Of individuals with this profile, 73% were in treatment in the community, with 55.4% of them considered at risk of admission to an Institute. Lastly, the fourth and highest severity group, those with moderate to high security needs and high levels of problem severity, were found to occupy 50% of adult Institute beds. Of individuals with this profile, 72% were in treatment in the community, with 64.8% of them considered at risk of admission to an Institute. In addition, as many as half of consumers in this group who were currently in an Institute were believed to require the level of security and management provided at a CMHI, even after they have received maximum benefit from their hospitalization.

The study emphasized that the success of any reallocation policy rested on the availability of an adequate number and distribution of appropriate community-based alternatives to the CMHIs, although a complete assessment of the availability of community alternatives was beyond the scope of the study. However, the data gathered (based on Institute and community clinicians' and case managers' responses about the existence of community programs) did indicate that not enough Institute alternatives were in place, and that for the community sample, not all service needs could be met in the community for 64.5% of the sample. In addition, for at least 80.7% of the Institute sample, there was no more than one potentially appropriate community-based service facility in existence (notwithstanding availability or optimal fit).

Lastly, the study concluded that the safety net provided by the Institutes was both necessary and essential for adults with high security needs and management issues in need of medium to long-term treatment. Recommendations were made that assessment of the transition and maintenance costs of system changes, as well as community and regional needs, capacity, and feasibility, should be made before reallocation decisions were reached. The study also recommended that resources be moved only after the availability of appropriate alternatives were secured, and that any changes be implemented gradually to avoid sudden, unanticipated staffing and services changes.

Governance Study[3]

In 1995, the Department of Human Services (DHS) appointed the Commission on the Future of the Colorado Mental Health Institutes to "evaluate the current organizational structure and advise the DHS of any changes that might better serve the Institutes in fulfilling their mission." The commission represented various stakeholders in the mental health system. It discussed various governance structures in relation to the Institutes, although it did not propose any specific recommendations regarding their organization or governance.

The Commission did agree, however, that more flexibility was needed to allow the Institutes to:

- Have increased control over the personnel system,

- Operate outside the Procurement Code,
- Transfer assets,
- Generate and keep resources and revenue,
- Incur long-term debt.

In its 1996 Performance Audit report (*Impact of Managed Care on the State Mental Health Institutes*), the State Auditor's Office reviewed the work of the Commission and conducted additional analysis in order to identify a set of alternatives for the Institutes. One such alternative was to maintain the current structure, which was not seen as reasonable, given that the need to reconsider the future role of the Institutes had by then already been established. Downsizing was another option presented, including consolidation of functions, elimination of programs not related to the primary responsibilities of the Institutes, and possibly the closure of an Institute. Privatization of some services was a third option presented. However, it was acknowledged that statutes preventing the privatization of activities already performed by state employees existed. Since most Institute services are performed by classified state employees, this option was noted to require careful assessment.

Another option considered by the Commission and analyzed by the Auditor's Office was the restructuring of the Institutes as a quasi-governmental authority, which would require legislation to establish an authority. It was noted that University Hospital and Denver Health and Hospitals operate under an authority structure in an effort to become more self-sufficient and economically viable. Merger, involving the transfer of assets and responsibilities to another hospital, was also listed, with the merger of one or both Institutes with University Hospital and Colorado Psychiatric Hospital being offered as an example. Lastly, it was noted that a combination of the alternatives listed could also be considered.

Like the Commission's report, the Auditor's report notes that the Institutes face barriers to the achievement of efficiency, responsiveness to market forces, and financial viability under the current organizational structure. It emphasizes that any changes under consideration should ensure the flexibility needed to achieve these goals. Under the current organizational structure, the Institutes must operate under certain conditions that were seen by the Commission as inhibiting the Institute's ability to respond quickly and appropriately to changes in the health care environment. These conditions included governmental requirements and policies, such as the classified personnel system, the budgeting process, capital improvement approval requirements, statutory requirements, duplicative administrative functions, and geographic constraints.

The State Auditor's report goes on to highlight the "authority" governance structure as an alternative that can address some of the barriers mentioned. Its features include the ability to retain governmental immunity as a quasi-governmental structure (reducing insurance costs), the ability to incur debt (by issuing revenue bonds), the ability to address personnel issues, the ability to operate outside of the State's budgeting and appropriations process, and the ability to undertake joint ventures and mergers. However, it is also noted that further analysis must be done to determine the best governance structure option for the Institutes, including a financial feasibility study and a legal analysis.

1996 Performance Audit: Impact of Managed Care on the State Mental Health Institutes[4]

This audit considered the future role of the Institutes and discussed the effect of the Medicaid managed care pilot program on Institute utilization. It noted that in FY1996, the two Institutes had 452 combined beds serving children, adolescents, adults, and geriatric consumers. Additionally, CMHI-Pueblo had a 20-bed general hospital serving CMHI patients, as well as patients from the Department of Corrections and some federal prisons, and 278 forensic psychiatry beds. In that year, the two Institutes served 5,600 individuals at a cost of $88 million.

The report suggested that since the inception of capitation in the public mental health system, managed care contractors had used community settings increasingly and the CMHIs less. The impact on the Institutes had been significant. The average daily census at CMHI-Pueblo dropped from 283 consumers to 224 consumers (a 21% drop) between the first six months of 1995 and the first six months of 1996. At CMHI-Fort Logan, the corresponding average daily census dropped from 215 consumers to 196 consumers (a 9% drop). Demand for Institute services was expected to continue to decrease as community programs and the community infrastructure continued to expand, except for the most severe cases who could not be served anywhere else or for whom other treatments had proven unsuccessful.

Medicaid revenues were also noted to have decreased, from $19 million (out of $84 million in total Institute revenues) before capitation, to $11.4 million (out of $84 million) in FY 1997. This sharp decrease in Medicaid revenues was attributed to managed care contractors requiring shorter lengths of stay for Institute consumers, and their increased use of private hospitals and community alternatives. As a result, an adult unit and three child/adolescent units at CMHI-Pueblo and one adolescent unit at CMHI-Fort Logan closed after the implementation of the managed care pilot, eliminating 138 FTEs.

A general trend noted since before the implementation of the managed care pilot was the increase in percentage of total funds supporting the Institutes coming from General Funds. Between FY 1994 and FY 1997, the percentage of total Institute expenditures financed by the General Fund increased from about 56% to about 73%.

As a result, the report recommended that the Department of Human Services clarify the function and role of the CMHIs in light of the expansion of community programs, which were described as providing services in closer proximity to consumers, many at lower cost and seen as offering similar treatment features as the CMHIs. Recommendations were also made for DHS to continue to expand the availability of community-based mental health treatment alternatives while identifying needs and resources, and to clarify the domains of service to be provided primarily by the CMHIs. It was recommended that, in the short-run, General Funds from the CMHIs should begin to be allocated to community programs in order to allow them to continue expanding (after a cost analysis to determine the appropriate amounts). In the long-term, it was recommended that alternative organizational and governance structures for the CMHIs be evaluated in order to manage changes in General Fund support and revenue reductions while ensuring the availability of needed services.

The State Auditor's Office estimated that future CMHI utilization would further decrease with the expansion of Medicaid capitation on a statewide basis, and that significant reductions in average daily census would continue to occur for children and adolescents, as they had under the pilot program. In addition, the utilization patterns were expected to vary according to the managed care contractor selected, as differences in rates of decline of CMHI utilization between 21% and 34% were found between contractors in the past.

In addition, it was indicated that, if utilization trends were to continue, DHS should adopt a strategy to achieve any necessary downsizing at the CMHIs in a manner that is efficient and cost-effective. The report offered a number of options, such as continuing with the same configuration of services, which, based on estimates, would necessitate one less children's unit and one less adolescent unit at CMHI-Fort Logan, at a reduction in staff costs of $2.2 million involving 48 FTEs.

Another option offered was the reconfiguring of service areas to avoid having units not fully occupied. Based on census projections, this option would result in the closing of one children's unit and two adolescent units. As an alternative option, all children and adolescents could be served at CMHI- Fort Logan, resulting in the elimination of two adolescent units and one children's unit and reducing direct staff costs by $3.6 million (approximately 78 FTEs).

Alternately, the CMHIs could discontinue serving children and adolescents altogether, as is done in some states. This option would have reduced direct staff costs by $6.8 million and would have eliminated about 159 FTEs. However, adequate alternatives would need to be available in the community, and private hospitals may not provide inpatient services at affordable rates without state competition. Lastly, the option of serving all age groups in one of the two Institute locations was offered. This would involve physical expansion of one campus, and could become a viable option depending on changes in the governance structure of the Institutes.

1997 State of Colorado Mental Health System Strategic Plan[5]

The *State of Colorado Mental Health System Strategic Plan* resulted from a request by the executive director of the Colorado Department of Human Services for the Mental Health Planning and Advisory Council to develop a plan offering a clear direction for the public mental health system in Colorado. The Council identified relevant issues and offered specific recommendations, among them some specific to the treatment of consumers at CMHIs and in community settings. For example, they recommended that Mental Health Services require MHASAs to provide expanded alternative community-based services, particularly alternatives to hospitalization and other restrictive care.

It also warned that if General Fund dollars were to be capitated, bed utilization at the Institutes would depend on market forces, resulting in a loss of planning control over Institute budgets and programs. As a result, the Institutes could lose their viability. With a loss of this resource, the

state mental health system would then be wholly dependent on private facilities for inpatient treatment, which could ultimately result in higher costs.

The Council also recommended the expansion of managed care strategies to General Fund dollars by allocating General Fund dollars, currently used to serve adults who lose their Medicaid eligibility while hospitalized, to CMHCs responsible for their care, which would be responsible for purchasing Institute services directly, or for providing alternative services.

Consistent with and in reference to the State Auditor's report of 1996, it was recommended that CMHI unit closures not be implemented until a decreased need drives the closures, and that adequate community services be available prior to the closure of Institute beds.

1997 Medicaid Mental Health Capitation and Managed Care Program Request for Federal Waivers[6]

In this document, the State of Colorado requested continuation of the existing federal Medicaid waiver and implementation of a statewide waiver (to include 12 counties not included in the initial waiver). It noted that during the first year of the managed care program pilot 1,614 individuals received inpatient hospital services funded by the managed care program, with MHASAs purchasing 19,959 inpatient hospital days for Medicaid consumers (9,782 bed days in the CMHIs and 10,177 bed days in other hospitals). No comparable data exists for previous periods.

Inpatient costs for FY96 were noted to have decreased by 67.6% from the previous year under capitation, and inpatient costs decreased from 50.6% of the total cost of services to 17.2% of the total cost of services. In addition, the State noted that the pilot program had not resulted in the premature discharge of children from the Institutes or in a decline in the appropriateness of placements after discharge, and may in fact have actually had some positive impact in those areas. In terms of staffing impacts, revenue decreases were said to have led to the elimination of 138 FTE positions at CMHIs during the previous fiscal year due to the closure of child and adolescent units at the Institutes described above.

As a result of the pilot program, CMHIs were subsequently required to compete with private hospitals and hospital alternative services for Medicaid consumers, as most children and adolescents and some older adults admitted to the Institutes were eligible for Medicaid.

1995 Medical Surgical/Services Study for the Mental Health Institutes at Pueblo and Fort Logan[7]

This study's primary objective was to evaluate the delivery structure for medical and surgical services provided by CMHI-Pueblo in terms of efficiency and cost-effectiveness. It also developed long-range plans and standard usage measurements for selected ancillary services at CMHI-Pueblo and CMHI-Fort Logan.

The study performed an analysis of service delivery alternatives, and based on cost-analyses, concluded that expanding the medical/surgical population, with CMHI-Pueblo providing medical/surgical services to other state agencies on a negotiated rate basis, appeared slightly more cost effective than the base scenario (of no changes made). It was found that the scenario of outsourcing all CMHI- Pueblo and CMHI- Fort Logan laboratory tests to a reference laboratory appeared to be cost-prohibitive and that CMHI- Pueblo lab staffing would need to be increased under several of the medical/surgical services alternative scenarios. Based on a cost analysis, both CMHIs appeared to provide radiology services more cost-effectively in-house than could be purchased in the community.

1999 Operational Program Plan: CMHI-Pueblo Institute for Forensic Psychiatry[8]

This plan was developed by the Colorado Department of Human Services to outline a programmatic and operational direction for the Institute for Forensic Psychiatry (IFP) and for the development of a proposed facility to meet future operational needs of the IFP. Current overcrowding was analyzed, and recommendations were made about future capacity, IFP physical configuration, and physical facility limitations.

The Institute for Forensic Psychiatry serves persons who have been found "not guilty by reason of insanity" or "incompetent to proceed." Persons in need of court-ordered evaluations are also served, as well as psychiatric transfers from the Colorado Department of Corrections and county jails. It is the state's only forensic hospital, with a wide range of diagnoses represented. About 75% of admittees have been charged with violent crimes.

Despite having 278 authorized beds distributed among four major units of increasing security levels, IFP had exceeded capacity for the eight years preceding this study. For example, during FY 98-99, occupancy exceeded 300 people on 275 separate days.

The plan recommended that new facilities be developed at IFP in order to relieve overcrowding, address environmental concerns, and improve the delivery of treatment and services, particularly in the medium and maximum security units. It recommended that capacity be increased from 278 to 312 beds, and that substance abuse treatment be provided as part of the treatment regimen.

1999 Report to the Task Force on Mental Illness and Offenders, Subcommittee on Prevention and Intervention[9]

According to Colorado Department of Corrections estimates, 10% of the state's prison inmate population meets the diagnostic criteria for a major mental illness. Prevalence rates for mental illness in the juvenile justice system may be as high as 22%, according to the state's Division of Youth Corrections. With this in mind, this report provides an overview of programs that show promise or positive outcomes for children and adults with mental illness who may be at risk to become involved with, or are already involved with the criminal justice system. Programs

highlighted include early intervention programs, programs for families of children with aggressive behaviors or delinquency, prevention programs, strategies for serving adults with mental illness in the criminal justice system, and services to special populations (e.g., adolescent females with co-occurring disorders). For each program described, the report provides a comparison of costs of the program versus savings expected from lack of incarceration, lower victims' costs, and other savings. The report shows support for the cost-effectiveness of several programs, with the caveat that interventions must address needs at multiple levels, with aftercare and linkages to community services being essential.

1999 Advisory Task Force Recommendations to the Interim Committee on Treatment of Persons with Mental Illness in the Criminal Justice System[10]

This set of recommendations by the Advisory Task Force to the Interim Committee on Treatment of Persons with Mental Illness in the Criminal Justice System outlines legislation for consideration in the FY99-00 legislative session. Recommendations included:

- Interagency protocols for the development of a standardized screening process to identify the level of impairment among mentally ill offenders;
- Expansion of intensive community management approaches (e.g., Assertive Community Treatment, Multisystemic Therapy);
- Expediting access to public benefits;
- Expansion of specialized placements and forensics;
- Development of crisis intervention programs;
- Increases in cross-training and specialized caseloads;
- Provision of support for the evaluation of results of proposed activities;
- Review of jail diversion programs;
- Improvement in jail assessment, treatment, and transition services; and
- Expansion of detention-based pilot projects.

Quarterly Mental Health Services Waiting List Reports[11]

These reports reflect the number of individuals currently receiving or seeking services in the public mental health system. They compile and measure average wait times for initial access to the mental health system, and the numbers of indigent, non-Medicaid eligible individuals (56.6% of consumers statewide, per FY 98-99 MHS clients served data) needing specific services that were not available at all, or for whom the needed frequency or intensity of the services was not available. These reports do not track the number of consumers in need of inpatient hospitalization for whom these services are not available. However, the reports indicate that, among persons in need of services in the community, there are many for whom community-based services do not have the needed capacity to meet their needs.

Conclusions

The Colorado-specific documents reviewed above contain some common themes. In general, they point to the need to more clearly define the role of the Colorado Mental Health Institutes in light of the changing mental health care landscape in Colorado since the adoption of capitation in the public mental health system. Although changes are seen as continuing in the future, caution is urged in responding to those changes, so that services can continue to be provided to those in need of them. A review of the documents yields the following conclusions:

- Inpatient psychiatric treatment at the Institutes continues to consume a large proportion of the State's resources for mental health treatment.

- Community-based mental health treatment programs do not have sufficient capacity to provide services to those who need them.

- The adoption of managed care in the public mental health system in Colorado has led to decreases in Medicaid revenues for the Institutes, as well as downsizing. It is expected to continue to lead to decreases in Institute utilization and increased demand for community-based programs, although it is not yet clear whether downsizing has resulted in attainment of the lowest level of utilization possible, given the needs of consumers.

- There are people receiving treatment at the CMHIs whose problem severity and security needs are similar to those of consumers who are predominantly receiving treatment in community-based programs. Likewise, there are people in treatment in community-based programs whose problem severity and security needs are similar to those of consumers who are usually seen as being in need of CMHI services.

- Prevention and early intervention programs exist which could have an impact on the involvement of youth and adults with mental illness with the criminal justice system, and could do so in a cost-effective manner. However, resources would be needed for activities such as the development of standardized screening processes to identify populations in need of these services, and for the expansion of intensive community management approaches, such as Multisystemic Therapy (MST) and Assertive Community Treatment (ACT). Such alternatives could also impact the need for CMHI inpatient services.

- The transfer of funds from the Institutes to develop community-based treatment programs has been advocated as Institute utilization has decreased. However, it has also been recommended that CMHI capacity should not be reduced until the needed community-based programs are in place. Meeting both needs would require an expansion in public funding of mental health services, at least on a transitional basis.

- The maintenance of CMHI-based programs has been advocated to provide needed services for those with behavior too dangerous or conditions too unmanageable for community-based programs. Likewise, there appears to be a subset of CMHI consumers for whom Institute-

based services will continue to be necessary, even after they have reached maximum benefit from hospitalization, as they require the level of security and management provided by the Institutes.

- While a change in the governance structure of the Institutes has been recommended, and a quasi-governmental "authority" structure has been studied, no official recommendations have been made as to the best organizational and governance structure for the Institutes.

- In some cases, services can be more cost-effectively provided in-house than through outsourcing, as was concluded following the study of medical/surgical services provided through CMHI-Pueblo.

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CMHI Operational Plan Study

Literature Review of State-of-the-art Practices

Submitted to the State of Colorado Department of Human Services Office of Direct Services

November 6, 2000

Themes from National/State-of-the-Art Literature Review

The following summary of a search of the national literature on state psychiatric hospitals is organized by themes that have emerged from the literature review. The themes are, in turn, organized within major categories of interest. Attached to this summary overview is an annotated bibliography of the citations that were reviewed in the literature—both published and unpublished.

Role of State Hospitals Within a System of Care

Theme #1: **State hospitals have downsized considerably in the past few decades and already have experienced a reduced role nationally.**

Literature Evidence:

Bachrach (1999):

> The number of inpatients in state mental hospitals has dropped about 86% from 1955 to 1996 (560,000 to 77,000).

Emery et al. (1998):

> 1993 marked the first time that state mental health agencies expended more funds on the provision of community-based services than on services delivered in state hospitals.

McGrew et al. (1999):

> Until the 1990s, deinstitutionalization was carried out mostly by downsizing. Only 14 state hospitals closed between 1970 and 1990. In that same period, the number of beds decreased by 48% (from 524,878 to 272,253). The average number of beds per institution dropped from 1311 in 1970, to 467 in 1984, and to 306 in 1992.
>
> However, beginning in 1990, closing of state hospitals increased as a trend: Between 1990 and 1996, 40 state psychiatric hospitals closed and several more were scheduled to close at the end of that period. Since 1990, 18% of state hospitals have closed and many others continue to downsize. This pattern of institutional downsizing and closing is similar to the pattern for state-operated mental retardation institutions during the same period.
>
> Expenditures on community vs. inpatient services: in 1993, $6.89 billion (49.9%) was spent on inpatient services vs. $6.92 billion (50.1%) spent on community services. In 1987, only 6 years earlier, 58% of expenditures were on inpatient services and 39% on community services. There was an overall 15% decrease in inpatient budgets from 1987 to 1993.

Petrila (1995):

> Whereas in 1955, 63% of inpatient episodes occurred in state and county psychiatric hospitals, only 16% occurred there in 1990.

Scalora (1999):

> Quoting Redick et al. (1994) noting that inpatient populations in state psychiatric facilities decreased by 77% from 1970 to 1992.

Theme #2: **The types of patients served in state psychiatric hospitals are affected by multiple factors (including civil commitment laws, the characteristics of people with mental illness in the community; local values and goals for serving people, etc.), but generally are increasingly likely to be involuntary and at high-risk for violence.**

Literature Evidence:

Bachrach (1999), Fisher et al. (1996), others:

> It is not clear whether deinstitutionalization has hit its limit, but it is clear that there is still a need for state hospitals to serve people who are at risk for violence and who are not able to be engaged in community treatment.

