Colorado Medicaid
Community Mental Health Services Program

FY 07–08 PIP VALIDATION REPORT

Supporting Recovery

for

Foothills Behavioral Health, LLC

May 2008

This report was produced by Health Services Advisory Group, Inc. for the Colorado Department of Health Care Policy & Financing.

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HSAG HEALTH SERVICES ADVISORY GROUP

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for **Foothills Behavioral Health, LLC**

Overview

The Balanced Budget Act of 1997 (BBA), Public Law 105-33, requires that states conduct an annual evaluation of their managed care organizations (MCOs) and prepaid inpatient health plans (PIHPs) to determine the MCOs' and PIHPs' compliance with federal regulations and quality improvement standards. According to the BBA, the quality of health care delivered to Medicaid consumers in MCOs and PIHPs must be tracked, analyzed, and reported annually. The Colorado Department of Health Care Policy & Financing (the Department) has contractual requirements with each MCO and behavioral health organization (BHO) to conduct and submit performance improvement projects (PIPs) annually.

As one of the mandatory external quality review activities under the BBA, the Department is required to validate the PIPs. To meet this validation requirement, the Department contracted with Health Services Advisory Group, Inc. (HSAG), as an external quality review organization. The primary objective of the PIP validation is to determine compliance with requirements set forth in the Code of Federal Regulations (CFR), at 42 CFR 438.240(b)(1), including:

- Measurement of performance using objective quality indicators.
- Implementation of system interventions to achieve improvement in quality.
- Evaluation of the effectiveness of the interventions.
- Planning and initiation of activities for increasing or sustaining improvement.

The Centers for Medicare & Medicaid Services (CMS) publication, *Validating Performance Improvement Projects: A Protocol for Use in Conducting Medicaid External Quality Review Activities*, Final Protocol, Version 1.0, May 1, 2002, was used in the evaluation and validation of the PIPs.

Summary of Study

The purpose of this study was to evaluate Medicaid consumer satisfaction using responses from the Mental Health Statistics Improvement Program (MHSIP) adult survey. Three-year trends in Medicaid consumer responses on the MHSIP survey suggested that consumers were not experiencing the level of recovery support that **Foothills Behavioral Health, LLC (FBH)** would like from its provider network. The goal of the study was to improve consumer satisfaction with network providers' communication about key elements of recovery.

Study Topic

FBH continued its clinical PIP, ***Supporting Recovery,*** for the fiscal year (FY) 07–08 submission.

The topic addressed CMS' requirements related to quality of care outcomes—specifically, improving consumer satisfaction.

FBH's study question was: "Does implementation of strategies to educate and inform Network MHC providers on methods for timely communication of recovery elements with consumers, including ways to increase consumer involvement in setting treatment goals and strategies to educate and inform consumers as to methods for managing their illness and progressing in their recovery, within **FBH's** Network MHCs:

1. Improve consumer level of agreement rating (increase satisfaction) with the MHSIP survey item 'Staff here believe I can grow, change, and recover?'

2. Improve consumer level of agreement rating (increase satisfaction) with the MHSIP survey item 'Staff helped me obtain information so that I can take charge of managing my illness?'

3. Improve consumer level of agreement rating (increase satisfaction) with the MHSIP survey item 'I, not staff, decided my treatment goals?'"

Study Methodology

FBH had three study indicators defined as follows:

- Study Indicator 1: "Total score on MHSIP item #10 ('Staff here believe I can grow, change, and recover.')."
- Study Indicator 2: "Total score on MHSIP item #19 ('Staff helped me obtain information so that I can take charge of managing my illness.')."
- Study Indicator 3: "Total score on MHSIP item #17 ('I, not staff, decided my treatment goals.')."

The study population included all adult consumers (18 years of age and older who were **FBH** Medicaid-eligible consumers at the time of their encounter) who received at least one mental health service from an **FBH** provider during the study period, beginning with the first study period (July 2006 through December 2006). The study population parameters were based on those used by the Colorado Department of Mental Health (DMH) in its annual administration of the MHSIP survey.

FBH used administrative data pulled from claims/encounters to capture all necessary data elements defined in the PIP. Survey data were entered by an administrative assistant into the Statistical Package for the Social Science s (SPSS). A *t* test was used to assess change in mean scores for the three MHSIP items.

Study Results

FBH completed data analysis for baseline and the first and second remeasurements for the three study indicators. The PIP has not yet demonstrated sustained improvement over comparable time

periods. The noted improvement and declines in performance across all study indicators were not statistically significant, with the exception of Study Indicator 3 from baseline to the first remeasurement period. Table 1-1 illustrates results for the study indicators.