Cuffel (1997):

> The highest-cost utilizers of mental health systems are those whose behavior is less likely to seem problematic to themselves, who are less likely to adhere to treatment regimens, and are more likely to be involved within the criminal justice system.

Emery et al. (1998):

> Impact of Kansas v. Hendricks: This Supreme Court decision permitted the civil commitment to state psychiatric hospitals of thousands of sexually violent criminal offenders, even if no diagnosable mental illness exists. Because they are likely to have very long lengths of stay, this results in a drain on state public mental health resources.

Fisher et al. (1996):

> Downsizing of two state hospitals in Massachusetts has resulted in a larger proportion hospitalized under criminal charges, recidivism, and a severely impaired population of long-stay patients. This suggests an even greater focus on social control and the need to deal

expertly with people who are at greater risk for violence and who may be less likely to voluntarily accept treatment.

Scalora (1999):

New technologies are needed to deal more effectively with the increasing forensic populations in state hospitals.

Spaulding (1999):

Outcome data continue to show that, however effective medication and support services may be for the majority of people, there is a significant minority who do not achieve stable functioning and a decent quality of life.

Theme #3: **The State Hospital should not be seen as a treatment site of last resort, but rather as playing specific roles within the continuum of care.**

Literature Evidence:

Spaulding (1999):

The state hospital should play a very significant role in psychiatric rehabilitation and should draw on the evidence-based work of Paul and colleagues.

A key feature of Spaulding's formulation is the availability of programs with finely graduated increments of restrictiveness and intensity. "This allows patients to be accommodated in environments that exactly match their individual needs, plus it facilitates the gradual movement of the most severely incapacitated patients to progressively lower levels of restriction as their progress in rehabilitation permits." (p. 116)

Theme #4: **There are specific interventions and tools that can be used successfully within the state hospital setting.**

Literature Evidence:

Bellus et al. (2000):

Illustrates application of the social learning approach of Gordon Paul in a state hospital setting in Buffalo.

Beuford et al. (1997):

Developing a strong therapeutic alliance contributes to the success of inpatient programs.

Buican et al. (1999):

Clinical Decision Support Systems can help achieve treatment goals faster and help people graduate to community settings more quickly

Elbogen & Tomkins (1999):

Therapeutic Jurisprudence (TJ): Better use of the law can have a profound impact on those served in state hospitals and the conditions under which they are served. Therapeutic Jurisprudence (TJ) focuses on the relationships between the justice/jurisprudence and mental health systems. It is interested in using law and legal analysis to promote more effective mental health services. TJ promotes certain types of interventions, and the study of their effectiveness, in hospital settings where largely involuntary, at-risk for violence patients are served. It identifies intervention "soft spots," where a focus on the interaction of therapeutic intervention and attention to patient's legal issues may prove helpful in effectively responding to patient's needs.

Spaulding (1999):

Intensive psychiatric rehabilitation in inpatient settings has received robust empirical support as a highly effective approach to treatment to most of that small subset of the seriously and persistently mentally ill (SPMI) population that needs inpatient services. For people who need long-term inpatient stays, due to a general failure of community programs, he thinks all of them need intensive psych rehab.

The goal of intensive psychiatric rehabilitation, for both humanitarian and economic reasons, is to enable people to live in the community and to benefit from community-based programs, such as Assertive Community Treatment (ACT) and others.

***Theme #5*: Continuity of care from hospital to community is crucial in reducing readmissions.**

Literature Evidence:

Olfson et al. (1998):

Continuity of care, in the form of outpatient clinicians visiting patients before they are discharged from the inpatient setting, significantly increased the likelihood of patients following up with their first outpatient appointment and led to better clinical outcomes.

Walker et al. (1996)

Former patients who kept less than half of their outpatient appointments were much more likely to be readmitted to an inpatient psychiatric facility.

Zahniser & McGuirk (1995):

In a study of patients discharged from state psychiatric hospitals in 10 Western states, people who received an outpatient contact within 60 days of being discharged from the inpatient setting were far less likely to be rehospitalized (0.3%) than those who did not receive an outpatient contact within 60 days (18%).

Effects of Managed Care

Theme #1: **Managed care tends to decrease hospitalization days and, therefore, costs. However, there can be other effects that are not necessarily intended.**

Literature Evidence:

Geller et al. (1998):

Patterns of use changed for multiple admission (MA) consumers from pre- to post-managed care in Massachusetts. MA consumers' admissions to state hospitals decreased, but admissions to state hospital replacement units (general hospital units, etc.) increased. When consumers are hospitalized at many different locations, their lengths of stay increase, because they are not as well known by staff in multiple facilities.

Petrila (1995):

In capitated systems, disagreements may arise over whose responsibility it is to serve involuntary civil commitment patients. There must be negotiation and planning regarding serving involuntary civil commitment patients up front with managed care companies taking on risk in capitated environments.

Scalora (1999):

Managed care frequently carves out forensic populations because of the lack of control MCO's have, often, over their placements and services. However, this creates an incentive to even further shift costs and services to forensic domains for those consumers who are most difficult and costly to serve. Over time, this could actually be one reason for the increase in forensic populations. The highest-cost utilizers of mental health systems are those whose behavior is less likely to seem problematic to themselves, who are less likely to adhere to

treatment regimens, and are more likely to be involved within the criminal justice system (Cuffel, 1997).

Downsizing and Discharge from Hospital to Community

Theme #1: **There is mixed evidence, about whether deinstitutionalization is associated with increased numbers of people with mental illness residing in jails and prisons.**

Literature Evidence:

Banks et al. (2000):

The idea that the deinstitutionalization of state psychiatric centers has resulted in increased utilization of general hospitals and correctional facilities by people with severe and persistent mental illness is widely held. This hypothesis of transinstitutionalization was tested by examining hospitalization and incarceration rates of people who had been or would be institutionalized in state psychiatric centers in 16 upstate New York counties. The results did not support the hypothesis of transinstitutionalization.

Scalora (1999):

Although direct evidence may be lacking for the claim that deinstitutionalization has led to shifting patients from mental health to criminal justice system, state agency statistics and indirectly related research results lend support to the notion. Statistics that do support this notion include:

- Percentage of jail detainees with mental illness is substantially higher than in the general population
- 10% of females and 15% of males had admissions to mental health facilities prior to being jailed.
- Some states report a ballooning of the percentage of inmates who were former state psychiatric hospital patients (e.g., in Michigan from 11% to 23% in last four years, during a deinstitutionalization effort).

Steadman et al. (1984):

In general, in this large study of hospital and prison population trends in six states, little support was found for the functional interdependence between prisons and state mental hospitals. A rival hypothesis is that increases in the population at risk for committing crimes led to an increase in serious crimes punishable by imprisonment. Increased arrest rates among mental hospital admittees in 1978 may be explained by their younger age and increasing nonwhite status. Another hypothesis is that a large group of patients/inmates are being exchanged between mental hospitals and local jails.

Steadman et al. (1998):

Studied a large sample of patients discharged from acute psychiatric facilities in three sites. Although people discharged from psychiatric facilities evidenced significant rates of violence post-discharge, their rates of violence were not higher than among other community residents in the areas to which they were discharged. Substance abuse was a major predictor of violent acts in both patients and community members.

Theme #2: **Downsizing can be cost-effective and safe when there is sufficient planning and investment in community alternatives.**

Literature Evidence:

Deci (1997):

South Carolina engaged in a comprehensive downsizing planning effort, which was seen as quite successful. A transitional leadership group provided vision by identifying key principles of the effort. Public forums were held to elicit support. A Transition Council spearheaded a Request for Proposals (RFP) process asking for community providers to submit proposals on serving deinstitutionalized patients. Stakeholders noted surprise at the positive outcomes.

Dewees et al. (1996).:

Studied downsizing in Vermont. Patients were able to be placed in community settings, but community integration of former patients was not as high as planners had hoped.

Hadley et al. (1997), Kamis-Gould et al. (1999), Rothbard et al. (1997):

The implementation of community treatment teams (CTTs) as community alternatives to the closing of Philadelphia State Hospital (PSH) was successful. The CTTs were found to be cost-effective and to help dramatically reduce hospitalization episodes and days for consumers. Residential programs also were heavily used. Implementation of CTTs (a form of intensive case management or ICM) also led to more widespread use of ICM among consumers not originally in the deinstitutionalization cohort.

Although costs to serve discharged patients and patients who would have been admitted had the PSH not been closed were high, they were not as high as it would have cost for them to be served in PSH.

Leff et al. (1996):

Experience of deinstitutionalization has been different in UK than in the US. Rates of people with mental illness in jail or who are homeless did not rise in the UK along with deinstitutionalization, as they have in the US. This may largely be due to the fact that in the UK, there was a guarantee that funds would move to the community, as downsizing occurred, to provide community alternatives. This study found ex-patients to be satisfied with community living and to have other positive outcomes.

McGrew et al. (1999) and McDonel et al. (1996):

Several sub-studies in this comprehensive case study found that outcomes and costs were much improved (especially from the state's perspective) through downsizing. Rehospitalization rates were quite low for those patients who were deinstitutionalized as a result of the closing. Similar to South Carolina, there was a lengthy planning process and community programs received investment dollars to enhance programming for deinstitutionalized patients. These factors were seen as crucial to the closing's success. This lengthy planning process worked well for hospitals closing, but still was seen as not quite lengthy enough from the perspective of community programs, which felt pinched to put together appropriate community alternatives in time. Specifically tracking the outcomes of the discharged patients also was seen as crucial to the closing's success. This seemed to have a positive effect on the system's performance, due to the clarification of outcomes expected and to the fact that programs continually were scrutinized regarding consumers' achievement of outcomes.

Wright (1999):

This study found that the costs to state government in the closing of a state psychiatric hospital in Indiana were lower than those prior to the hospital's closing. Annual cost to provide care to one patient for 365 days was $61,685 in the state hospital. Cost for serving discharged patients in FY 1995 were $55,416 per patient. Average cost per patient for those receiving services exclusively in the community (over 70% of the sample) were $40,618.

Theme #3: **Downsizing is not *necessarily* cheaper, especially when adequate community care is put in place and especially when the total costs of downsizing are considered.**

Literature Evidence:

Cuffel (1997)

This study found that costs of general health care are not always considered.

Rothbard et al. (1998):

This study examines whether and to what extent residential alternatives and community-based inpatient services are cost-efficient substitutes for institutional care. Studied costs pre- and post-closure of the Philadelphia State Hospital for patients hospitalized at PSH prior to 1989 and for patients hospitalized at community hospitals post-closure of PSH. When the 500-bed intermediate and long-term care PSH closed in 1990, the state hospital functions were replaced by 60 extended acute care beds in two community hospitals, residential programs consisting of 100 long-term structured residential beds with 24-hour supervision, and about 483 residential beds in more than 50 community residential rehabilitation facilities providing a range of maximum to moderate supervision and support services. Results indicate that episode of care costs were higher in the postclosure period ($78,929 to $68,446 in indexed 1992 dollars), due primarily to the increased use of general hospital acute care days. The annual cost per person, based on a 2-year service utilization history incorporating the indexed event, was higher for the postclosure group ($66,794 to $48,631), despite a trade-off between residential and extended hospital days in the postclosure period.

The data suggest that increased costs were due primarily to patients waiting in general hospitals for intermediate care unit beds to open. In addition, the increased use of acute beds may have been influenced by their eligibility for Medicaid and Medicare reimbursement (unlike former state hospital beds).

Semke (1999):

Describes the Regional Support Networks (RSNs) in Washington state that became the locus of responsibility for serving people close to home and for reducing state psychiatric hospital use.
The number of high utilizers was reduced from pre- to post-reform and the use of state hospitals was reduced. However, the number of bed days, with community hospitalization and state hospitalization combined, increased from pre- to post-reform. This was in a fee-for-service model.

Older adults had increased use of the state hospital. In contrast to the situation with younger and middle aged adults, it may have been more expensive to hospitalize older adults in local communities, which may not have had enough geriatric beds to gain the economy of scale that would have made community-based hospitalization cost effective.

Local RSNs developed community programming in very different ways and at varying rates of efficiency: "Thus, state-level mental health policy planning must take into account that, at the local level, alternative community services are implemented at different rates and levels for consumers with particular characteristics." (p. 203) .... "by default the state hospital ends up with a variegated residual population for whom a multitude of services may be difficult to administer well." (p. 203)

Theme #4: **Downsizing can have considerable effects on staff and other stakeholders, but those effects can be mitigated by good planning and management of the situation.**

Literature Evidence:

Citrome (1977):

Being laid off is difficult for staff; staff who survive the layoff often feel "survivor's guilt." It is possible to reduce the negative effects by: having a planned, orderly process; explaining the relationship between the layoffs and a vision for downsizing of inpatient services; providing help in resume writing and job search; providing access to an Employee Assistance Program; and consolidation of upper management with reduction in higher level jobs.

Craig (1997):

Closing of a state hospital in Ohio in 1996 had traumatic effects on patients, staff, families, community, but the effects were mitigated by good administrative handling of the closure.

Mesch et al. (1999):

Over time workers had more positive attitudes about the hospital closure. They also reported less depression, less work stress, and use of more coping strategies post-closure.

However, post-closure they also reported increased work conflict, lower income (mean of $24,537 to mean of $23,302, $p<.035$), and a more pessimistic outlook toward their future.

Theme #5: **The perspectives of stakeholders can significantly affect downsizing efforts and should be taken into account.**

Literature Evidence:

Pescosolido et al. (1999):

Studied stakeholders' (patients', family members', hospital workers', public's) attitudes about hospital closure from pre-discharge to post-discharge. All stakeholders favored fixing the hospital pre-closure, although patients were most positive about closure among the groups. A majority of patients thought their quality of life would be better out of the hospital. At post-closure, patients were not as positive as they were at pre-closure about community life. Other stakeholders' views became slightly more positive about closure. Findings reinforce the importance the ascertaining stakeholders' positions and recognizing the slowly changing response of stakeholders even under successful policy change.

Wolff (2000):

A state's efforts to consolidate long-term stay beds in a particular community in the northeast met vocal opposition, even though only 27% of community residents opposed the plan. Officials argued that the effort would stimulate the economy, etc., but vocal residents' concerns about safety and costs were difficult to deal with and placed the burden on the government to provide a fuller accounting of how the community would be affected by government policy. This broadened the discussion to include subjective and objective impacts on the community and compensatory benefits.

Community Alternatives to Hospitalization

Theme #1: **Assertive Community Treatment (ACT) has been shown to be a viable community alternative to inpatient services for some consumers, in that it can helps people achieve longer tenure in the community and avoid rehospitalization.**

Literature Evidence:

Drake et al. (1998).

Assertive community treatment for people with serious mental illness (SMI) and substance use disorders was found to produce positive outcomes, in terms of reduced substance use, retention in treatment, and days in stable residences.

Essock et al. (1998).

Assertive Community Treatment (ACT) was more cost effective than standard case management for people who were in the psychiatric hospital at the beginning of the study. Note that clients in the hospital were not discharged very quickly, but rather remained in hospital, on average, for several months before being served by ACT in the community.

Fekete et al. (1998).

Outcomes for consumers receiving ACT in rural areas were encouraging. There are issues involved in implementing ACT in rural areas that are unique and need to be attended to.

Monroe-Davita et al. (1999):

ACT has been found to be quite successful in reducing rates of hospitalization, in increasing rates of independent living, and in enhancing consumer and family satisfaction with treatment. Other outcome areas have shown mixed results (functioning, well-being).

Theme #2: **Administrators and planners need to give thought to how evidence-based alternatives such as ACT would be implemented with fidelity to the program that is known to be effective.**

Literature Evidence:

Monroe-DeVita & Mohatt (1999):

ACT teams are effective, in large measure, based on the extent to which they implement the program with fidelity to the model that has been developed (see also McGrew et al., 1994). In addition, ACT incorporates treatment and rehabilitation interventions as they become empirically validated. Teams need to incorporate into the basic structure of the ACT team, those interventions that are known to be effective (Supported Employment, Skills Training modules, substance abuse treatment interventions, etc.).

ACT also needs to manifest differently in urban vs. rural areas, where different problems may challenge consumers (e.g., substance abuse, homelessness vs. social isolation, stigma).

Theme #3: **Administrators and planners need to give thought to how alternatives such as ACT would be financed within a managed care system.**

Literature Evidence:

Clark (1997):

Numerous studies have demonstrated ACT's ability to reduce hospitalization costs more effectively than standard forms of treatment. There is also good evidence that they help people to live more independently. Policymakers and administrators must give thought to whether targeted funding approaches or more broad-sweeping funding approaches will be used. The former is more often associated with fee-for-service or retrospective reimbursement systems and the latter is often more associated with prospective payment (e.g., capitation).

Monroe-DeVita & Mohatt (1999):

Prospective financing approaches may be better for encouraging flexibility in services, whereas retrospective financing (e.g., fee for service) may not be as flexible, but may allow for better tracking of services provided.

Studies examining step down from ACT to lower levels of care have been mixed. People who have become low service utilizers and have achieved some independent functioning are good candidates for moving to lower levels of care.

Cost effectiveness of ACT: it is effective for high utilizers of hospital services, but not cost effective compared to robust community services (non-ACT) for people who are not necessarily high utilizers.

Personal Communication with National Empowerment Center (Fisher, et al, 2000)

An intervention model called PACE (Personal Assistance in Community Existence), which has been developed by national consumer leaders, including a psychiatrist who was once diagnosed with schizophrenia, may show promise in helping consumers decrease their dependency upon an ACT team or another Intensive Case Management team. Although it has not yet been empirically validated, because it is so new, it may especially help consumers who need a consumer-driven, cost-effective intervention that emphasizes recovery and empowerment principles. PACE can be more flexible and may be desirable for consumers who are willingly engaged in services, but need more social support to thrive in the community.

Annotated Bibliography from National/State-of-the-Art Literature Review

Bachrach, L. (1996). The state of the state mental hospital in 1996. *Psychiatric Services*, 47(10), 1071-1078.

This analytical review updates the author's earlier writings on the position of the state mental hospital within the spectrum of services for long-term mental patients and provides perspective for future service planners. Findings and commentary are organized around the four major questions below:

(1) What is the prevailing view of state mental hospitals today, and how does it compare with the view that existed in the first half of this century? There are no standardized, universally accepted criteria to assess the character or quality of a given hospital, much less to compare entire categories of these facilities from different time periods. In the 1970's, efforts to link state mental hospitals with community-based services in unified systems of care achieved some popularity in the US. In today's fierce competition for funding, there is something of a stand-off between state mental hospitals and community-based agencies. No single predominant view of state mental hospitals exists today, and they must be assessed within, not across time periods.

(2) What individuals tend to be served in state mental hospitals today? The number of inpatients in state mental hospitals has dropped about 86% from 1955 to 1996 (560,000 to 77,000). The proportion has dropped from 339 out of 100,000 to 31 out of 100,000. The location of patient care episodes has changed, from 63% of all such episodes in the US taking place in state mental hospitals, to 16% in 1990. To some, the presence of 77,000 individuals in state mental hospitals would suggest that deinstitutionalization has not progressed far nor rapidly enough. To others, this figure establishes a threshold for the absolute limits of deinstitutionalization and indicates that there is an irreducible limit beyond which state mental health hospital populations will not drop. Others would see this figure as too small and might be increased to serve individuals who are overlooked currently and who end up in correctional facilities or on the streets. In general, inpatient populations at state hospitals include: old long-stay patients, new long-stay patients, and short-stay patients. Short-stay patients, particularly those with multiple admissions, represent a clear majority in many, if not most facilities. The composition of populations varies by facility, but is influenced by: the characteristics of people with mental illness living in the community served by a particular hospital; laws and regulations governing both inpatient and outpatient civil commitment; the array of alternative services actually available within the community; and, the community's goals in serving people with mental illness.

(3) What has been the fate of people with mental illness who are no longer served in state mental hospitals? There are no simple answers. Many have been successfully engaged and provided services in the community. Numbers vary according to the variables outlined in question (2) above. Many express much greater satisfaction than when inside the hospital. Others have been discharged to communities with few, if any programs to serve them, and some end up living on the streets. Others (a growing proportion) have never been admitted to state mental hospitals,

nor any other treatment facilities, in the first place. Between one-third and one-half of the nation's homeless reportedly suffer from long-term mental illness. Another significant portion of the population previously served in state hospitals are now in jails and other correctional facilities. Because excellent and inferior treatment and care are found in state hospitals and community settings, neither can be described as inherently "better" for all patients at all times.

(4) What is the appropriate role for the state mental hospital in today's uncertain and rapidly changing systems of care? Different factors must be considered to answer this question: Planners and service providers must acknowledge that despite the existence of model systems of care in some selected American communities, the growth of community-based services in his country has thus far failed to eliminate the need for state mental hospitals. The full array of services that state hospitals provide must be assessed. While state mental hospitals fulfill a wide array of functions, in many places they may well be the only facilities that provide even the most minimal care and asylum to persons in grave need of assistance. Not only patients are served by state hospitals, but also relatives (education and support), the system of care (a venue for difficult-to-engage patients), the professional community (research and training opportunities), society (containment of dangerous individuals), and local communities (tax base, employment). The author notes that the downsizing of state mental hospitals has not uniformly resulted in cost savings, and the more comprehensive and methodologically sophisticated a cost analysis is, the less certain it appears that community-based services are cheaper than those provided in mental hospitals. Within a system of care, the state mental hospital should provide those services that it performs best. Duplication of services should be avoided, and state mental hospitals should not be considered a facility of last resort, but rather a full partner among agencies in the system of care.

Banks, S.M., Stone, J.L., Pandiani, J.A., Cox, J.F., & Morschauser, P.C. (2000). Utilization of local jails and general hospitals by state psychiatric center patients. ***Journal of Behavioral Health Services and Research, 27*****(4), 454-459.**

The idea that the deinstitutionalization of state psychiatric centers has resulted in increased utilization of general hospitals and correctional facilities by people with severe and persistent mental illness is widely held. This hypothesis of transinstitutionalization was tested by examining hospitalization and incarceration rates of people who had been or would be institutionalized in state psychiatric centers in 16 upstate New York counties. The results did not support the hypothesis of transinstitutionalization.

Beauford, J.E., McNiel, D.E., and Binder, R.L. (1997). Utility of the initial therapeutic alliance in evaluating psychiatric patients' risk of violence. ***American Journal of Psychiatry*****, 154(9), 1272-1276.**

This study assesses the quality of the initial therapeutic alliance between the therapist and patient as a predictor of the risk of violent behavior during short-term hospitalization. The records of 328 patients admitted between 1990 and 1992 to a locked, university-based psychiatric unit (with a mean length of stay of 16 days) were reviewed retrospectively for violent behavior,

demographic information, clinical variables, and quality of the therapeutic alliance. A recent history of violence had the highest correlation (0.45) with inpatient aggression, with therapeutic alliance having the next highest correlation (0.42). Poorer alliance during intake was associated with a higher likelihood of inpatient violence. Of the patients predicted by the model to exhibit some type of aggression, 78% displayed physical attacks or fear-inducing behavior, while 79% of those predicted by the model to exhibit no violence did not display any aggression.

Bellus, S.B., Kost, P.P., and Vergo, J.G. (2000). Preparing long-term inpatients for community re-entry. ***Psychiatric Rehabilitation Journal*****, 23(4), 359-364.**

With the shortening of inpatient stays and the shrinking/closing of state-run long-term psychiatric units, clinicians are confronting the long-recognized phenomenon of excessive dependence on the hospital, or in its extreme form, institutionalization. Factors that have been found to be helpful in promoting successful community reintegration have been working with familiar staff members, experiencing hope for life outside the hospital, and moving the discharge process from planning into actual activities. The challenge lies not only in assisting reluctant individuals to consider the possibility of discharge and develop a commitment, but also in developing programs or experiential options that will assist the individual to be successful in returning to the community. This paper describes some programs and strategies developed to assist long-term hospitalized individuals to successfully re-integrate into the community. The programs described (the Behavioral Rehabilitation and Interpersonal Treatment Environments) are at the Buffalo Psychiatric Center, a state-operated, long-term care psychiatric hospital, and are based extensively on the social learning approach of Gordon Paul. It consists of a token economy system that provides participants with increasing rewards and freedoms for demonstrating higher levels of independence in self-care, social competencies, and vocational competencies. The average length of stay for participants in this study was over 10 years for the index hospitalization, with lifetime hospitalizations upwards of 36 years. Many had stated they did not want to leave, and had responded to discussion or movement toward discharge with deterioration. A part of the programs involves countering negative expectations by frequent communication and fostering of the hope for return to the community. Participation in weekly half-day sessions at an outpatient community treatment program (led by inpatient and outpatient staff members), regardless of when discharge is expected, is another part of the program. Later in the program, participants are increasingly challenged to develop and practice the skills needed to maintain in the community. There are guided group tours of various community residences, day programs, work, education, and community service environments are also a part of the series. One of the final tasks of the program is the clear designation by participants of their preferences for community residence and outpatient vocational and educational programs, with regular pre-discharge visits to their new residential settings. The program has successfully discharged 51 individuals, with a 15% relapse rate with a significant increase in community tenure (an average of 2.5 years).

Buican, B., Spaulding, W.D., Gordon, B., & Hindman, T. (1999). Clinical decision support systems in state hospitals. In W.D. Spaulding (ed.), The role of the state hospital in the twenty-first century. *New Directions for Mental Health Services*, no. *84* (Winter). San Francisco: Jossey-Bass. (pp. 99-112)

Computerized clinical data management is essential to the future state hospital, not just for administration, but also for individualized clinical decision making. State hospitals will be required to develop sophisticated methods of managing and utilizing clinical data in the 21st century. Outcome data will increasingly serve accountability, program evaluation, and benchmarking roles in coming years. Clinical Decision Support Systems (CDSS) function primarily to inform an individual patient's treatment team about clinical status, treatment response and rehabilitation progress. The data must immediately be available to clinicians to support clinical decision-making. CDSSs are necessary to serve the particularly difficult to serve patients who will be left in state hospitals as downsizing progresses.

Considerations in the Development of a Clinical Decision Support System:

System-Related Considerations: A CDSS needs network computerization combined with relational database technology. Measures to include in the system should include objective, quantifiable measures that can be measured in a straightforward, repeatable fashion and that permit graphic display. Clinicians' expertise on what measures should be included is crucial to include.

Staff-Related Considerations: The system must be accessible to staff and staff must be trained in its use.

Administrative Considerations: Administration must provide infrastructure and fiscal resources and must be committed to ongoing development of data systems as part of program development.

A Prototype Clinical Decision Support System, pp. 106 ff:

- A CDSS (PsychiaTrax) has been developed over 15 years at the Community Transition Program at the Lincoln (NE) Regional Center. It's a 40-bed unit in a state hospital, with a twelve-bed transitional extension located in an apartment building in the community.
- A rigorous assessment process is conducted initially, which describes problems in behavioral terms. Short-term and long-term goals, with key indicators are developed for each problem.
- Patient Information Tracking is included.
- Therapy-Activity-Class Tracking is included.

- Clinical Measures Tracking, Medication Tracking, Behavioral Management Plans, and Integrated Treatment Response Profile are also included in the system.

Citrome, L. (1997). Layoffs, reductions-in-force, downsizing, rightsizing: The case of a state psychiatric hospital. Administration and Policy in Mental Health, 24(6), 523-533.

"The advent of managed care, declining revenues from Medicaid/Medicare, and the increasing reluctance of government to directly provide health services, have forced hospitals and clinics to restructure, become smaller, and lay off staff." (p. 523)

The paper describes a case example of a reduction-in-force in a large mental health agency (NY Office of Mental Health) and in particular the affect on one facility, Middletown Psychiatric Center.

A literature review of sociological, psychological and economic consequences of layoffs also is provided.

This case study showed that it is possible to reduce the negative effects by: having a planned, orderly process; explaining the relationship between the layoffs and a vision for downsizing of inpatient services; providing help in résumé writing and job search; providing access to an Employee Assistance Program; and consolidation of upper management and reduction in higher level jobs.

Clark, R.E. (1997). Financing assertive community treatment. *Administration and Policy in Mental Health*, 25(2), 209-220.

"In developing new payment systems, policymakers must choose between targeted strategies that attempt to influence the treatment process directly and those that establish broad goals for effectiveness, access, and efficiency while allowing providers more latitude in the treatment process." (p. 209)

Because of its intensity and cost, ACT is usually reserved for the most disabled people, whose conditions are most volatile and who are most costly to treat.

Numerous studies have demonstrated ACT's ability to reduce hospitalization costs more effectively than standard forms of treatment. There also is good evidence that it helps people to live more independently.

There are certain treatment practice guidelines associated with ACT. Faithful adherence to ACT program goals is not always easy to achieve in traditional service systems. Different modes of financing and reimbursement can influence the extent to which program goals and service delivery elements are adhered to.

Goals of ACT Financing

Ellis and McGuire (1993) identify 3 goals of health care financing: 1) protect consumers from financial risk; 2) treat providers and beneficiaries fairly; 3) encourage efficiency.

"Growing health care costs make it essential that any payment system encourage providers and clients to use resources as efficiently as possibly without compromising quality or accessibility." (p. 211)

Payment systems can shape clinical practices:

- Retrospective Reimbursement (RR): (e.g., fee-for-service)—encourages greater use/provision of services than prospective payment. Within RR, the specific types of services that are reimbursable exert a strong influence on clinical practice

- Prospective Payment: offers stronger incentives for efficiency than RR, but exerts a less direct influence on specific treatment practices.

- Some purchasers have combined both payment systems in a mixed system (Meisler et al. 1995).

Who Pays for ACT?

For an investment in ACT to be cost-effective for (e.g., managed care organization) purchasers they must have a long-term responsibility for clients, since the benefits of an investment in ACT may take some time to realize.

Contracting for ACT

Financing for ACT has evolved from direct provision by public mental health authorities to retrospective payment for specific services provided by private providers to prospective payment for all treatment given to a client during a prescribed time period.

Greater sensitivity of private agencies to financial incentives is both a strength and a weakness: the strength includes maximizing efficiency; the weakness is that too much price sensitivity complicates the principal-agent relationship between public purchasers and private providers.

"Without good outcome measures, cost cutting can easily be mistaken for cost-effective treatment...Purchasers must structure payment in ways that encourage effective, efficient, and equitable treatment." (p. 213)

Financing Strategies: Targeted or Broad Incentives?

Retrospective Payment:

One can bundle all ACT services into one rate or pay for them separately. Unbundling leads to provision of service that are reimbursable. "Given a choice, a contracted mental health center may opt for the higher rate/lower cost approach even though it deviates from the prescribed ACT model." (p. 214)

One way to improve the desired match between incentives and treatment philosophies is to redefine service categories or realign rates so they encourage the desired treatment. A natural experiment was conducted in New Hampshire where they specified a new service category, "mental illness management services" (MIMS) to pay for case management out in the community, etc. This involved paying CMHCs "a smaller monthly payment to cover indirect services like advocacy and service coordination, plus a variable amount based on the number of MIMS service units delivered." (p. 215) New Hampshire found a significant increase in out-of-office services after this payment method change.

However, it's important to note that financing changes like this are usually a "powerful but rather blunt policy instrument." (p. 215)

Prospective Payment:

Simply *allowing* clinicians to treat consumers in community settings doesn't mean they will do it. It is important to organize teams, choose workers, supervise them properly, and so on.

"Under prospective payment, the provider's ability to treat patients more cost-effectively depends on efficient use of available technologies." (p. 216)

Capitation rates are limited in financing ACT because they typically focus on an average rate across a broad population, whereas ACT focuses on those most difficult to treat.

When managed care organizations and providers are at risk and money is tight, it may be difficult for them to see the long-term view of investing in expensive, but effective community programs. They may take more immediate cost-saving measures and focus on direct approaches to controlling costs (e.g., by restricting access to the most costly services).

ACT services are likely to be restricted to a small group of the highest service utilizers.

Benefits of outcome monitoring—may help ensure that programs under prospective payment systems address the goals of interest to the payer. The author notes the potential advantage of providing economic incentives for improved outcomes.

Conacher, G. N. (1996). Psychiatric hospital downsizing and the Penrose effect. *Journal of Nervous and Mental Disease*, 184(11), 708-710.

In 1939, Lionel Penrose reported an inverse relationship between the amount of violent crime in particular European countries and the number of hospital beds that those countries devoted to the care of the mentally ill. There exists no proof for what has been called Penrose's Law. Fewer hospital beds for people with mental illness might cause more violence if all or most of the increase was attributable to those who would otherwise be hospitalized, but that is not the case. Continuing public concern about violence led to continued research, with results indicating in some cases that people with mental illness were less dangerous than the general population, to results indicating a small positive association between mental illness and violence. Other findings have indicated that young males with schizophrenia can be five times more likely to be convicted of violent crimes than matched controls. With coexisting alcoholism, the likelihood goes to 17 times as likely. Because of their small number, this group, even if not hospitalized, would be unlikely to explain but a small fraction of the total rise in violence. The author suggests that high rates of violent crime in a society cause apathy, causing administrators and policy makers to become indifferent to the welfare of people with mental illness, with such indifference leading to downsizing of hospitals. Thus, a lack of compassion could be the underlying cause of the Penrose effect.

Craig, C.Q. (1997). "Do not go gentle into that good night": When a psychiatric hospital closes. ***Psychiatric Services*****, 48(4), 541-542.**

This paper describes the closure of a state psychiatric hospital in Ohio in 1996 as a traumatic event for patients, staff, families, and the community using the four-frame model of organizational function proposed by Bolman and Deal. In this model, organizations are like families (people with personal needs), like factories (complex machines with gears that mesh or grind), like jungles (different species competing for resources), and like temples (housing a tribe's unique beliefs and folkways). All four frames must be addressed by its leaders when an organization is in crisis. This paper describes how these frames were successfully addressed by administrative leaders at this hospital to lessen the closure's traumatic impact.

Cuffel, B. (1997). Disruptive behavior and the determinants of costs in the public mental health system. ***Psychiatric Services*****, 48(12), 1562-1566.**

While the focus of most economic studies on the determinants of the use and cost of public mental health systems has been on age, sex, race, and diagnosis, this paper suggests that costs in the public mental health system are affected more by the disruptive behavior of persons with SMI. For example, previous research has indicated that Medicare diagnosis-related groups predicted only 16-18% of hospital costs among psychiatric patients. In terms of violence, there are three lines of research to suggest an association between disruptive behavior and public mental health costs: 1) there is evidence that violence is a common precursor to psychiatric hospitalization; 2) another line of research has investigated the costs of assaults on staff by inpatients; 3) some studies link violence with the use of high-cost services, such as hospitalization and residential services. Prevailing models of health care utilization assume that

use of health care is a function of a complex series of rational decisions in the process of maximizing one's health status (i.e., the health belief model), which may not be applicable to many consumers of the public mental health system. In another model (i.e., the social behavior model), the use of health services is a function of health need, community characteristics, individual characteristics, and health care system characteristics. Like the previous model, this model also assumes a rational decision maker who accurately perceives the need for services and seeks care, when the highest-cost users may be those that fail to see the need for services. The authors favor an "other-determined pathway" to care, which includes the occurrence of socially-disruptive behavior and a community agent who experiences the disruption, recognition by the community or family that the behavior is due to mental illness, a decision to engage the individual in treatment through coercion or other social pressure, and evaluation of the individual's behavior and a decision to continue, change, or terminate care. In this model, disruptive behavior includes violence and other forms of aggression, as well as behavior that causes self-harm, is disruptive or illegal, and is experienced as problematic by the community. To be of most utility, research in this area must take a broad societal view of economic cost, rather than considering costs only to a particular payer or system. Also, disruptive behavior must be not only well-defined and reliably measured, but examined in conjunction with environmental and contextual factors.

Deci, P.A., et al. (1997). Downsizing state operated psychiatric facilities. In S.H. Henggeler, A.B. Santos (Eds.), Innovative approaches for difficult-to-treat populations. Washington, D.C.: American Psychiatric Association. (pp. 371-394).

This article describes downsizing/hospital closing efforts in three states:

South Carolina

- The state had a history of being highly dependent on institutional care.
- State hospitals and community programs were owned and operated by the state.
- A Transitional Leadership Council was established and developed 6 broad principles or goals that guided the downsizing effort.
- Public forums were used to elicit public support for system change effort plans.
- The Transition Council surveyed all 665 long-term care patients and decided to downsize and consolidate the two existing long-term care facilities in the state.
- The State Mental Health Program Director pledged that there would be no layoffs, although some staff would be transferred to community programs or residential facilities.
- The Transition Council asked CMHCs for proposals to develop programs for patients moving into community. All projects had to include an evaluation of service implementation and patient outcomes. These Towards Local Care (TLC) projects were ranked and a little over half were selected to receive funding.
- Hospital and community staff both were surprised at the positive outcomes observed (community tenure and functioning). For example, more patients, than staff had predicted, were living independently after discharge. The most skeptical critics of the transition toward local care were transformed into supporters

Indiana

This is essentially the Central State Hospital closing described in more detail in the McGrew et al. special edition of the *Journal of Behavioral Health Services Research* (see below). To finance the closure, Indian state government created a Community Mental Health Transition Fund of $3.3 million for FY 1993 to develop new community services for approximately 170 people. (This was an Indiana Department of Mental Health [IDMH] reallocation of CMHC funds.) The preclosure budget for the CSH was approximately $23 million for a census of 409 patients.

To build new community services, IDMH formed planning committees, held focus groups with clinical staff from 30 CMHCs, wrote standards for new programs it wanted to fund, and issued RFPs.

They tracked discharged patients through collecting data on them every month via phone interviews from 6 CMHCs and case managers from residential settings, supplemented by data from clients and other community sources, as necessary.

Washington

[See also Semke (1999) below]

Washington state legislation encouraged the mental health system to address more squarely the needs of high utilizers of costly mental health services and to shift resources to helping them be served more in the community. Enhanced outpatient services for high users and reducing unnecessary hospitalizations were mandated by the legislation. Financial incentives were used to help accomplish this.

High users were defined as those who, in a 2-year period, experienced at least one hospitalization of 30 days or more, or at least 3 hospital admissions.

Regional Support Networks (RSNs) were given fiscal, clinical, and administrative authority to make this happen.

During the first 3.5 years of reform, the Washington Division of Mental Health gradually consolidated mental health funding from diverse sources into a single block grant—sources included grants-in-aid, residential funding, involuntary treatment funds, and federal block grants. Increases in state allocations to local mental health authorities were contingent upon local use of new resources for acute and long-term residential beds, crisis response services, and community support capacity, including case management services. (Appropriations to RSNs were tied to commitments to develop capacities in these areas. Clinical details were left up to RSNs. The state provided technical support where needed.)

Financial policies: Goals for reduced state hospital use were negotiated; RSNs were expected to provide short-term hospital stays in their local communities. The goals were tied to receipt of

$6.4 million in new state appropriations that had to be used to increase access to local acute care beds, and $9 million to increase community capacity and reduce use of state hospitals.

The state legislature enacted language (1992) encouraging agreements between RSNs and state hospitals to reduce census and transfer resulting savings to RSNs. This happened in Western WA, where the census was reduced by 60 beds and $2.7 million was transferred to the RSNs. This went "smoothly" (p. 383). Examples of how transferred dollars were used include the development of specialized programs for difficult to serve clients and hiring specialized staff to facilitate the placement of difficult to place state hospital patients when they are ready for discharge.

Another important goal: increase continuity of care. RSNs developed formal agreements regarding procedures for notification of hospitalization and discharge planning.

In sum, there were two main mechanisms: 1) substitution of psychiatric hospitalization with community services and 2) strengthening inter-organizational relationships.

Discussion: Inpatient Care and the Role of the State Hospitals

"Since Kiesler's (1982) thorough, provocative review of research on alternatives to hospitalization, which found no studies showing superiority of inpatient over alternative care, the literature in favor of community alternatives has continued to pile up." (p. 388)

Authors suggest a limited and focused role for state hospitals, versus an expansive, unfocused approach.

Reductions of state hospital inpatient episodes and days may not necessarily reduce costs, since private inpatient care may be more expensive. Money often is saved for state mental health "by substituting Medicaid-reimbursable general hospital services for essentially state-funded services." (p. 389) There is no evidence that private hospitals provide better care than state hospitals.

". . . it is clear that it is clinically, financially, and organizationally feasible to place a large percentage of long-term patients in community alternatives (Bachrach, 1986)." (p. 391)

Decision-makers must deal not only with "downsized" patients, but also with people new to the system who would possibly have used inpatient services if they were available; these people are sometimes referred to as "diversion patients".

Dewees, M. et al. (1996). Community integration of former state hospital patients: Outcomes of a policy shift in Vermont. Psychiatric Services, 47(10), 1088-1092.