Table 1-1—Study Indicator Results

Study Indicators	Baseline Results	Remeasurement 1 Results	Remeasurement 2 Results
	January 2005 to June 2005*	July 2006 to December 2006*	January 2007 to June 2007*
Study Indicator 1: "Total score on MHSIP item #10 ('Staff here believe I can grow, change, and recover.')."	2.07	1.93	1.96
Study Indicator 2: "Total score on MHSIP item #19 ('Staff helped me obtain information so that I can take charge of managing my illness.')."	2.20	1.98	2.24
Study Indicator 3: "Total score on MHSIP item #17 ('I, not staff, decided my treatment goals.')."	2.31	1.95	2.12

*The results are based on mean scores.

Scoring

HSAG validates a total of 10 activities for each PIP. PIP validation takes place annually and reflects activities that have been completed. A health plan (BHO) may take up to three years to complete all 10 activities. Each activity consists of elements necessary for the successful completion of a valid PIP. Evaluation elements are the key CMS Protocol components for each activity that reflect the intent of what is being measured and evaluated. Some of the elements are critical elements and must be scored as *Met* to produce an accurate and reliable PIP. Given the importance of critical elements, any critical element that receives a *Not Met* score results in an overall PIP validation status of *Not Met*. If one or more critical elements are *Partially Met*, but none is *Not Met*, the PIP will be considered valid with low confidence. Revisions and resubmission of the PIP would be required.

Summary of Validation Findings

- For this review, all activities with a total of 53 elements were validated. Of this number:
  - 42 evaluation elements were *Met*.
  - 4 evaluation elements were *Partially Met.*
  - 0 evaluation elements were *Not Met*.
  - 7 evaluation elements were *Not Applicable (NA).*
- The total number of critical elements that were evaluated equaled 11. Of this number:
  - 10 critical elements were *Met*.
  - 0 critical elements were *Partially Met.*
  - 0 critical elements were *Not Met*.
  - 1 critical element was *NA.*

The final validation finding for **FBH's** PIP showed an overall score of 91 percent, a critical element score of 100 percent, and *Met* validation status.

Conclusions

For the FY 07–08 validation cycle, all 10 activities were reviewed for this study. The study addressed improvement in consumer satisfaction; the goal was better communication with the consumers by network providers about key elements of recovery. **FBH** provided data for three study indicators from baseline to the second remeasurement period. The PIP has not yet demonstrated sustained improvement. HSAG acknowledges that this is the third year for this PIP. **FBH** may consider monitoring data internally for a longer period of time to determine whether sustained improvement can be achieved across all indicators.

Requirements

There were no requirements identified during this review.

Recommendations

Future submissions of the PIP should provide an explanation as to why there was a 13-month gap from baseline to the first remeasurement, while there was no gap from the first to the second remeasurement.

HSAG acknowledges this was the third year for the ***Supporting Recovery*** PIP. **FBH** may wish to consider monitoring data internally for a longer period of time in order to determine if intervention efforts result in improvement across all indicators.

Comparison of Years 1 Through 3

For FY 05–06, **FBH** completed Activities I through VII, receiving scores of 93 percent for evaluation elements *Met*, 100 percent for critical elements *Met*, and a *Met* validation status. During this period, baseline results were reported. HSAG identified opportunities for improvement in Activity VI–Accurate/Complete Data Collection, for **FBH** to address as the study progresses.

For the FY 06–07 validation cycle, **FBH** progressed through Activity VIII, receiving scores of 100 percent for evaluation elements *Met*, 100 percent for critical elements *Met*, and a *Met* validation status. During this period, baseline and the first remeasurement results were reported. **FBH** addressed all elements receiving *Not Met* scores for the FY 05–06 validation.

For the FY 07–08 validation cycle, **FBH** progressed through Activity X, receiving scores of 91 percent for evaluation elements *Met*, 100 percent for critical elements *Met*, and a *Met* validation status. During this period, baseline and two remeasurement periods were reported. The results for this year's PIP were disappointing to **FBH**. The **FBH** project team recommended implementation of the Illness Management and Recovery or Pathways to Recovery programs, in which education, support in understanding mental illness, and instructions on how to participate in the treatment process would be provided. The mental health centers had already considered this plan, and will work toward implementing the program.

Validating PIPs involves a review of the following 10 activities:

- Activity I. Appropriate Study Topic
- Activity II. Clearly Defined, Answerable Study Question
- Activity III. Clearly Defined Study Indicator(s)
- Activity IV. Use a Representative and Generalizable Study Population
- Activity V. Valid Sampling Techniques (If Sampling Was Used)
- Activity VI. Accurate/Complete Data Collection
- Activity VII. Appropriate Improvement Strategies
- Activity VIII. Sufficient Data Analysis and Interpretation
- Activity IX. Real Improvement Achieved
- Activity X. Sustained Improvement Achieved

All PIPs are scored as follows:

Met	(1) All critical elements were *Met* **and** (2) 80 percent to 100 percent of all critical and noncritical elements were *Met*. No action required.
Partially Met	(1) All critical elements were *Met* and 60 percent to 79 percent of all critical and noncritical elements were *Met* **or** (2) One critical element or more was *Partially Met*. Requires revision and resubmission of the PIP.
Not Met	(1) All critical elements were *Met* and less than 60 percent of all critical and noncritical elements were *Met* **or** (2) One critical element or more was *Not Met*. Requires revision and resubmission of the PIP.
NA	Not Applicable elements (including critical elements if they were not assessed) were removed from all scoring.