The study examined the level of community integration achieved by patients discharged from the state hospital into the community in compliance with a regionalization policy in Vermont that sought to reduce the need for central hospitalization through expansion of community capacity. The population in residence at the state hospital on 8/30/89 was tracked longitudinally as patients were discharged into one of Vermont's ten catchment areas. Structured interviews about he current status of the discharged individuals were conducted four years later with case managers, nursing home personnel, and community care home operators. Service utilization and hospitalization data were obtained from the VT dept of mental health database. Of 122 patients in residence at the state hospital on the given date, 58 were discharged into the community of whom 46 consented to participate in the study. At follow-up about half lived in structured residential settings. Of the 46 followed, 87 percent were rehospitalized during the study period for periods ranging from three months to one year. Although participants had adequate levels of support both from within and outside the mental health system, their integration in to the community was low in terms of their use of community resources, stigma-related problems and difficulties gaining access to services. The regionalization policy accomplished some of its goals, especially those related to downsizing the state hospital, placing clients in community residential settings, and enhancing the range of community services. The more pervasive and insidious problems of community integration faced by consumers were not effectively mitigated by the policy.

Drake, R.E. et al. (1998). Assertive community treatment for patients with co-occurring severe mental illness and substance use disorder: A clinical trial. ***American Journal of Orthopsychiatry*****, 68(2), 201-215.**

Integrated mental health and substance abuse treatment within an assertive community treatment (ACT) approach was compared to that within a standard case management approach for 223 patients with dual disorders over three years. ACT patients showed greater improvements on some measures of substance abuse and quality of life, but the groups were equivalent on most measures, including stable community days, hospital days, psychiatric symptoms, and remission of substance use disorder.

The control group of standard case management involved very strong community services in New Hampshire, where consumers received fairly intensive services (e.g., 25:1 caseloads)

Both treatment conditions had positive outcomes in the domains of substance use, retention in treatment, and days in stable community residences.

Separate changes in Medicaid reimbursement (reimbursement for services out of the office; see Clark, 1997) and incentives to keep people out of the hospital affected both treatment conditions.

Elbogen, E.B., & Tomkins, A.J. (1999). The psychiatric hospital and therapeutic jurisprudence: Applying the law to promote mental health. In W.D. Spaulding (ed.), The

role of the state hospital in the twenty-first century. ***New Directions for Mental Health Services*****, no.** ***84*** **(Winter). San Francisco: Jossey-Bass. (pp. 71-84)**

Better use of the law can have a profound impact on those who must be served in state hospitals. Therapeutic Jurisprudence (TJ) focuses on the relationships between the justice/jurisprudence and mental health systems. It is interested in using law and legal analysis to promote more effective mental health services. For example, it is interested in how outpatient commitment and other types of legal tools might improve mental health outcomes. A focus is on whether legal changes have their intended consequences.

Areas of relevance to state psychiatric hospital settings:

Consequences of Civil Commitment Hearings: Patients' views of civil commitment are varied. TJ suggests research should be done on how perceptions affect response to later treatment

Involuntary Outpatient Commitment (IOC) as a Discharge Alternative: Three types of IOC—*outpatient commitment*, *preventive commitment*, and *conditional release*. TJ suggests IOC is a psycholegal "soft spot," useful for analysis—especially in the context of discharge from inpatient services, since it might help reduce the need for return to the hospital. Research consistently has shown that participation in outpatient services reduces risk for return to the hospital. Also, gradual discharge seems to be helpful and IOC could be a tool to ensure more gradual discharge of patients. IOC could be a tool that helps increase the rate of involvement in outpatient services. IOC could help ensure the availability of outpatient services. Although empirical studies do not definitively establish the effectiveness of IOC as a dispositional alternative, several studies do show that outpatient commitment and conditional release help decrease relapse and recidivism. The authors suggest that a contingency management program, often effectively used in inpatient settings, could be transferred to the community through IOC—five elements of such an approach are described on pp. 77-78 (including involving patients in contingency management planning).

The Dangerousness Standard and Treatment Compliance: beginning in mid-90s, research began to show that appropriately trained clinicians *could* predict violence with some accuracy. The risk evaluation, itself, can become a therapeutic tool, especially if the patient is involved in it—more compliance with treatment and aftercare in the long-run can be facilitated. A recent study showed that the quality of patients' relationships with treatment providers was significantly related to their inpatient violent behavior.

Informed Consent to Treatment and the Right to Refuse: From a TJ perspective, how informed consent is obtained can have a strong therapeutic affect. The authors' hope is that using TJ approaches would better engage consumers who are difficult to engage and, in the long run, might reduce the subpopulation of patients who need to remain in long-term care institutions because of their persistent refusal of treatment.

Emery, B.D., Glover, R.W., and Mazade, N.A. (1998). The environmental trends facing state mental health agencies. ***Administration and Policy in Mental Health*****, 25(3), 337-347.**

This paper defines a number of trends, issues, and environmental forces that are expected to significantly impact the role, activities, and future policy decisions of state mental health authorities in the coming years, and organizes them in three categories: fiscal, organizational, and treatment/rehabilitation trends.

Fiscal Trends

- Managed care in the public sector: seen as the most significant trend in the previous five years. Because horizontal and vertical consolidation among managed care companies through mergers and acquisitions continues, there will be fewer but larger companies competing for public managed behavioral care business.
- Increase in litigation linked to managed care contracting: Increasingly, state mental health agencies have become parties that challenge the procurement and bidding process related to managed care contracts and the provision of services at the local level.
- Influence of state Medicaid waivers on the development of public/private partnerships: As public and private providers join together, distinctions between the public and private sectors are eroding, and states are becoming more sophisticated purchasers of services. However, there is concern that nontraditional services may not be adequately supported under these arrangements, and that certain values (e.g., cultural competence, consumer empowerment) initiated by the public system may not survive the managed care environment, which is perceived as more driven by financial concerns.
- Public sector financing: Pooling of public sector funding from a variety f traditionally separate sources is perceived to be a trend that may be linked to the reorganization of state-level service agencies. The hope is that this trend will enhance purchasing power through economies of scale and more efficient use of resources, and facilitate the development of customized treatment planning.
- Impact of restrictions on Medicaid Disproportionate Share (DSH): restricts states' use of DSH spending on state psychiatric hospitals, such that spending is restricted to previous levels. Loss of DSH funds to the mental health system could mean a significant reduction in funding for community-based and other mental health services.
- Welfare reform: As TANF recipients enter the workforce, their jobs may not provided health benefits, and they may lose Medicaid eligibility, increasing the number of people who will turn to the public system for mental health services.
- Significance of the Children's Health Insurance Program: While Title XXI insurance plans will include some level of mental health coverage (ensuring at least a minimum mental health benefit for currently uninsured children), beyond this minimum requirement there would be no access to comprehensive mental health benefits for children, unless the state chooses a Medicaid expansion.

Organizational Trends

- Changing roles of state mental health agencies: While state mental health agencies have traditionally served as payers, purchasers, providers, and regulators of mental health, emphasis is growing on the state's role as purchaser and regulator of services as states move further into the managed care arena.
- Reorganization of state mental health agencies: In the previous two years, one third of all state mental health systems were reorganized, in some cases, with mental health services being integrated with other human service areas under umbrella agencies.
- Influence of consumers and families in decision-making: consumers and family members have made strides in participating in the decision-making process, and are increasingly influencing public mental health service delivery. However, the potential for consumers to act as reporters on the best service-delivery approaches remains largely untapped.
- Closure, reorganization, and privatization of state psychiatric hospitals: As a result of the trend for states to privatize a variety of state hospital functions, 1993 marked the first time that state mental health agencies expended more funds on the provision of community-based services than on services delivered in state hospitals.
- Challenges to the role of local mental health authorities: As managed care providers move into a more competitive public mental health marketplace they challenge the virtual monopoly that many county-based and community mental health organizations once enjoyed.
- Mental health and criminal justice: For many individuals with mental illness, deinstitutionalization from the state hospital has meant reinsitutionalization in jails and prisons. However, some innovative jail diversion service models are emerging.

Trends in Treatment, Rehabilitation, and Recovery

- Use of atypical antipsychotic medications: While new agents are being developed, there are factors that prevent their use, such as lack of funds, Medicaid formulary restrictions, and uneven dissemination of research results. As more pharmaceuticals are introduced, states must create mechanisms to address these barriers.
- Recovery: This concept has evolved in the nation's public mental health system, and recovery models are becoming more widespread in their use.
- Performance requirements and accountability measures: Management information systems have assumed greater importance in the service delivery arena. However, their development presents a challenge to financially-strapped public mental health entities.
- Competing definitions of medical necessity: The definition of medical necessity utilized within a managed care contractual framework can profoundly impact the amount, duration, and scope of treatment and support services provided. Currently, widely varied definitions are used by stakeholders.
- Cultural and ethnic competence: While the percentage of ethnic minorities has steadily increased, mental health systems have had only limited success in adapting to meet their needs. It has been suggested that the success of managed care in the public sector may actually depend on its ability to provide culturally competent services to persons of color.
- Impact of Kansas v. Hendricks: This Supreme Court decision permitted the civil commitment to state psychiatric hospitals of thousands of sexually violent criminal offenders, even if no diagnosable mental illness exists. Because they are likely to have very long lengths of stay, this results in a drain on state public mental health resources.

- Dual diagnosis: Per the Substance Abuse and Mental Health Services Administration, nearly 10 million people have a substance abuse-related and mental health disorder. As treatment services are not keeping pace with research advances, most settings do not have the programs and services to meet the needs of this population.
- Children's services: Managed care has not developed as quickly as predicted in children's mental health, which points to the unique mental health needs of children that cannot be met by a managed care system designed primarily for adults.
- Mental health services for older adults: As the population ages, and delivery of mental health services in the public sector moves into managed care, much greater emphasis will need to be placed on the principles, values, and practices that are responsive to the mental health needs of older adults.
- Impact of trauma on persons with mental illness: Several states are beginning efforts to address the needs of trauma survivors through identification of treatment and services that will be most effective (e.g., alternatives to seclusion and restraint in state hospital settings).

Essock, S.M. et al. (1998). Cost-effectiveness of assertive community treatment teams. American Journal of Orthopsychiatry, 68(2), 179-190.

Clients who were high service users with serious mental disorders were randomly assigned to assertive community treatment (ACT) or to standard case management (SCM) at three sites and followed for 18 months. Clients in ACT spent more days in the community than did those in SCM, at no additional cost. For clients who were hospitalized at study entry, assertive community treatment was more cost-effective than standard case management. This was a randomized controlled trial of ACT vs. SCM for people with serious mental illness who were heavy users of intensive services in Connecticut. The study estimated costs with attention to the opportunity costs (i.e., the value in the best alternative use) of resources used, rather than just the accounting costs; and explicitly measured the societal costs of the intervention. The study also specifically measured the effectiveness/cost-ratio for each treatment condition and tested the significance of differences, using an approach proposed by Siegel et al. (1996) instead of procedures based on standard parametric assumptions about effectiveness-to-cost ratio distributions. 262 clients were in the study. They were screened to meet certain criteria: Axis I diagnosis of either Schizophrenia, Schizoaffective, Bipolar, Major Depression; high service use as defined by 2 or more psychiatric hospitalizations in the past 2 years, one psychiatric hospitalization of 180 days or longer in the past 2 years, or 2 or more contacts with crisis services in the past 2 years; difficulty functioning in the community as defined by being homeless sometime in the past 2 years or requiring weekly assistance or supervision to meet personal care needs. ACT and SCM team descriptions were given. Note that SCM had 25-30 clients/caseload. Both teams were very mobile, providing services out in the community the majority of the time. Description of cost measures and outcome measures are described. Costs did not include start-up costs.

Results:

- Hospital days: In the year after teams had been operational, ACT clients spent about half as many days in inpatient settings as SCM clients. This difference was almost entirely accounted for by the subgroup of clients that was in inpatient settings when the study began.
- Time to discharge from hospital: Patients in inpatient at study entry were not discharged earlier; once discharged, clients were no more less likely to be readmitted at some point during the study (by 18 months post-discharge, 35% of clients in each condition were readmitted at some point); length of hospitalization was a good predictor of time from study entry to discharge.
- Quality of Life (QOL): Average QOL score for ACT clients increased significantly over the 18-month study period, whereas it remained almost the same for the SCM group; sub-components where ACT clients had better outcomes included personal safety, leisure activities, living situation and frequency of contact with friends.
- Symptoms: Few significant differences were observed from time 1 to time 2, except for psychoticism, which showed an improvement for both groups.
- Family outcomes: No changes over time or differences between treatment conditions were found, except that ACT families with objective high burden reported lower subjective burden than SCM families with objective high burden.

Costs did not significantly differ by treatment condition from any of the three perspectives. Productivity for ACT clients was $807 in earnings per client vs. $507 for SCM clients. There was a lot of variability among sites, even though they were in the same state. Overall, ACT was a lot more expensive than SCM, but costs per client in the two conditions were about equal, because hospitalization costs, etc. tended to be greater in the SCM condition. When looking at the subsample of clients who were hospitalized at study entry, ACT clients had much lower costs ($52.8k annual costs per client) than SCM ($77.7k annual costs per client). State hospital costs were marginally higher for SCM, ACT costs were higher than SCM, and nursing home costs were higher for SCM. Three comparisons of cost: Society--$33.5k for ACT and $35.7k for SCM; State--$34.9k for ACT and $35.8k for SCM; Department of Mental Health--$23.2k for ACT and $23.8k for SCM. Cost-Effectiveness: ratio of community days:societal costs was used (# of days in community:$1000 of societal costs). ACT had better results in this area (9.0 to 7.3). For clients who were hospitalized at study entry, the difference was more pronounced (5.0 to 1.6).

Overall, ACT can decrease hospitalization and improve other outcomes and be cost-effective. Mental health systems serving large numbers of people with SMI need both ACT and teams with a less expensive individual case management approach (although still fairly attractive case load sizes). To be cost-effective, ACT should focus on high users who have recently been hospitalized. Implementation can vary considerably by site. One needs to be cautious in Medicaid managed care carve-outs and case rate approaches, because costs can vary considerably across individual clients. ACT teams were even more intensively staffed than in typical ACT practice guidelines (5:1 – 7:1 vs. 10:1). Note that clients in the hospital were not discharged very quickly, but rather remained in hospital, on average, for several months before being served by ACT in the community.

Fekete, D.M. et al. (1998). Rural assertive community treatment: A field experiment. ***Psychiatric Rehabilitation Journal*****, 21(4), 371-379.**

An experimental design was used to assess the effectiveness of assertive community treatment (ACT) compared to traditional mental health services for individuals with severe mental illness (SMI) in four rural communities. A total of 160 clients (40 per site) were randomly assigned. Two-year findings were mildly encouraging. Experimental differences on staff ratings of quality of life, level of functioning, and symptoms favored ACT clients. There were no experimental differences in hospital use. ACT clients exhibited less residential stability than control clients. The authors discuss problems implementing the model in rural communities and suggest adapting it for rural areas.

Fisher, W.H., Simon, L., Geller, J.L., Penk, W.E., Irvin, E.A., and White, C.L. (1996). Case mix in the "downsizing" state hospital. ***Psychiatric Services*****, 47(3), 255-262.**

Because changes in the case mix of a state hospital have implications for staffing and resource allocation, and can change their function within the mental health system. In this paper, the evolution of case mix over a 14-year period in two state hospitals in Massachusetts was compared. One of the state hospitals underwent considerable census reduction during this period, while the other reduced its census at a more gradual rate. The authors note that, as deinstitutionalization has progressed, the state hospital population "left behind" has appeared different from the earlier population (e.g., a larger proportion hospitalized under criminal charges, recidivists, and a severely impaired population of long-stay patients). One traditional view is that community-based mental health services and alternative inpatient settings represent substitutes for state hospitals. Another view is that state hospitals serve specific functions for patients, the mental health system, and society, and, with deinstitutionalization, not only are patients transferred to the community, but the creation of a system of structures in the form of community-based mental health services, would together form the functional equivalent of the state hospital. This "unbundling" assumes that the functions served by the hospital can be replaced by an array of non-institutionally-based services. Past research indicates that duplication of the social control function of the state hospital in alternative settings has not been fully accomplished.

Of the two hospitals compared, the first (Northampton) operated in an environment that, because of a federal court action, saw more than a decade of community mental health service expansion far more pronounced than elsewhere in the state. The second hospital (Worcester) was not affected by the court action. By 1992, Northampton had an average daily census per 1,000 of one-third that of Worcester, and an admission rate per 1,000 of less than half of Worcester's. At both hospitals, the observed trend was for an inverse correlation between the size of the hospital's census and the percentage of males in its census, and for fewer persons over age 65. A major increase was seen at both hospitals in the number of patients with multiple admissions. Both hospitals experienced a decrease in the proportion of first admissions, and in the proportion

of persons with extremely long stays (>5 yrs.). Between the hospitals, in 1991 there were significant differences in age distribution, with Northampton serving one person over age 65, and Worcester operating an entire geriatric unit. Also, the number of individuals with some other psychiatric disorder in addition to a major mental illness was higher at Northampton. At Northampton, fewer individuals were in the longer length of stay categories than at Worcester. Northampton also had a lower-functioning population, were more than twice as likely to be categorized by staff as having been dangerous to others during the previous 30 days, were more likely to have destroyed property, more likely to have set fires, more likely to have used a weapon against property or a person, and more likely to have had a lifetime history of engaging in one or more of these behaviors. In general, the population at Northampton was significantly more violent. Results indicate both a qualitative and a quantitative change in state hospital case mix as community resources grew and state hospital census fell. At Northampton, an important aspect of the hospital's function became addressing the treatment and social control needs of a population with a large percentage of individuals with histories of high-risk behaviors. As a broader spectrum of persons with SMI can be served in community-based and alternative inpatient settings, the most difficult populations remain, and they appear to continue to need state hospital services. The question remains as to whether there is a natural limit to the deinstitutionalization process.

Geller, J.L., Fisher, W.H., McDermeit, M., and Brown, J.M. (1998). The effects of public managed care on patterns of intensive use of inpatient psychiatric services. *Psychiatric Services*, 49(3), 327-332.

The trend toward privatization of inpatient mental health services has been driven by state mental health authorities' desire to shift more of treatment costs to the federal government through the Medicaid program (Dowart & Epstein, 1993), but the need to control Medicaid expenditures beyond such cost shifting has brought another reform: public managed care. A consequence of system change is the alteration in patterns in use of inpatient services by persons with SPMI. This paper examines the nature of changes in utilization of inpatient psychiatric care and their implications for the use of managed care principles in systems delivering managed, Medicaid-funded services to persons with SMI. In 1992, Massachusetts contracted with a proprietary managed care vendor (Mental Health Management of America; MHMA) to manage its Medicaid behavioral health accounts. Through a competitive bidding process, MHMA developed a statewide selective contracting network of hospitals for serving Medicaid beneficiaries. The 57 hospitals that won the contract gained exclusive access to the Medicaid psychiatric market. The focus of this paper is the heavy user inpatient services, using data from the state department of mental health tracking system for admissions from 7/91 to 6/95. They identified a population with five or more admissions in any one of the above four fiscal years, and compared them with other case-managed consumers who had an admission but did not have multiple (five) admissions. Multiple admission (MA) patients tended to be younger, Caucasian, and female, with a diagnosis of personality disorder and a history of substance abuse, but not an active substance abuse disorder (same as before public-sector managed care). They were more likely to have public benefits and less likely to have no benefits. MA consumers tended to be lower

functioning (per scores on the Georgia Role Functioning Scale), and to have higher levels of distress. Just under half (44.4%) of MA admissions were to facilities that were new to the patient in the past year. MA consumers made up 6.1 to 7.7 percent of the total number of patients seen in any given year, but accounted for 21 to 26.8 percent of all admissions in those years. MA consumers were less likely to have been hospitalized in a state hospital, more likely to have gone to a general hospital, and equally likely to have gone to a private psychiatric or other psychiatric hospital. For MA patients, state hospital admissions decreased dramatically over time, but admission to state hospital replacement units increased (to a lesser extent). MA consumers started out FY92 with a much lower percentage of state hospital admissions than non-MA consumers. The level of general hospital use increased over time for MA consumers, but not for non-MA consumers. The mean length of stay for MA consumers decreased over time (from 33.4 days to 18.8 days between FY92 and FY95), and the mean number of hospitals used by MA consumers remained stable (3.1 to 3.4 over the four years). Nearly 90% of admissions to new sites were to hospitals where consumers had never been admitted. Authors conclude that MA consumers who are admitted to many different hospitals have longer lengths of stay than those admitted to hospitals where they are known.

Goldsmith, H.F., Manderscheid, R.W., Sacks, A.J., and Henderson, M.J. (1994). Inpatient admissions to specialty mental health organizations: Forecasts 1990 to 2010. ***Administration and Policy in Mental Health*****, 22(2), 71-83.**

This article reports on the volume of inpatient services specialty mental health organizations in the U.S. are expected to provide in the years 1986-2010 to white, nonwhite, and blacks from the civilian population. Projections are based on inpatient admission rates from the National Reporting Program of the Center for Mental Health Services. During this period, the civilian population is expected to grow from 248 million to 280 million. The projected percent growth of the nonwhite population is 45.1%, almost four times that of the white population and 2.7 times that of the total population. The black population is expected to grow at 31.9% during this period. The number of inpatient admissions is expected to increase by 28% (from 1.7m to 2.2m), which can be attributed to the projected growth of non-federal general hospitals. For state and county mental hospitals, 17.1% of total admissions (368,000 out of all inpatient admissions) are expected to be to state and country mental hospitals. This increase is expected to reflect only population growth. Private psychiatric hospitals, VA medical centers, and multiservice organizations, are expected to experience an increase in inpatient admission rates to 30.9% of the total by 2010, with the largest increase being to private psychiatric hospitals. White inpatient admissions are expected to increase by 8 percentage points lower than for total inpatient admissions (19% increase, vs. 27% for total). Nonwhite and black admissions are expected to increase from 409,000 in 1986 to 701,000 in 2010, and from 385,000 to 571,000, respectively. These projections are expected to hold unless changes occur in the manner in which inpatient services are provided.

Hadley, T.R. et al. (1997). Community treatment teams: An alternative to state hospital. ***Psychiatric Quarterly*****, 68(1), 77-90.**

This article describes the process of setting up community alternatives (Community Treatment Teams; CTTs) to coincide with the closing of Philadelphia State Hospital (PSH) circa 1990. Right before closing the hospital had a census of 516 (included 76 long term care and 40 forensic patients), and had approximately 450 admissions per year. Philadelphia Office of Mental Health served 20,000 SPMI persons per year at the time. A "blue ribbon" panel of families, consumer advocates, mental health professionals was asked to investigate PSH. They found serious mismanagement and problems with patient care. A group of mental health advocates also was pushing for reform, supported the panel's findings and advocated for closing the hospital and substituting effective community services. The patients and the hospital funding were to be transferred to the existing Philadelphia community mental health system. After the closing a lawsuit was filed to protect the discharge cohort. The central focus of the strategy to protect the discharge cohort was the development of CTTs. At the inception of the CTT program, only 15 of the original 516 patients were transferred to another state psychiatric hospital bed.

The CTT Program: The model blended clinical components and other aspects of ACT and the strengths orientation of the Kansas Developmental Model (Rapp's strengths approach). The model included case manager responsibility with a team approach. CTTs provided a lot of services, but did not try to replace existing programs; when existing programs were available to meet needs, the team would broker services. A specific funding pool was available for this purpose. Note that clients served by CTTs had a lot of prior hospitalization, were predominantly diagnosed with Schizophrenia or Schizoaffective Disorder and had significant co-morbidity. Team functioning is described in more detail, beginning on p. 83, and the Service Model is described, beginning on page 85. Many of the original CTT staff were state hospital employees who had been transferred to the community—this involved some difficulty in making culture shifts. Caseloads initially were set at maximum of 17 per case manager, but this is flexible and can be modified, depending upon the functioning of clients over time. The teams have strong expectations for serving people out in the community. The approach also includes a Personal Care Treatment Plan with multiple domains, and 24-hour availability.

Program Cost and Funding: Average annual cost per client for the CTTs = $9,000 (discharge cohort). When costs for all other mental health services, including inpatient are added, the average cost per client is $58,000. Annual cost for a PSH bed was $114,000.

Initial Evaluation Findings: A 55% reduction in inpatient re-admissions and a 37% reduction in length of stay were observed.

Implementation Problems and Issues: CTTs were set up, initially, as separate and distinct from the rest of community mental health system—this created problems in trying to coordinate with other service providers. Deinstitutionalization of state hospital staff was a problem.

Holley, H.L., Hodges, P., and Jeffers, B. (1998). Moving psychiatric patients from hospital to community: Views of patients, providers, and families. ***Psychiatric Services*****, 49(4), 513-517.**

While the perspectives of consumers and families are important, they have not gained wide acceptance as criteria against which changes in the organization, delivery, and financing of mental health care are evaluated. Research indicates that there are differences of opinion between consumers, family, and caregivers exist on aspects of community-based care, and they can have important implications for job tenure, housing preferences, or perceived social supports. This study sampled 183 patients in Alberta, Canada, being considered for relocation from psychiatric facilities to community-based care due to hospital downsizing. While 75% of patients agreed with the idea of relocation, 65% of family members were in favor of relocation. Overall, 41% of patient-family pairs disagreed about the desirability of relocation (fewer patients favored relocation than families). Almost half (49%) of patient-family pairs disagreed about proximity, with patients wishing to be closer than family members in about half of these cases. Patients more often expressed a desire to live independently (49%), whereas 10% of family and 17% of caregivers preferred this, instead more often choosing a semi-independent setting or a 24-hour care facility. Patients also expressed more optimistic views about their future work prospects. Alberta's Provincial Mental Health Advisory Board will maintain a ratio of 25% consumers and 25% family members on all regional mental health advisory committees.

Kamis-Gould, E., Snyder, F., Hadley, T.R., and Casey, T. (1999). The impact of closing a state psychiatric hospital on the county mental health system and its clients. ***Psychiatric Services*****, 50(10), 1297-1302.**

This paper describes the impact of one state hospital closure and two downsizings (in tandem with the enhancement of the local community system) in 1991 in Pennsylvania. Deinstitutionalization has been based on the premise that a shift in locus of care to the community would be beneficial to persons with mental illness, as well as cost-effective, conserving public funds and resources. A 430-bed state hospital was gradually closed between January, 1991 and June, 1992, with most project funds preceding discharged patients into the community, and thus available to build up local service capacity, mostly residential programs and case management services. Results indicate that replacement of most inpatient services with residential and ambulatory services resulted in significant cost reduction (more than offsetting the funds used to expand community services). In terms of services provided, 10% of enrollees received their first case management services on the day of discharge or diversion from the hospital, 20% by day five, and 40% within three months. The number of recipients of intensive case management services increased not only among project enrollees (from 70 to 835) but also among clients not enrolled in the project (from 357 to 967). The consumption of services among "heavy users" also dropped substantially, to more proportionate levels among all enrollees. The number of residential program days increased threefold, suggesting responsiveness to the need for such programs to maintain consumers in the community. The authors conclude that the closing of the state hospital, combined with the concurrent infusion of funds into the community

system, produced the desired result of growth in community services and a reduction in reliance on institutional care. Another intended consequence was the growth in intensive case management services. The overall net savings to the system was almost $3.5 million.

Kincheloe, M. (1997). A state mental health system with no state hospital: The Vermont ten years later. *Psychiatric Services*, 48(8), 1078-1080.

The feasibility and desirability of closing Vermont's only state hospital have been debated for ten years. The author examines the current status of the state department of mental health's plan to close the state hospital and concludes that although closure would be feasible, it would not be desirable. It would reduce the tertiary capacity of the mental health care system and would limit care for severely and persistently mentally ill persons who resist treatment and who have few social resources.

The author has argued that proper use of a small state hospital could enhance the ability of some people to use community-based services and could enhance the ability of community providers to provide such services; in addition, closing the state hospital could increase involuntary services.

The state has embarked on a three-phase plan to close the state hospital. The first phase is to increase home intervention teams (a variant of assertive case management), increase availability of long-term residential beds in the community, and increase the use of outpatient commitment. These changes to date have not actually decreased the use of the state hospital.

The state hospital is like the intensive care unit for the mental health system—it provides treatment to people in severe crisis until a robust community-based treatment plan can be developed.

Hospital downsizing and closing in other states often is stimulated by poor care in the facilities; this is not the impetus in Vermont. Reducing costs is also not the reason for closure efforts, given that deinstitutionalization in the state has reached a point of diminishing returns regarding cost savings.

Vermont State Hospital specializes in working with people who don't want treatment even though they often need it and recognize that after they have been treated successfully. Even advocates who have expressed desire to close the state hospital have preferred involuntary treatment at Vermont State Hospital than involuntary treatment in general hospitals.

Leff, J., Trieman, N., and Gooch, C. (1996). Team for the Assessment of Psychiatric Services (TAPS) Project 33: Prospective follow-up study of long-stay patients discharged from two psychiatric hospitals. *American Journal of Psychiatry*, 153(10), 1318-1324.

This paper indicates that the experience of deinstitutionalization has differed in the US and the UK. For example, the number of homeless mentally ill in the UK has increased, but not to the same magnitude as in the US, and there is "not an excessive number of psychotic offenders in the prison system." Part of the explanation may be that in the UK, funds released by hospital closings are guaranteed for reinvestment in community services to replace the hospitals. This study evaluated the policy of closing psychiatric hospitals and replacing their functions with community-based services in the United Kingdom by conducting a one-year follow-up of long-term patients discharged from mental hospitals. In this case, discharged patients were placed in staffed community settings (converted ordinary houses). Of discharged patients, 78% moved to staffed homes. One fourth attended outpatient clinics, while the rest had their medications prescribed by a local family physician. One year after discharge, 671 patients were successfully followed-up. Of discharged patients, 24 had died, representing a rate comparable to the general population, standardized for age and gender. Results indicate that staff in the community perceived an increase in behaviors attributable to psychotic symptoms, researchers detected a moderate decrease in negative symptoms. Scores on measures of community skills and domestic skills showed significant improvements. Discharged patients appreciated their greater freedom in the community, and there was also an increase in the number who viewed their medication as helpful. Medication regimens changed very little during the follow-up period, with less than 1% discontinuing medication, and problems with compliance decreasing. There was no evidence of neglect of physical health. There was no significant increase in the total number of named social contacts. There was a significant decrease in contacts with relatives.

McDonel, E.C., Meyer, L., and Deliberty, R. (1996). Implementing state-level mental health policy reforms in Indiana: Closing a state-operated psychiatric hospital and passing major mental health reform legislation. ***International Journal of Law and Psychiatry*****, 19(3/4), 239-264.**

This paper outlines events related to the closing of Central State Hospital (CSH) in Indiana, which closed its doors amid public controversy and proposed legislation that would reform, restructure, and refinance state-funded mental health services.

- CSH's annual budget was $23 million in state FY92.
- In FY93, Indiana budgeted 59.9% of state-appropriated dollars to operate hospitals (and 2.4% for administration, 1.7% for addiction services, and 36% for community-based mental health services). The ratio was comparable to the national average of 57% for hospitals and 38% for community expenditures.
- Indiana per capita appropriations for mental hospitals, adjusted for inflation, increased by 98% between 1981 and 1990. During the same period, community-based services paid for with Department of Mental Health-controlled dollars declined by 19%.
- With deinstitutionalization, facilities constructed for 1,500 to 2,000 persons were serving 400 in the 1990's, with no economy of scale benefits. Dollars could also not flow to the community as long as the physical plants of these hospitals were also maintained.
- The average length of stay at CHS in 6/92 was 7.4 years, and the median 5 years.

This paper uses Kingdon's Model to reframe Indiana's policy reform. This model draws from biological principles. He theorizes that ideas, proposals, and policy alternatives face the same natural selection pressures as organic life forms do in the fight for survival.

- Policy community: an interacting network of specialists and stakeholders within a given policy area. In this case, it included Indiana's public mental health policy community.
- Policy soup: the testing ground for ideas and proposals; a metaphor parallel to the primeval soup of organic molecules. Ideas undergo a long process of floating, evaluation, and revision in the soup, with only a small portion becoming policy changes. In Indiana, two levels were in effect: the national and the state spheres of influence.
- Policy stream: stream of influence.
- In state FY93, 42 of 51 states/territories reported efforts to downsize hospitals, and 12 were engaged in closing one or more state mental hospitals. Ten of the 12 states closing hospitals had systems with more than four hospitals, so the closures seemed to be related to the number of hospitals in a system. Despite a substantial decline in hospital beds nationwide, there was an increase in mental hospital expenditures from $4 billion to $7 billion between 1981 and 1990.
- Added to the challenge of closing an institution that would temporarily necessitate double funding for old and new systems, the state wanted to reorient its role with respect to community service providers, acting as an insurance company that manages and contracts with a network of providers. The directions outlined were: 1) the funding priority was redirected to persons with SPMI; 2) contracting mechanisms were tied to consumers, not providers, 3) a network of managed-care providers throughout the state was established, 4) accountability of providers was based on client satisfaction and outcome measures, integrated into a provider profile, 5) state dollars were leveraged to access a greater share of federal dollars.
- Within Indiana's mental health policy community, ideas floated, and proposals, plans and bills were drafted and amended prior to the hospital closure and passage of mental health reform legislation. Stakeholders became familiar with ideas and participated in the public debate. Some proposals survived testing to move into the policy stream.
- Problem stream: a heightened focus of the public's attention on certain agendas or policy questions resulting from a crisis or a policymaker's personal experience. In this case, there were four well-publicized patient deaths and two alleged incidents of sexual assault of patients by staff members.
- Political stream: exists parallel to the policy community and their policy stream, but encompasses the national mood, the balance of organized interests, and events within government.
- The policy window: it opens when the policy, problems, and political streams enjoy a period of alignment, observed or created by policy entrepreneurs.
- The policy stream after the closure announcement was of technical feasibility and value acceptability. The Indiana Psychiatric Society opposed the closing, arguing that removal of the hospital would leave inadequate services for the most seriously mentally ill in the region.
- Mental health reform legislation coincided with the closure of CSH. The bill emerged from an alliance of stakeholders and proposed substantial reforms.

- Moving services from the hospital to the community would increase access to Medicaid, shifting about two-thirds of the burden of payment to federal sources (Indiana's match was 32%).
- The advent of the Medicaid Rehabilitation Option (an additional funding mechanism for community services) made it easier for the state temporarily to fund both CSH and a system of community care for discharged patients, which had been a barrier to downsizing in the past. Cost shifts to federal sources created new incentives for community-based care.
- An advocacy group (Knowledge Empowers You, KEY) was in support of the closing through the ensuing struggles. Although members worried about the risk of homelessness, most believed that the $23 million spent to keep the hospital running could be better spent on services in the community. Indiana Alliance for the Mentally Ill took no official position, but individual members spoke loudly for improving the hospital and keeping it open. The Mental Health Association of Indiana made its support contingent on community resources being well in place and appropriate to patient needs prior to discharge.
- The closing forced the transition of 600 employees; many bumped less senior employees at other sites. On the date of closure, 143 Indiana Department of Mental Health (IDMH) staff were laid off, with the remaining transferring to other sites, retiring, quitting, being dismissed, or leaving for jobs in the private sector. Fifty laid-off employees were recalled within the first year, with 28 accepting jobs.
- After the closure announcement IDMH formed planning committees, held focus groups with clinical staff from the states 30 CMHCs, wrote standards for new programs to be funded through the Transition Fund, and asked for CMHC proposals for the support of discharged patients. The IDMH instituted a gatekeeper system, with each patient assigned to a community provider responsible for developing a range of community treatment services in preparation for discharge.
- A research project was negotiated between IDMH and the local academic community to follow discharged CSH patients.
- In the month after closure, treatment settings of discharged consumers who went to alternative institutional settings were 28% to other state hospitals, 4.4% to nursing homes, and 1% to correctional facilities. Of those discharged to community settings, 30.3% went to group homes or supervised group living programs, 21.9% went to supported or semi-independent living programs, 6.9% went to private residences or to family members, and 2.8% to licensed room-and-board care facilities. Less than 1% could not be located and 3.9% were deceased.
- Because the state contracting system assigned a per diem rate to discharged consumers, rather than to fund new programs, a breakdown of the costs to build specific clinical and residential programs is not given.
- The most vocal opponents of the closing were labor unions and selected politicians and providers. Other states have reported similarly intense opposition from these three groups.

McGrew, J.H., Wright, E.R., & Pescosolido, B.A. (1999). Closing of a state hospital: An overview and framework for a case study. *Journal of Behavioral Health Services Research*, 26(3), 236-245.

History of state psychiatric hospital downsizing and closing

Until the 1990s, deinstitutionalization was carried out mostly by downsizing. Only 14 state hospitals closed between 1970 and 1990. In that same period, the number of beds decreased by 48% (from 524,878 to 272,253). The average number of beds per institution dropped from 1311 in 1970 to 467 in 1984 to 306 in 1992. However, beginning in 1990, closing of state hospitals increased as a trend: Between 1990 and 1996, 40 state psychiatric hospitals closed and several more were scheduled to close at the end of that period. Since 1990, 18% of state hospitals have closed and many others continue to downsize. This pattern of institutional downsizing and closing is similar to the pattern for state-operated mental retardation institutions during the same period.

Expenditures on community vs. inpatient: in 1993, $6.89 billion on inpatient vs. $6.92 billion on community. In 1987, only 6 years earlier, 58% of expenditures were on inpatient and 39% on community. There was an overall 15% decrease in inpatient budgets from 1987 to 1993.

Deinstitutionalization concerns and past research

There has been little attention to the full array of downsizing/closing effects (e.g., on workers, communities, families, etc.), with the notable exception of the study of the closing of Philadelphia State Hospital.

Although former patients frequently report higher rates of satisfaction in the community, individual outcomes vary and there is little evidence for community integration. In addition, there is a lot of concern about increases in population of people with SMI in jails and who are homeless.

This study: Central State Hospital

- West central Indianapolis
- Oldest state hospital in Indiana; used to be former site of IU Medical School
- Average Census in 1970 was 1,670, but had dropped to 407 by 1992, when the decision to close was made.
- 63% of adult patients were diagnosed with schizophrenia
- Average length of stay was 8 years
- The authors present evidence (p. 239) that CSH was fairly typical of state psych hospitals
  -For example, the 1992 national average for staff-patient ratio was 2.05, while CSH's was 1.97

Overview of study results

- Generally positive outcomes were observed, especially for those placed in the community (versus in other hospitals).
- Improved functioning and quality of life overall were observed.
- Reduced costs to state mental health system were observed.
- Workers had considerable stress at baseline, but better outcomes over time.
- Family member burden was low, but family members' involvement with relatives and mental health workers was low also.
- Stakeholder (community, family, consumer, worker) perspectives reflected suspicion, concern, lack of support for closing, but increased toward more support and less concern over time.

Implications of the case study for mental health services

Although the trend to re-organize state hospitals is widespread, the trend towards closing is not: almost all state hospitals currently slated to close are in the Midwest and Northeast.

Administrators need to understand and plan for the effects of closing from a broad, systems perspective. CSH planned for closing two years in advance. This worked well for CSH, but for receiving institutions it was a very tight timeframe (e.g., developing or reorganizing community programs and services to receive the patients). Three-year transition funding was used to support services in the community, but with the phase-out of that special funding community providers are feeling the burden of caring for the deinstitutionalized consumers. Providers in other public service systems have complained that the deinstitutionalized consumers are straining their resources.

During 1972-1992, although the average daily census decreased by 74%, the number of workers in sate and county hospitals decreased only 23%. These trends are reversed when there's a closing of a hospital (versus downsizing).

Administrators must work closely with the community to explain and to plan for closing/downsizing, often in the face of considerable community resistance. Families need to look at geographical distances implied by changes and plan for more family involvement. Current research is unable to shed light on the long-term effects of closing.

McGrew, J.H., Wright, E.R., Pescosolido, B.A., & McDonel, E.C. (1999). The closing of central state hospital: Long-term outcomes for persons with severe mental illness. *Journal of Behavioral Health Services Research*, 26(3), 246-261.

1996 National Association of State Mental Health Program Directors survey found 73% of 49 responding states currently were working to reorganize state hospital systems. A longitudinal, within-subjects design with multiple measurements was used in this study. Two samples were followed: Tracking project sample (followed all 303 patients discharged from CSH after decision to close the hospital) and Research study sample (drawn from final group of patients discharged;

of 124 in the hospital, 88 agreed to participate). Demographics: 67% Caucasian, 67% male, mean education = 10.4 years; average age = 43.9; 63% diagnosis of schizophrenia; average LOS=8 years (median = .7). Placements of consumers by hospital closure and at subsequent intervals:

- 33% were transferred to other state psychiatric hospitals
- 34.7% were transferred to supervised group living arrangements
- 8.6% were transferred to semi-independent living programs
- 7.9% were transferred to private residences
- 5% or less were transferred to nursing homes, room-and-board homes, were deceased, were in a correctional facility, another hospital, or were missing.

By 24 months after closing, except for a fairly steady decrease in the number of consumers in state psychiatric hospitals, not much change was observed from category to category:

- Increases in semi-independent living, private residence, and the numbers of consumers who became deceased were observed.
- Slight increases in the number of consumers residing in nursing homes, room-and-board homes, and other hospitals, were observed.
- There was a 12.5% decrease in the use of (other) state psychiatric hospitals.
- A slight decreases in supervised group living and residing in correctional facilities was a observed.

Other findings:

- *Quality of Life*: Improved in all domains was found at post-discharge. The authors found for all subgroups that the largest improvements were in occupational and safety domains.
- *Level of Functioning*: Ratings by both case managers and consumers showed improvement in areas of housing and income/benefits.
- *Rehospitalization*: 73% had not ever been rehospitalized 2 years post-discharge. The average number of hospitalizations for those hospitalized was 2.1 and mean days (2 years combined) was 39.5.
- *Deaths*: 5% of those discharged to the community and 4% of those transferred to other state psychiatric hospitals died over the 24 month follow-up.
- *Contacts with Police*: 9% of those discharged to the community had contacts with police with an average of 1.6 contacts per person; 3% of those discharged to other hospitals had contacts with an average of 1.7 per person. (Contacts for the latter group included those who went on AWOL and with whom police had contact to assist in returning to the hospital.)
- *Consumers discharged to other state psychiatric hospitals versus consumers discharged to the community.*: Consumers discharged to the community, on their index admission to CSH were admitted later, were discharged earlier, and had shorter lengths of stay. Otherwise, there were no differences on demographics and clinical variables (diagnosis, global functioning at discharge).

The vast majority of stakeholders were concerned about adverse outcomes of closure and expected increased involvement in jail, homelessness, etc. Other studies by Leff et al. (in Great Britain) and Okin et al. (1995) have similarly found lack of adverse effects. Okin et al. found only 1% in jail and no homeless 4 and 10 years after discharge. Almost all consumers

continuously and actively engaged in mental health services post-discharge. Leff et al. have indicated that consumers who end up homeless or in jail may be those who do not continuously and actively engaged in mental health services post-discharge. Although positive outcomes for the most part were observed, there still has been a fair amount of transinstitutionalization, consumers are not living independently, typically, and most interaction is with treatment providers and other consumers. Less interaction with families (and not much community integration) were observed. Health issues included high rates of mortality compared to the general population.

Three aspects of closing that may have helped produce the positive outcomes found:

1. *Closure Transition Committee*: helped plan for services and ensured that each patient was enrolled in an aftercare program and physically transported to the program. In addition CMHC staff were engaged and visited consumers in the inpatient setting before discharge. The committee served key functions: a) established ongoing lines of communication between CMHCs and CSH staff; b) familiarized the receiving agency with the needs of the patient; c) established pre-discharge lines of communication between the CMHC and the consumer. (Olfson and colleagues [1998; Psychiatric Services] found that consumers contacted by an outpatient clinician prior to discharge were more likely to complete the outpatient referral, experienced less symptoms, and less difficulty controlling symptoms once discharged.)
2. *Availability of Transition Funding*: During the three-year transition period, each CMHC received per capita block funding, based on a per-center negotiated capitation rate, over and above other funding, for each consumer transferred to their care. Each CMHC submitted a transition service plan (see details, p. 260).
3. *Tracking Project, itself*: Helped staff orient toward the evaluation outcome and enhanced accountability. Closer monitoring and tracking of consumers was helpful.

Maloy, K. (1996). Does involuntary outpatient commitment work? In B.D. Sales and S. Shah (eds.) *Mental Health and Law: Research Policy and Services*. Durham, NC. Carolina Academic Press.

This chapter critically reviews eleven studies representing the published and available unpublished empirical research on involuntary outpatient commitment. During the 1980's, 25 states enacted specific involuntary outpatient commitment [IOC] legislation, and during the 90's (prior to the chapter's publication, at least 12 states had involuntary outpatient commitment on their legislative agendas. IOC takes the form of: 1) conditional release from inpatient hospitalization, 2) civil commitment to an outpatient program as a less restrictive alternative for those meeting inpatient commitment standards, and 3) commitment to outpatient treatment based on less stringent criteria than are required for inpatient commitment. The author states that the impact of IOC laws on SPMI persons and on the state mental health services system is not yet clear, and that IOC laws do not necessarily lead to improvements in services or enhancements of community programs. One concern expressed is that policy makers will view IOC laws as a mechanism to reduce admission rates and lengths of stay at state mental hospitals, and not

address the issues related to treatment and service needs in the community. A matrix is offered which summarizes eleven studies, including methodological problems and study limitations, and offering "adjusted" results and comments. The author concludes that most of the existing empirical studies of IOC have "serious flaws in their study design and research methodology," and, despite references to the contrary, do not provide valid and credible evidence that IOC is an effective way to address problems associated with treating people with SPMI. It is noted that some authors acknowledged that some of the outcome measures used (rehospitalization rates and length of stay) were not good indicators of improvement, and that measures such as job attainment, type of living arrangement, and continuing participation in treatment, would provide more meaningful results. It is noted that amending commitment laws could have, as one of many unintended consequences, the effect of being equated with a legal mandate to provide services for increasing numbers of involuntary patients.

Mesch, D.J., McGrew, J.H., Pescosolido, B.A., & Haugh, D.F. (1999). The effects of hospital closure on mental health workers: An overview of employment, mental and physical health, and attitudinal outcomes. ***Journal of Behavioral Health Services Research*****, 26(3), 305-317.**

The study examined the physical, psychological and attitudinal impact of the closure of CSH on its former employees. 85 former CSH employees were interviewed at two points in time—preclosure and postclosure (8 months after closure). Over time, workers had more positive attitudes about the hospital closure and reported less depression, less work stress, and use of more coping strategies at postclosure. However, at postclosure they also reported increased work conflict, lower income (mean of $24,537 to mean of $23,302), and a more pessimistic outlook toward their future. Many of the workers were transferred to another state psychiatric hospital, associated with the University, which had a different organizational culture than CSH—workers who stayed in the state system were more likely to experience increased conflict, decreased job satisfaction, and less stress at postclosure, whereas workers who left the state system, experienced little change in conflict, greater job satisfaction, and slightly more stress.

CSH had, what has been called, a "strong culture"—one in which there is a high degree of agreement among its members about what the organization stands for (see p. 314). The organizational literature suggests that downsizing, mergers, closures can be a major stressor in the lives of workers. This study lends some additional support to that literature. It's important to distinguish between work stress and life stress. In this study, although work stress significantly decreased over time, changes in life stress were somewhat dependent upon the setting in which the worker landed after closure. Conclusion: Although there were some negative findings associated with the hospital closure, the predominant finding was that workers were adapting fairly well.

Monroe-DeVita, M.B., & Mohatt, D.F. (1999). The state hospital and the community: An essential continuum for persons with severe and persistent mental illness. In W.D. Spaulding (ed.), The role of the state hospital in the twenty-first century. *New Directions for Mental Health Services*, no. *84* (Winter). San Francisco: Jossey-Bass. (pp. 85-98)

The efficacy, and also the limitations, of Programs of Assertive Case Management (PACT) and related community-based services will have a defining impact on the role of the state hospital of the future. Several studies have shown that ACT reduces hospitalization among people with SPMI. ACT has been associated with hospital downsizing in several states, including Michigan. ACT is accessible to mental health systems, because there are treatment manuals (NAMI—Allness & Knoedler, 1998, etc.). ACT incorporates treatment and rehabilitation interventions as they become empirically validated. Some providers transfer people to lower levels of care once they have been "clinically and functionally stable" for over one year (e.g., providers in Sydney Australia). ACT may need to manifest differently in urban versus rural areas where different problems may challenge consumers (e.g., substance abuse, homelessness vs. social isolation, stigma). Prospective financing approaches may be better for encouraging flexibility in services, whereas retrospective financing (e.g., fee for service) may not be as flexible, but may allow for better tracking of services provided.

ACT consistently has shown reductions in hospitalization, increases in housing stability and independent living, and increases in client and family satisfaction. Findings in other areas of outcome are more mixed. Studies examining step down from ACT to lower levels of care have been mixed. People who have become low service utilizers and have achieved some independent functioning may be good candidates for moving to lower levels of care. Cost effectiveness of ACT: effective for high utilizers of hospital services, but not cost effective compared to robust community services (non-ACT) for people who are not necessarily high utilizers. There are not systematic studies of the characteristics of people who do not benefit from ACT. "Until more is known … an appropriate principle for mental health services planning would seem to be that ACT programs should be expected to successfully serve about 80 to 85 percent of the traditional state hospital recipient population. Alternatives must be available for the 15 to 20 percent for whom ACT fails. State hospitals may play an important role in this regard." (p. 93) "ACT's emphasis on extraordinary support, as opposed to functional improvement, even raises concerns that it fosters dependency (Estroff, 1981). Although reducing hospital utilization is an intrinsically worthwhile goal, policy dilemmas arise if extraordinary support is an *alternative* to functional recovery." (p. 93) Some people may require even more intensive interventions than ACT, at least during certain critical periods.

Conclusions: Further dissemination of ACT should be expected to lead to smaller numbers of state hospital patients who have more severe disorders and who have higher levels of noncompliance and dangerousness. State hospitals and community programs should provide a continuum of rehabilitation services to reflect the expectation that most patients can benefit substantially from the rehabilitation interventions available—should focus on the application of rehabilitation technology across the entire service system.

Munetz, M.R., Grande, T., Kleitz, J. and Peterson, G.A. (1996). The effectiveness of outpatient civil commitment. *Psychiatric Services*, 47(11), 1251-1253.

Use of outpatient civil commitment has been advocated as a means to reduce rehospitalization rates for SMI recidivists, although its effectiveness has not been convincingly demonstrated. This study examines the effects of civil commitment on community tenure and functioning through a review of cases of consumers committed to the Summit County (Ohio) Alcohol, Drug Addiction, and Mental Health Services Board, and maintained on a commitment for at least 12 months. The sample is the first 20 consumers committed to the Summit County (mental health) board between January 1992 and November 1993, and maintained on an involuntary civil commitment for at least 12 months using consumer clinical records and the county's management information system. Outpatient commitment for all subjects had been initiated with an involuntary state hospitalization. Data on a variety of variables was collected for the 12-month period before the index hospitalization and after discharge under the commitment order, and each subject was used as his/her own control. Diagnostically, 15 were diagnosed with schizophrenia, two with affective disorder, and three with bipolar disorder. The mean number of lifetime hospitalizations was 12.9, with most having been involuntary and in state facilities. Twelve had significant histories of substance abuse, and eight had been arrested or incarcerated. Results indicate that those who were maintained on outpatient commitment had significant decreases in both number of admissions and length of stay in the state hospital (vs. the 12 months prior to the index hospitalization), although there was no change in their use of general hospital psychiatry beds or the county's crisis stabilization unit (hospital alternative). A significant reduction was seen in visits to the system's 24-hour psychiatric emergency service. A statistical significant increase was also found in the number of psychiatric appointments kept during the outpatient commitment period. No significant change was seen in independent living or employment status, or in the frequency of substance abuse. The authors acknowledge limitations in terms of sample size, lack of control group, and retrospective design.

Olfson, M., Mechanic, D., Boyer, C.A., and Hansell, S. (1998). Linking inpatients with schizophrenia to outpatient care. *Psychiatric Services*, 49(7), 911-917.

This study focused on 104 inpatients with schizophrenia or schizoaffective disorder scheduled to begin outpatient treatment with clinicians who had not previously treated them, in order to study the effects of communication between patients and their outpatient clinicians before discharge on referral compliance, symptoms, and functional outcomes at three-month follow-up. About half (51%) of inpatients referred for outpatient treatment with new clinicians communicated with them before hospital discharge. Patients who communicated with an outpatient clinician before discharge were significantly more likely to complete their scheduled referral for outpatient care. There was also a nonsignificant trend toward an increased rate of (self-reported) medication noncompliance among those with no predischarge contact with an outpatient clinician. At follow-up the predischarge contact group had a significantly lower mean total Brief Psychiatric Rating Scale score and fewer psychosocial difficulties in several areas (with significance reached

in the area of symptom control). There was also a nonsignificant trend toward reduced homelessness among the predischarge contact group. It is possible that those who are more motivated for treatment in general are more predisposed to meeting with their new outpatient therapist prior to discharge from the hospital, and it could be this higher level of motivation that would explain the improved outcomes, rather than the predischarge meeting. However, there was no evidence that the predischarge communication group was more favorably predisposed to treatment (e.g., similar proportions refused an outpatient referral or expressed dissatisfaction with their inpatient treatment). One potential problem in instituting this is that some payers restrict payment for outpatient services for inpatients as a form of double billing, which could hinder continuity of care.

Packer, I.K. (1998). Privatized managed care and forensic mental health services. *Journal of the American Academy of Psychiatry and the Law*, 26(1), 123-129.

As managed care has spread to the public mental health sector, the fact that care is managed is not a novel feature, or that private vendors are used, but rather, one significant change has been that private entities are entrusted with the responsibility for managing the care of public sector clients. In this context, concerns have been raised about the special needs of consumers with SPMI and the challenges they present to the privatized managed care model. As this model expands, the issue of providing care to forensic populations has gained more attention. This article focuses on some of the issues that apply to the forensic system and that present challenges for extending the privatized managed care model to this population. Significant issues and concerns have been raised about whether managed care organizations (MCOs) are currently prepared for the special challenges posed by forensic populations and whether states have appropriate monitoring mechanisms. These are due to consumer characteristics as well as legal and political considerations. Many private MCOs, hospitals, and community providers, do not have experience working with such populations, nor have they developed specialized risk assessment and risk management procedures. Legal considerations include the fact that the criteria for hospitalizing forensic patients are different from those for civil populations (inpatient evaluations of competency to stand trial, hospitalization solely for restoration to competency), and utilization review mechanisms used with civil patients are inadequate and misleading for the forensic population. Forensic patients who may not otherwise meet clinical criteria for hospital level of care may still be appropriate for hospitalization based on the need for further observation and assessment of competency or criminal responsibility, and diversion may not be available because of the patient's legal status. Also, standards for successful management of forensic consumers may differ from those for civil clients. For example, insanity acquittees who had been released to the community in California were found to have a high rate of rehospitalization. While from the usual perspective of managed care this would be considered problematic, from the forensic perspective the rehospitalization rate represented a success, as close monitoring of these consumers in the community resulted in prompt treatment and were stabilized before further involvement with the criminal justice system. Criteria for release to the community for continuing care forensic patients may also differ from civil criteria, as in some jurisdictions the burden of proof for discharge has shifted to the consumer, and in others, the authority to

discharge insanity acquittees has shifted to review boards with a mandate to protect the public. The author indicates that for states to properly monitor the delivery of forensic services by the private sector, they would need to: 1) develop a specialized utilization review tool specifically geared toward forensic consumers; 2) utilize a quality assurance tool to evaluate the quality of forensic evaluations provided to the courts; 3) ensure that forensic evaluations and assessments are performed by professionals with appropriate training and credentials; 4) ensure that decisions about release of forensic patients include a standardized risk assessment; and 5) develop mechanism to monitor the prevalence of severely mentally ill consumers within the criminal justice system (including correctional facilities). Obstacles to successful implementation of privatized managed care to forensic populations would remain, however, as most private hospitals do not have experience providing mental health services to forensic consumers, particularly those with significant histories of violence. MCOs would face limitations in their ability to limit costs, as control of admissions and discharges will continue to reside with the courts. However, a potential risk of excluding forensic populations from the managed care system is the creation of a dual system of care (privatized for civil consumers, public for forensic consumers), with different levels of funding, and potential incentives to criminalize individuals with mental illness.

Pescosolido, B.A., Wright, E.R., & Kikuzawa, S. (1999). "Stakeholder" attitudes over time toward the closing of a state hospital. ***Journal of Behavioral Health Services Research*****, 26(3), 276-288.**

Assessing attitudes provides "a unique window into the cultural climate surrounding the closure process itself. This climate is likely to influence the short- and longer-term outcomes for patients, their families, and the workers." Four groups were studied: Patients (N=80), Families or Lay Caregivers (N=120), Hospital Workers (N=124), Public (N=108). Attitudes toward closure of the "only long-term urban state hospital" in Indianapolis were studied over time. Initially, patients were most supportive of the closing (65.4%), followed by family members (39.8%), the general public (27.8%) and workers (10.4%). A majority of groups favored fixing the hospital. Almost half of the clients and more than half of other stakeholders expressed concerns about homelessness. Most patients agreed (70.4%) that their quality of life would be better if they were treated in the community. However, fewer than one-third of families and workers believed community-based care would improve the quality of life for former patients.

There were not many correlates of preclosure attitudes (demographics, etc.). The only one was a negative correlation between age and the belief that closing the hospital was a good idea. Most attitudes were consistent despite respondents' sociodemographic characteristics. The overall profile of *group* attitudes remained remarkably stable, although there was a good deal of change in *individuals'* positions. Generally, patients' views were slightly more negative over time. Workers were more positive about closing CSH (although still only 21.5% agreed), were less likely to have concerns about homelessness, and were less optimistic about patients' quality of life improving at postclosure. Public attitudes were slightly more positive at postclosure. Public support for fixing the hospital decreased significantly. Findings reinforce the importance the

ascertaining stakeholders' positions and recognizing the slowly changing response of stakeholders even under massive and successful policy change.

Pescosolido, B.A., Wright, E.R., & Lutfey, K. (1999). The changing hopes, worries, and community supports of individuals moving from a closing long-term facility. ***Journal of Behavioral Health Services Research*****, 26(3), 276-288.**

More clients expressed hopes than worries before closure, but over time hopes decreased and worries increased significantly. Over time, consumers were less excited about independence and living arrangements but more hopeful about social opportunities and everyday practicalities. Worries relating to family increased while concerns about deviance decreased. Consumers reported an average increase in network ties but the proportion of family members decreased while professional supports and ties with former CSH patients increased. Preclosure consumer reports about network ties were correlated with postclosure reports, but demographics and clinical status were not predictive of community ties postclosure. It is important to be aware the consumers' worries, hopes, expectations for community life may change over time—it may not be a linear process

Petrila, J. (1995). Who will pay for involuntary civil commitment under capitated managed care? An emerging dilemma. ***Psychiatric Services*****, 46(10), 1045-1048.**

This paper explores the potential conflict between clinical judgment and third-payer financial interests in the context of civil commitment, where concerns over potential risk presented by a committed individual may run counter to payment decisions limiting reimbursement for care. Historically, civil commitment resulted in hospitalization in state psychiatric hospitals, with the cost borne by the states. Changes have occurred, however, in the location of acute hospitalization. Whereas in 1955, 63% of inpatient episodes occurred in state and county psychiatric hospitals, only 16% occurred there in 1990. In the same time period, inpatient episodes in psychiatric units of general community hospitals went from 21% to 41% of the total, and from 9% to 22% in private psychiatric hospitals. While the financial implications of this shift have not been dramatic in traditional fee-for-service systems, as capitation becomes more prevalent, conflicts will arise in some cases between providers and payers over the care of civilly committed individuals. The Group for the Advancement of Psychiatry has argued that restrictive payment plans may result in delays using more intensive treatments, and that resistant patients may defer participation in treatment until payment is no longer available (at which time the person would presumably be discharged), with a loss of the potential positive effects of coerced treatment. The author suggests using the following principles in addressing the above issues: 1) Don't deal with this conflict in the context of an individual case, but during contract negotiations between the provider and payer. Avoiding negotiations in the context of an individual case would also serve risk management purposes, as it avoids documented disagreements over dangerousness and necessary length of care.

2) Providers and payers should recognize that many issues, including environmental and situational, affect the use of civil commitment. Examples include lack of other alternatives for treatment.
3) Providers who will care for individuals who are committed should adopt formal risk-assessment protocols, to ensure a standard and consistent risk-assessment process for all patients and clinicians.
4) Research is needed on the use of civil commitment and coercion in managed care settings, as capitation creates different incentives for utilization than under a fee-for-service system.
5) States adopting managed care principles in their Medicaid programs should address this issue through contract negotiations and take steps to ensure that incentives do not exist to shift costs through the use of commitment.
6) Establish a dialogue among providers about the increased tension between traditional ethical obligations of practitioners and the growing encroachment of financial considerations into individual treatment decisions.

Rothbard, A.B., Richman, E., and Hadley, T.R. (1997). "Unbundling" of state hospital services in the community: The Philadelphia State Hospital story. ***Administration and Policy in Mental Health*****, 24(5), 391-398.**

This paper describes the organizational, financial, and programmatic changes surrounding the closure of a state mental hospital, and describes the conceptual model used for "unbundling" the hospital's services into community programs run by private, nonprofit agencies. It provides a census and facility adequacy overview covering 40 years, during which various commissions developed long-term plans for the hospital, until it was phased out. The PSH closure did not constitute a consolidation, as had previously occurred elsewhere, but a discharge of all its patients into the community, and a diversion of all future state hospital admissions into community-based services (although some patients were temporarily transferred to other state hospitals until community placements could be created). The Philadelphia Office of Mental Health received $50 million annually as part of a settlement of a class action suit to create community-based programs. These programs would serve the "discharge class" (those who were discharged when the hospital closed), and the "diversion class" (those estimated to require intermediate or long-term care in the future, but would be diverted from state hospital to community services). Discharged patients were assigned to one of nine community treatment teams (comprised of former PSH employees, retained to deliver services in a community setting), and linked to a variety of community treatment, rehabilitative, and residential care programs. The discharge class represented the most disabled group, many of whom had spent a large portion of their lives in an institution. The divert class clients (thought of as potential new admissions or readmissions, and previously identified along various factors) were assigned intensive case managers (paid for by the case management option under Medicaid or by county funds), and were made eligible for new services along with the discharge class. The new services developed included: an emergency evaluation center, a mobile emergency treatment team, extended acute care beds in two general hospitals, long-term structured care beds,

community residential rehabilitation beds of various levels of intensity. Subsidized and transitional housing was also created.

Admissions to other state hospitals did not increase, and most of the discharged patients remained in the community, with similar levels of functioning as they had at PSH, and higher satisfaction with care. A substantial percentage of the services clients receive were partially supported by Medicaid, Medicare, SSI, and SSDI. Annual cost per discharged patient to the state in 1991 was $66,965 (vs. a projected $97,000 if at PSH). Initial findings suggest that residential beds are declining due to longer lengths of stay and little turnover, and acute care hospital days are longer post-closure for patients who previously would have been transferred to the state hospital. There was also a higher number of bed days used in acute care community hospitals one year post-discharge from extended care units.

Rothbard, A.B., Schinnar, A.P., Hadley, T.P., Foley, K.A., and Kuno, E. (1998). Cost comparison of state hospital and community-based care for seriously mentally ill adults. *American Journal of Psychiatry*, 155(4), 523-529.

Barriers to the success of deinstitutionalization have included the lack of financial incentives to substitute ambulatory care for inpatient services, as well as failure to move institutional dollars with the patient into the community. Vermont, Massachusetts, and Pennsylvania have had total state hospital closures, with substantial resources being moved into community programs. Past evaluations have focused primarily on the long-stay discharge population and its experience in the community, showing improved satisfaction and little deterioration in level of functioning after discharge. While costs have generally been less for discharged patients in the community, this is not universal, as cost shifting, rather than cost saving, has occurred in some places. This study examines whether and to what extent residential alternatives and community-based inpatient services are cost-efficient substitutes for institutional care. It compares persons with SMI who had been admitted to a state hospital before 1989 with individuals who were admitted to an extended acute care hospital bed after the state hospital closed. When the (500-bed, intermediate and long-term care) Philadelphia State Hospital closed in 1990, the state hospital functions were replaced by 60 extended acute care beds in two community hospitals, residential programs consisting of 100 long-term structured residential beds with 24-hour supervision, and about 483 residential beds in more than 50 community residential rehabilitation facilities providing a range of maximum to moderate supervision and support services. Results indicate that a significantly greater proportion of the postclosure group received income support through programs such as SSI and SSDI (possibly due to enhanced support provided to clients by intensive case managers in negotiating the eligibility process). In the postclosure period, acute care hospital days (general hospital) almost doubled (32 to nearly 59 days). The indexed stay (preclosure state hospital bed and postclosure extended acute bed in a general hospital) decreased significantly (129 to 94 days). Residential days increased significantly (9 to 23 days). The total number of days per episode was similar. In terms of service utilization patterns one year before and one year after their indexed hospitalization, the number of general hospital days increased significantly from before the indexed event to the postclosure period (from nearly 61 to 103

days). The average number of ambulatory contacts per user was significantly higher in the postclosure period, but acute care hospital days increased, suggesting that ambulatory care may not be a substitute for hospitalization in this population. Episode of care costs were higher in the postclosure period ($78,929 to $68,446 in indexed 1992 dollars), due primarily to the increased use of general hospital acute care days. The annual cost per person, based on a 2-year service utilization history incorporating the indexed event, was higher for the postclosure group ($66,794 to $48,631), despite a trade-off between residential and extended hospital days in the postclosure period. The data suggest that increased costs were due primarily to patients waiting in general hospitals for intermediate care unit beds to open. In addition, the increased use of acute beds may have been influenced by their eligibility for Medicaid and Medicare reimbursement (unlike former state hospital beds).

Scalora, M.J. (1999). No place else to go: The changing role of state hospitals and forensic mental health services. In W.D. Spaulding (ed.), The role of the state hospital in the twenty-first century. *New Directions for Mental Health Services*, no. *84* (Winter). San Francisco: Jossey-Bass. (pp. 59-70).

New technologies are needed to deal with growing forensic populations in state hospitals and growing mentally ill populations in correctional settings. Forensic considerations are playing a bigger role in the design and administration of public mental health services. Reasons include the public perception of people with mental illness as violent. People with mental illness have always been stigmatized as more violent than they really are, but media sensationalizing of violent acts by people with mental illness has increased this stigma. People with mental illness are a heterogeneous group with regard to violence risk to the community and require individualized assessment and treatment planning.

Shifts in forensic services and infusion of forensic considerations into mental health policy and service design is discussed in three, relatively separate, domains:

1. *Criminalization of the Mentally Ill*: Although direct evidence may be lacking for the claims that deinstitutionalization has led to shifting patients from M.H. to criminal justice system, state agency statistics and indirectly related research results lend support to the notion. Factors that do not support this contention include the following: there has been a general trend toward increasing prison populations, tougher sentencing, etc.; and people with mental illness who are non-criminally accused are more likely to be detained longer in jails. However, other statistics do support his notion:
   - Percent of jail detainees with mental illness is substantially higher than ion the general population (several studies—see p. 61)
   - 10% of females and 15% of males had prior admissions to mental health facilities prior to being jailed.
   - Some states report a ballooning of the percentage of inmates who were former state psychiatric hospital patients (e.g., in Michigan from 11% to 23% in last four years—during deinstitutionalization).

Perhaps some people should be returned to state hospitals; perhaps others should be provided more intensive and appropriate community care. But what is needed is assessment and treatment planning using effective forensic psychiatry technology and expertise.

2. *Cost Containment and System Reform*: Although there has been some experimentation of decentralization and deinstitutionalization of forensic services, this has paled in comparison to the increased pressure on hospital-based forensic services—some aspects of cost containment and system reform have actually served to increase this pressures. For example, reducing civil beds seems to be increasing the number of surviving beds earmarked for forensic services—often used for civilly committed patients who cannot be served well in other settings. Managed care often carves out forensic populations because of the lack of control MCO's have, often, over their placements and services. However, this creates an incentive to even further shift costs and services to forensic domains for those consumers who are most difficult and costly to serve. Over time, this could actually be one reason for the increase in forensic populations. (The highest-cost utilizers of mental health systems are those whose behavior is less likely to seem problematic to themselves, who are less likely to adhere to treatment regimens, and more likely to be involved within the criminal justice system—Cuffel, 1997). Difficult issues for forensic services include discharging forensic patients into the community, which is often ill-equipped to serve them. Another difficult issue is that they often have a different clinical picture and include more personality disorders and characterological problems, which lead to higher risk for re-offense.

3. *Inclusion of New Forensic Subpopulations*: Through legislative efforts, state hospitals increasingly are required to serve patients who only have characterological disorders or who are sex offenders. Sex offenders are much more expensive to treat in forensic facilities, versus in state corrections facilities, and have long lengths of stay, compounding patient flow issues for forensic patients in state hospitals. This new trend could significantly drain state mental health resources. "Criminalization of the mentally ill is complemented by the 'medicalization of criminals...If these trends continue, the future roles of state hospitals will clearly be forensic, but not psychiatric.'" (p. 66) "The public interest is best served by a balanced consideration of safety, compassion, and *long-term cost-effectiveness*." (p. 67)

Schoenbaum, S.C., Cookson, D., and Stelovich, S. (1995). Postdischarge follow-up of psychiatric inpatients and readmission in an HMO setting. *Psychiatric Services*, 46(9), 943-945.

The relationship between follow-up and rehospitalization was examined for inpatients discharged from treatment in two divisions of an HMO. Data were gathered during fiscal year 1990 on how soon patients in an HMO had their first follow-up visit after discharge from a psychiatric hospitalization (and implicitly, whether in an HMO setting a relationship exists between a timely follow-up visit and rehospitalization). One division was a staff-model HMO, the other a group network model. One hospital handled 70% of the psychiatric (non-substance abuse) admissions for both divisions. Two-thirds of 580 patients discharged made a follow-up visit within 30 days.

Of discharged patients, 28.6% were readmitted within six months, with readmission being significantly less likely for persons having had follow-up within 30 days of the first admission. A preadmission relationship with a mental health practitioner, as well as diagnoses of adjustment disorder and affective disorder, enhanced the relative odds of follow-up. Readmission within six months was also significantly more likely for patients with a preadmission relationship with a mental health practitioner, and significantly less likely for men.

Semke, J. (1999). Shifts in case mix and locus of mental health care for Washington state adults with severe mental illness. ***Administration and Policy in Mental Health*****, 26(3), 191-205).**

This article identifies initiatives stemming from the Mental Health Reform Act of 1989 in Washington state. It describes the Regional Support Networks (RSNs) that became the locus of responsibility for serving people close to home and for reducing state psychiatric hospital use. Agreements (in 1992 and 1993) between RSNs and the two state hospitals, Western and Eastern State Hospitals to reduce census and transfer dollars to community care resulted in significant reductions in the average census.

Theoretical Frameworks Under girding Interventions:

- Political-economic theory: Substitution—the replacement of more costly with a less costly public good.
- Structural functional theory: focuses on the functional roles of the substituted good and the substituting good—the functional roles of the state hospital must be substituted in the community. Semke looks at the extent to which substitution of function accompanies substitution due to cost. The Washington state policy intervention assumes that more case management, crisis services, and briefer, community-based inpatient stays can substitute for inpatient stays.

This study looked at high utilizers. In WA state, 38% of people hospitalized met criteria for high user (see above) and accounted for 92% of psychiatric hospital bed days. Legal offenders were not included in the study.

Results:

- From Index Period 1 to 2, the number of adult high utilizers decreased by 9% overall and decreased in 6 of the 8 RSNs. [This includes all psychiatric hospitalization]
- The number of high utilizers with at least one state hospital stay decreased by 16% between Index periods.
- The number of days spent in state hospital and community hospital combined for high utilizers increased from Index Period 1 to 2—from 754,010 to 764,871.
- The state hospital census decreased from 1550 to 1350 between Index periods.

- In contrast to adults aged 20-59, older adults were more likely to be high utilizers in Index Period 2 and increased their use of state hospital. State hospital use for high utilizers of different races, sex, and diagnoses did not change from Index Period 1 to 2

Goals of shifting services to community and reducing state hospital use were achieved, but not the goal of reducing inpatient services. Since this study, the state has moved toward managed care versus fee-for-service. Older adults may have been served more in state hospitals because the cost of inpatient services at the local level may have been too high, given lack of economy of scale/duplication of effort (see Moak and Fisher, 1991). This and a prior study (Semke & Perdue, 1998) illustrate the prominence of local variation in adoption of state mental health reform. Local providers tend to strongly shape the reform effort and often focus on particular subpopulations of interest. "Thus, state-level mental health policy planning must take into account that, at the local level, alternative community services are implemented at different rates and levels for consumers with particular characteristics." (p. 203) ... "by default the state hospital ends up with a variegated residual population for whom a multitude of services may be difficult to administer well." (p. 203)

Spaulding, W.D. (1999). State hospitals in the twenty-first century: A formulation. *New Directions for Mental Health Services*, no. *84* (Winter). San Francisco: Jossey-Bass. (pp. 113-122)

Ideology cannot be eliminated from mental health policy, but it must be moderated by hard-nosed science and state-of-the-art technology. Outcome data continue to show that, however effective medication and support services may be for the majority of people, there is a significant minority who do not achieve stable functioning and a decent quality of life. Judicial prerogatives, risk management realities, and occasional need for social control affect decision-making regarding state hospitals. There are very positive outcome data on rehabilitation of people in state hospitals. Specious distinctions between community and inpatient settings should not be made. There is great risk in downsizing that institutionalization in state hospitals will be replaced with institutionalization in nonrehabilitative, community-based custodial facilities.

Spaulding sees a major role for the state hospital in providing intensive psychiatric rehabilitation services to most of that small subset of the SPMI population that needs inpatient services. For people who need long-term inpatient stays, due to a general failure of community programs, he thinks all of them need intensive psychiatric rehabilitation. [The "high-intensity psychiatric rehabilitation" he refers to is in the tradition of the social learning approach of Paul and Lentz (1977). Spaulding indicates that the evidence for this approach's efficacy is very strong.] The goal of intensive psychiatric rehabilitation, for both humanitarian and economic reasons, is to enable people to live in the community and to benefit from community-based programs, such as ACT and others.

State hospitals could play an important role in providing intensive rehabilitation services to: various subtypes of patients (e.g., Axis I—DD, Axis I—SA, Axis I—Axis II); patients with

severe and primary substance abuse; people with acute exacerbations needing short-term stays. The community-based programs that are developed will have an important affect on the services that are needed in the inpatient setting. The judicial/legal system will also have an important effect. "An optimal configuration of state hospital-based programs helps reduce the length of stay of people in restrictive settings, keeps people out of settings that are more restrictive than they need, and enhances movement from institutional settings into community settings." A key feature of his formulation is the availability of programs with finely graduated increments of restrictiveness and intensity—"This allows patients to be accommodated in environments that exactly match their individual needs, plus it facilitates the gradual movement of the most severely incapacitated patients to progressively lower levels of restriction as their progress in rehabilitation permits." "The *locus* of specific services must not obscure the *focus* of treatment and rehabilitation in *all* domains of functioning needing improvement." (p. 118) The repository of this focus must be an interdisciplinary treatment team, which includes the patient.

In state-of-the art systems, that include effective community-based treatment, inpatients are almost always involuntary patients. Therefore, a major focus of intensive psychiatric rehabilitation should be to engage the patient as a voluntary participant in treatment and rehabilitation..... "...every patient's list of treatment goals must include resolution of the problems that brought about the patient's involuntary status." (p. 118) On length of stay: longer lengths of stay can be good, if they lead to enduring, positive change in the person's functioning and ability to stay in the community in the long-run. Privatized managed care is cause for concern here, to the extent that there is a press to reduce lengths of stay as much as possible, without regard to the long-term ramifications of moving people back to the community before they've had a chance to fully benefit from their inpatient stay. [Note: this issue has in mind the potential benefits of an intensive psychiatric rehabilitation approach.] Individualized determinations about what is the most appropriate least restrictive treatment are dependent upon clinicians becoming better at "clinical-psycholegal assessment" than they are now. Standards for competence and clarity in responsibility for conducting risk assessment and risk management are needed. It is important to follow treatment guidelines for effective programs, such as the social learning approach of Paul & Lentz. However, it is also important to be flexible in responding to patients' individual needs.

Steadman, H.J., Monahan, J., Duffee, B., Hartstone, E., and Robbins, P.C. (1984). The impact of state mental hospital deinstitutionalization on United States prison populations, 1968-1978. *Journal of Criminal Law & Criminology*, 75(2), 474-490.

This paper cites the hypothesized interdependence between mental hospital and prison population census (the Penrose Effect). In fact, the correlation between the annual resident census of state mental hospitals and state prisons in the US between 1968 and 1978 was -.87, although the precise nature of the interdependence is unclear. While some have claimed that the composition of prison populations has changed in the direction of increased mental illness, there is also evidence that state hospital populations may have become more "criminal." This study simultaneously assesses changes in prison and mental hospital size and composition, and

measures these changes over time. It assesses a sample of 3,897 adult male state prison admittees and 2,376 adult male admittees to state mental hospitals in California, Arizona, Texas, Iowa, New York, and Massachusetts. Data gathered included each person's history of arrest, state imprisonment, and state mental hospitalization. Results indicate that while the state hospital census in those states dropped by 61.6%, the number of admissions declined by 9.0%, pointing to a sharply declining length of stay. The case mix of admissions changed to younger consumers (from 39.1 to 33.3 years of age), and decreasingly white (from 57.6% to 52.3%). This trend was not visible in the prisons. Overall, there was a significant overall increase in the percentage of prisoners with a history of prior hospitalization (from 7.9% to 10.4%). However, the percentage of former patients among prisoners decreased in three states while it increased in the other three. Even in states where percentages of inmates with prior hospitalizations dropped, the absolute numbers increased due to the overall increased number of prison admissions. In addition, the number of 1978 state prisoners found to have a history of prior hospitalizations was 55.2% more overall than would have been expected from the 1968 figures and the general prison admission trends, with Texas accounting for a 2,768.6% change, and three states experiencing negative percentage differences.

Across the six states, the percentage of male hospital admittees with at least one arrest increased from 38.2% in 1968 to 55.6% in 1978. The percent and estimated number with two or more prior arrests increased substantially in four of six states between 1968 and 1978. Overall, the percent of patients with a history of prior imprisonment increased from 5.7% to 8.8%, but it actually decreased in three of the six states. In addition, the percent of patients with an arrest record, 43.2% of 1968 patients had been arrested for a crime against a person, whereas in 1978, the figure had increased to 60.0%. Patients with arrests for property or drug crimes increased from 53.9% and 12.6%, respectively, to 64.1% and 27.6%. Only minor crimes decreased, from 76.3% to 65.0%. Expectations, based on 1968 base-rates, for the number of patients with prior arrests were exceeded by the actual 1978 number by 40.3% (with a decrease in one state). For patients with prior imprisonment, expectations were exceeded by 60.4% (with decreases in three states).

In general, little support was found for the functional interdependence between prisons and state mental hospitals. A rival hypothesis is that increases in the population at risk for committing crimes led to an increase in serious crimes punishable by imprisonment. Increased arrest rates among mental hospital admittees in 1978 may be explained by their younger age and increasing nonwhite status. Another hypothesis is that a large group of patients/inmates are being exchanged between mental hospitals and local jails.

Steadman, H.J., Mulvey, E.P., Monahan, J., Robbins, P.C., Appelbaum, P.S., Grisso, T., Roth, L.H., and Silver, E. (1998). Violence by people discharged from acute psychiatric inpatient facilities and by others in the same neighborhoods. *Archives of General Psychiatry*, 55, 393-401.

The prevalence of community violence is described and characterized in a sample of people discharged from acute psychiatric facilities at three sites. At one site, a comparison group of

other residents from the same neighborhoods was used. The sample consisted of 1136 consumers hospitalized for fewer than 145 days, and violence was monitored every 10 weeks during the first year after discharge from the hospital. Consumers who participated were significantly younger, less likely to have a diagnosis of schizophrenia, and more likely to have diagnoses of alcohol and other drug abuse and personality disorder than those who refused to participate. Depression was the most common primary diagnosis, and a large proportion of cases had a co-occurring substance abuse disorder. The proportion of consumers with at least one act of violence during the one-year follow-up (from all reporting sources) was 27.5%. For the "other" (e.g., personality or adjustment disorder, suicidality) mental disorder/substance abuse group (OMD/SA), the 1-year prevalence was 43%, compared with 31.1% for the major mental disorder/substance abuse (MMD/SA) group, and 17.9% for the major mental disorder/no substance abuse (MMD/NSA) group. Violence decreased significantly for all groups over the course of the year, except for the MMD/NSA group. When comparing the consumer and the community samples, the community group had significantly higher rates of substance abuse symptoms (during the first four 10-week follow-ups) and of violence and other aggressive acts at each of the follow-up periods. The interaction between consumer status and substance abuse symptoms was nonsignificant in the total sample. There was a significant effect for violence among consumers, but only among those with symptoms. While a significant effect for consumer status on violence was found, that effect was more strongly expressed among subjects with substance abuse symptoms. The only significant consumer-community difference in violence was that consumer violence consisted more of forced sex and less of weapon threat/use, with the targets of acts by both samples were most often family members, followed by friends and acquaintances. The consumer sample was more likely to commit aggressive acts in their homes, while the community sample was more likely to commit aggressive acts in a bar. This study confirms the presence of a co-occurring substance abuse disorder to be a key factor in violence. However, the prevalence of violence among consumers without symptoms of substance abuse is statistically indistinguishable from the prevalence among community members without substance abuse. Caution should be exercised in generalizing these results. Interestingly, for all three diagnostic groups, the highest rate of reported violence occurred during the 10-week period prior to the index hospitalization. Also, the community samples came from areas where consumers resided, which were likely to be impoverished and higher violent crime rates than the city as a whole.

Walker, R., Minor-Schork, D., Bloch, R., and Esinhart, J. (1996). High risk factors for rehospitalization within six months. ***Psychiatric Quarterly*****, 67(3), 235-243.**

This study's purposes were to determine whether factors predicting risk of rehospitalization could be developed from global clinical assessment and other admission data, and whether risk factors for a hospital in rural areas are similar to those for urban hospitals. The setting was a voluntary psychiatric unit in a rural, tertiary care general hospital in North Carolina. The GAF scale of DSM-III-R and the North Carolina Functional Assessment Scale (NCFAS) were used. Consumers were interviewed on the day of admission, and again by phone six months after discharge. Factors significant for risk of rehospitalization within six months of discharge were:

1) keeping fewer than half of outpatient appointments, 2) a history of prior admissions, 3) portal of entry and/or current residence in a nursing home, 4) referral from a small community hospital, and 5) admission NCFAS score >90. Also, consumers referred to mental health centers were less likely to keep over half of their appointments, or take over half of their medication.

Wolff, N. (2000). Conflicting perspectives on consolidating long-term psychiatric inpatient care at a single state hospital. ***Psychiatric Services*****, 51(6), 749-750.**

While mental health system consolidation policies are designed to have therapeutic and economic advantages, they are often associated with negative impacts at the local level, which are typically overlooked. It is assumed, or hoped, that the affected communities will welcome the changes, but this assumption is false. This paper examined a case in the Northeast, where local residents resisted the state's decision to consolidate long-term inpatient care in a hospital in their community. From the community's perspective, the costs were related to: safety (to the extent that mental illness is associated with violence, and persons with severe mental illness are placed in the community, the community will be perceived as unsafe, leading to decreasing property values), and local services costs (to the extent that persons with SMI will be heavy users of law enforcement, special educational programs, housing, and other locally funded services, the costs of which would fall on local residents). The hospital, however, argued that security and discharge policies in place would limit expected negative impacts, and hospital expansion would stimulate local employment and retail sales. Because the community focused on safety and subjective impacts, it could reasonably argue that the costs were too high. Those who opposed the plan constituted 27% of the community, but were vocal, and placed the burden on the government to provide a fuller accounting of how the community would be affected by government policy, and broadened the discussion to include subjective and objective impacts on the community and compensatory benefits.

Wright, E.R. (1999). Fiscal outcomes of the closing of central state hospital: An analysis of the costs to state government. Journal of Behavioral Health Services Research, 26(3), 262-275.

The article notes that there has not been a lot of previous research on the costs of deinstitutionalization. Knapp et al. studied several cohorts of long-term patients discharged in Great Britain—found that community costs were not greater and probably smaller than inpatient costs; also found that patients who have longer histories of hospitalization had the highest costs in the community. Rothbard et al. studied the closing of Philadelphia State Hospital and found that the average annual per patient cost rose from $48,631 to $66,794. The patients in this study were patients who had extensive psychiatric histories but only shorter-term use of state hospital care (i.e., stays of less than two years). There were 6 state psychiatric hospitals in Indiana before CSH closed. Also, there were 30 state-supported CMHCs. A special, one-time community transition fund was used (see p. 264)—the fund grew larger as the hospital budget decreased over the two years prior to closure.

FY 1993 per diem cost for treatment at CSH was $169. The annual cost to provide care to one patient for 365 days was $61,685. The cost for serving discharged patients in FY 1995 was $55,416 per patient. The average cost per patient for those receiving services exclusively in the community (over 70% of the sample) were $40,618. Although costs lowered for the Indiana Department of Mental Health, total costs to the state were probably higher because community costs for physical health, other social services, etc. were not included in above analysis.

Mean Charges Incurred by Former CSH Patients (n=187) in FY 1995		
Service	Cost per Consumer	Number of Consumers receiving services
Case Management	$5,914	103
Medication	$2,856	97
Outpatient treatment-physician	$267	95
Outpatient treatment-non physician	$1623	107
Partial hospitalization and day treatment	$5,379	96
Residential Care	$7824	3
Supported Employment	$17	12
Inpatient care-acute/general hosp	$1394	19
Inpatient care-state hospital	$29,950	76
Total fiscal year 1995 charges	$55,416	

Costs to Indiana Division of Mental Health

Placement Type	Total costs to all funding sources	Total costs to IDMH	Total costs to Medicare/Medicaid
Preclosure: FY 1993			
Sum costs	$12,780,885	$12,780,885	0
Per patient cost	$68,347	$68,347	0
Postclosure: FY 1995			
Sum costs	$10,362,894	$7,439,488	$2,613,019
Ave per patient cost	$55,417	$39,783	$13,973
Percentage change in total cost from pre- to post-closure	-18.9%	-28.2%	

Wright, E.R., Avirappattu, G., & Lafuze, J.E. (1999). The family experience of deinstitutionalization: Insights from the closing of central state hospital. ***Journal of Behavioral Health Services Research*****, 26(3), 289-304.**

This study involved a survey of family and lay caregivers one year postclosure of CSH in Indianapolis. Results indicated that family members have mixed feelings about the closure. Family caregivers also reported that they have not been asked to take on significant amounts of the caregiving responsibilities since consumers were moved from the hospital. Family members also reported a significant reduction in the frequency of contact with their relatives and with professional caregivers since the closure. Family members whose relatives were transferred to other state hospitals in particular had less in-person contact with their relatives (probably due to fact that other state hospitals were further from home.) But even family members of those discharged to the community experienced less frequent contact.

Mean score on an objective burden assessment scale was 24.6, where 19 is *not at all* a burden on all items and 76 is *a lot* of burden on all items. Respondents were much more likely to endorse subjective burden than objective burden items. Just under 70% of family members said they experience no objective burden, but just over 70% said they had experienced subjective burden (subjective distress or worry). Subjective burden revolved around worries regarding relatives' futures, in particular.

Zahniser & McGuirk (1995, August). Western states' continuity of care expanded project report. (A project of the Western States' MHSIP User Group.) Western States' Mental Health Statistics Improvement Program User Group Meeting, Juneau, Alaska.

This study examined rates of continuity of care from inpatient psychiatric settings to outpatient settings for over 1000 patients discharged from psychiatric inpatient facilities in fiscal year 1992-1993. Continuity of care was defined liberally as receiving an outpatient service within 60 days of discharge from the inpatient facility. The findings revealed a surprisingly low rate of continuity of care from inpatient to outpatient settings across the 10 states (less than 50%). They also revealed that people who received an outpatient contact within 60 days of discharge were far less likely to be rehospitalized within that same 60-day period. Only .3% of those receiving continuity of care were rehospitalized, but 18% of those who did not receive continuity of care were rehospitalized within 60 days of discharge from the inpatient facility.

APPENDIX VII

TRIWEST GROUP

CMHI Operational Plan Study

Brief Case Studies of Arizona, Wyoming, and Oregon State Psychiatric Hospital Systems

Submitted to the State of Colorado Department of Human Services Office of Direct Services

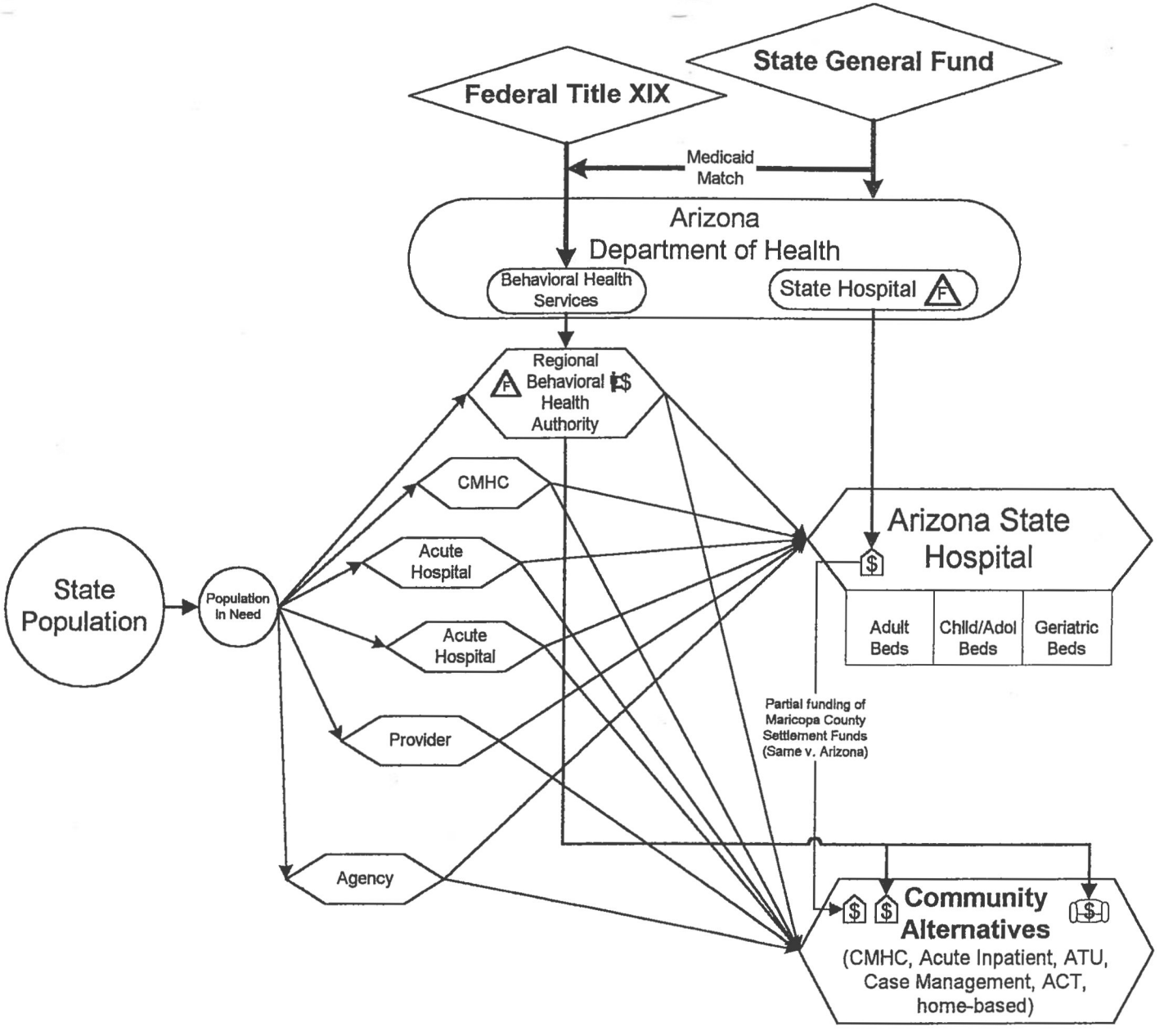
November 6, 2000

Arizona

Arizona has one state hospital with 191 civil beds serving the entire state population of 4,778,332. Please see a *Blueprint* of Arizona's system on the following page. The Arizona State Hospital is located in Phoenix. It includes 335 licensed civil and forensic beds across 13 units: 6 civil adult units, 6 forensic adult units and one mixed adolescent unit (approximately 25% forensic). Key recent developments and trends include:

- **Increased civil capacity:** Arizona has had among the lowest number of civil beds per 100,000 population in the country and is in the process of building a new civil facility with expanded capacity. A special mental health task force reviewed the entire system, primarily focusing on community resources. Population projections based on past utilization suggested a need to increase civil capacity by 6 to 8 beds. Instead, 25 civil beds will be added by building a new civil facility with 200 beds. An additional 100 beds have also been planned to be built if needed.
- **Specialized units focused on community reintegration:** In 1998, 60 patients were identified as able to be discharged with specialized resources. Two "Reintegration Units" were developed with enhanced skill-building and a focus on arranging transitional care into the community. The units now serve 20 people and the hospital is reviewing how to build this capacity across the other units.
- **Privatization:** In mid-1990s, the hospital privatized its pharmacy and hospitality services.
- **Closure:** Closed child inpatient facility in early 1990s.
- **Community control:** There is very little local control of access currently. Beds are not regionally allocated. Admissions do not pass through CMHCs or other centralized process, but are rather based on acuity and availability of alternatives. Regional managed care organizations responsible for community care have some responsibility, but also an incentive to use state hospital beds. Distance from the hospital is a major factor for some regional managed care organizations and negatively impacts discharge planning.

Population	4,778,332
Number of hospitals	1
Number of campuses	1
Total civil beds	191 (220)
Civil beds per 100,000	4.0 (4.6)
Beds-Child	0
Beds-Adolescent	16
Beds-Adult	137 (increasing to 200 with new facility)
Beds-Geriatric	38 (will be part of the 200 bed adult facility)
Beds-Med/Surg	None
Beds-Forensic	144
Clinical sub-populations	Long-term facility, few acute beds
Financing	Mostly state general fund
Governance	Under Department of Health; State Hospital Director is peer of Director of Behavioral Health
Admission criteria	Require 25 day stay at acute facility before coming to state hospital (can be waived, but usually occurs)
ALOS	6-8 months for new adult admissions; adolescents approximately 3 months



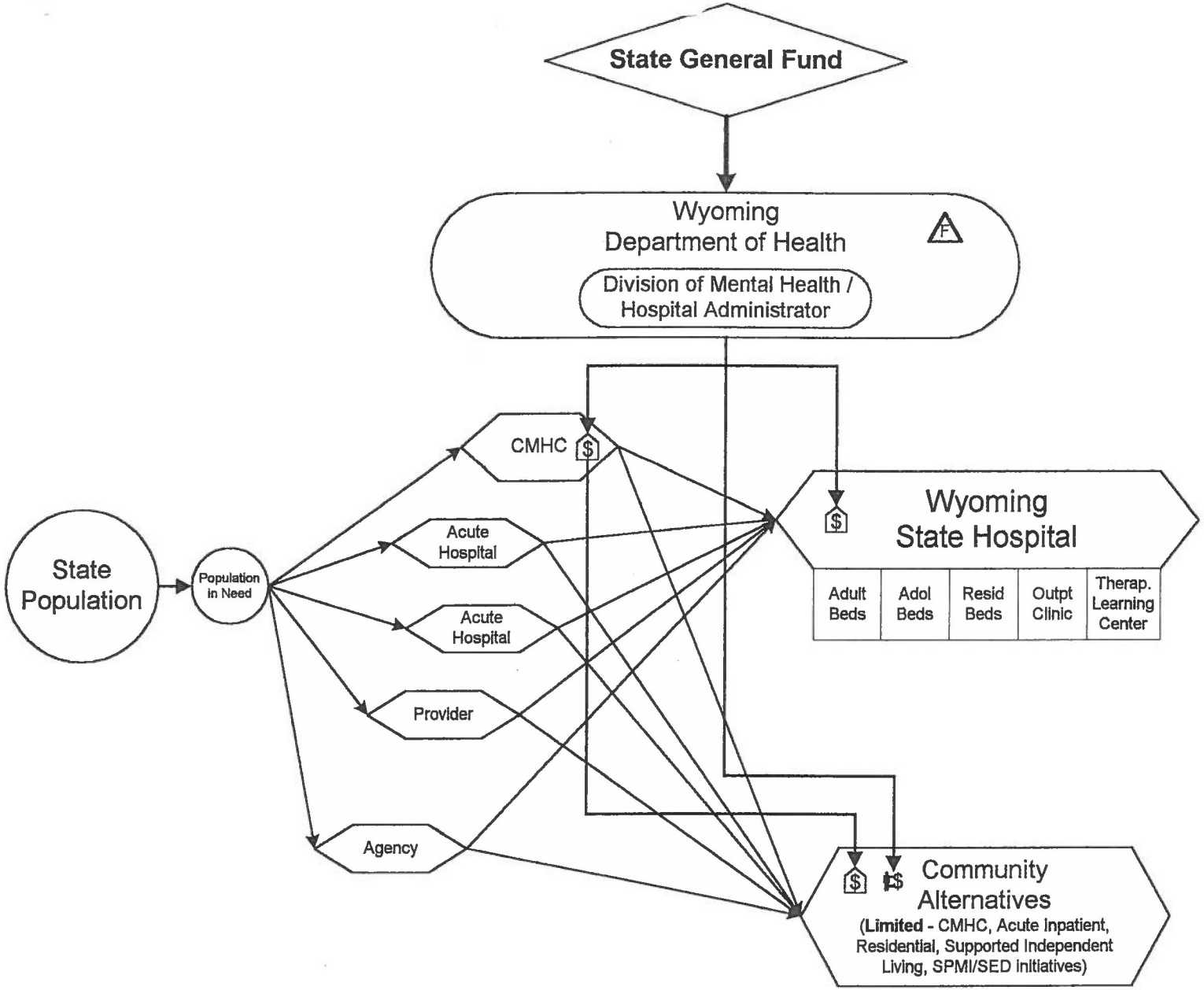
Design:	Current State Hospital Role in Arizona Mental Health System	Symbol Key:	$ = Direct state funding; $ = Fee-for-service funding; $ = Capitated funding; = Person/potential recipient; S = Shared risk of utilization; F = Full risk of utilization	TRIWEST GROUP

Wyoming

Wyoming has one state hospital serving its very rural population. Please see a *Blueprint* of Wyoming's system on the following page. The Wyoming State Hospital in located in Evanston, in the far western portion of the state. It has 46 civil beds, including 8 adolescent and 38 adult beds (and serve some older adults). The hospital serves as a key psychiatric resource for the scattered communities of this largely frontier state. It offers a continuum of care, including 42 adult residential beds, 8 adolescent residential beds, short-term emergency shelter, a mental health outpatient clinic, and a therapeutic learning center for group therapy resources. Key recent developments and trends include:

- **Development of a continuum of care:** Limited psychiatric resources in this very rural state have led the state hospital to serve a broader array of needs, as described above.
- **New facility:** Wyoming is building a new facility that will replace 2/3 of current capacity and may eventually replace all current adult beds plus an additional 4 beds (from 38 to 42). The second phase has not yet been funded.
- **Recent history of decreased civil capacity:** The 1990 capacity of 260 beds was reduced during the 1990s to 90 current civil and forensic beds. Restructuring of programs to focus more on outpatient and residential programs started in 1996. Current admissions have stabilized at 85-95% capacity and are assessed by hospital administrators as adequate for current need.
- **Development of community alternatives:** Current efforts are focusing on the development of community-based hospital alternatives through specialized targeted funding initiatives. Supported Independent Programs providing new residential resources and specialized vocational programming are being developed in six locations statewide. Targeted SPMI/SED funding initiatives have also been developed statewide.

Population	479,602
Number of hospitals	1
Number of campuses	1
Total civil beds	46
Civil beds per 100,000	9.6
Beds-Child	0
Beds-Adolescent	8
Beds-Adult	38
Beds-Geriatric	Included in adult capacity
Beds-Med/Surg	None
Beds-Forensic	40
Clinical sub-populations	Long-term facility, few acute beds
Financing	Mostly state general fund
Governance	Division of Mental Health Administrator and Hospital Administrator are combined in single position; reports to Director of Department of Health, who sits on the governor's cabinet
Admission criteria	No allocation or community control



Design: Current State Hospital Role in Wyoming Mental Health System

Symbol Key: $ = Direct state funding; $ = Capitated funding; $ = Fee-for-service funding; = Person/potential recipient; S = Shared risk of utilization; F = Full risk of utilization

TRIWEST GROUP

Oregon

Oregon has two state hospitals with 3 campuses. Combined, 367 civil beds serving the entire state population of 3,316,154. The Eastern Oregon Psychiatric Center is located in Pendleton, and serves the Eastern Oregon region with its 60 adult beds. Approximately 2/3 of its admissions come from the more populated west side of the state. It also includes 2 to3 acute admissions at any given time due to a lack of acute facilities in the region. The main campus of the Oregon State Hospital is in Salem and includes 65 adult beds, 60 for children and adolescents, and 114 for older adults and younger patients with head injuries (approximately 1/3 head injured). It also includes 5 medical/surgical beds, which are generally seen as adequate to serve the system. There is a satellite campus in Portland serving 68 adults. All of these serve long-term patients. There are an additional 400 forensic beds. Key recent developments and trends include:

- **Decreased civil capacity:** Oregon closed the several hundred bed Portland State Hospital in 1996, following some quality concerns but largely due to funding pressure. The closure was done in partnership with counties, which were offered the chance to shift funds serving their patients in the state hospital to pay for new community alternatives.
- **Funds shifted to community alternatives:** Over 500 community-based beds were developed, ranging from intensive supported housing with case management to locked acute treatment facilities.
- **Managed care pilots:** The state is developing pilots that add funding for the community-based alternatives developed following the Portland State Hospital closure and current state hospital funds to the community. The goal is to increase incentives for discharge planning.

Population	3,316,154
Number of hospitals	2
Number of campuses	3
Total civil beds	367
Civil beds per 100,000	11.1
Beds-Child	60
Beds-Adolescent	Included above
Beds-Adult	193
Beds-Geriatric	114
Beds-Med/Surg	5
Beds-Forensic	400
Clinical sub-populations	Long-term facility, few acute beds
Financing	Mostly state general fund
Admission criteria	Counties control access and have a bed allocation