PIP Scores

For this PIP, HSAG reviewed all 10 Activities. Table 2-1 and Table 2-2 show **FBH's** scores based on HSAG's PIP evaluation of ***Supporting Recovery***. Each activity has been reviewed and scored according to HSAG's validation methodology.

Table 2-1—FY 07–08 Performance Improvement Project Scores *for* Supporting Recovery *for* Foothills Behavioral Health, LLC

Review Activity	Total Possible Evaluation Elements (Including Critical Elements)	Total *Met*	Total *Partially* Met	Total *Not Met*	Total *NA*	Total Possible Critical Elements	Total Critical Elements *Met*	Total Critical Elements *Partially Met*	Total Critical Elements *Not Met*	Total Critical Elements *NA*
I. Appropriate Study Topic	6	6	0	0	0	1	1	0	0	0
II. Clearly Defined, Answerable Study Question	2	2	0	0	0	1	1	0	0	0
III. Clearly Defined Study Indicator(s)	7	6	0	0	1	3	3	0	0	0
IV. Use a Representative and Generalizable Study Population	3	3	0	0	0	2	2	0	0	0
V. Valid Sampling Techniques	6	6	0	0	0	1	1	0	0	0
VI. Accurate/Complete Data Collection	11	6	0	0	5	1	0	0	0	1
VII. Appropriate Improvement Strategies	4	3	0	0	1	No Critical Elements				
VIII. Sufficient Data Analysis and Interpretation	9	9	0	0	0	2	2	0	0	0
IX. Real Improvement Achieved	4	1	3	0	0	No Critical Elements				
X. Sustained Improvement Achieved	1	0	1	0	0	No Critical Elements				
Totals for All Activities	**53**	**42**	**4**	**0**	**7**	**11**	**10**	**0**	**0**	**1**

Table 2-2—FY 07–08 Performance Improvement Project Overall Score *for* Supporting Recovery *for* Foothills Behavioral Health, LLC

Percentage Score of Evaluation Elements *Met**	**91%**
Percentage Score of Critical Elements *Met***	**100%**
Validation Status***	***Met***

* The percentage score is calculated by dividing the total *Met* by the sum of the total *Met*, *Partially Met*, and *Not Met*.
** The percentage score of critical elements *Met* is calculated by dividing the total critical elements *Met* by the sum of the critical elements *Met*, *Partially Met*, and *Not Met*.
*** *Met* equals confidence/high confidence that the PIP was valid.
Partially Met equals low confidence that the PIP was valid.
Not Met equals reported PIP results that were not valid.

Validations and Findings Summary

This section summarizes the evaluation of the activities validated for the PIP. A description of the findings, strengths, requirements, and recommendations is outlined under each activity section. See Appendix B for a complete description of the CMS rationale for each activity.

The purpose of the study was to evaluate Medicaid consumer satisfaction using responses from the Mental Health Statistics Improvement Program (MHSIP) adult survey. Three-year trends in Medicaid consumer responses on the MHSIP survey suggested that consumers were not experiencing the level of recovery support that **FBH** would like from its provider network. The goal of the study was to improve consumer satisfaction with network providers' communication with them about key elements of recovery.

Activity I. Appropriate Study Topic

Study Topic

FBH continued with ***Supporting Recovery*** as its clinical PIP topic for the fiscal year (FY) 07–08 validation cycle.

Finding(s)

All of the six evaluation elements, including one critical element, were *Met* for this activity.

Strength(s)

The study topic reflected high-risk conditions and addressed a broad spectrum of care and services over time. All eligible consumers who met the study criteria were included, and consumers with special health care needs were not excluded. The study topic had the potential to affect consumer satisfaction.

Requirement(s) (for Critical Elements)

There were no requirements identified for this activity during this review.

Recommendation(s) (for Noncritical Elements)

There were no recommendations identified for this activity during this review.

Activity II. Clearly Defined, Answerable Study Question

Study Question(s)

FBH's study question was: "Does implementation of strategies to educate and inform Network MHC providers on methods for timely communication of recovery elements with consumers, including ways to increase consumer involvement in setting treatment goals and strategies to educate and inform consumers as to methods for managing their illness and progressing in their recovery, within **FBH's** Network MHCs:

1. Improve consumer level of agreement rating (increase satisfaction) with the MHSIP survey item 'Staff here believe I can grow, change, and recover.'

2. Improve consumer level of agreement rating (increase satisfaction) with the MHSIP survey item 'Staff helped me obtain information so that I can take charge of managing my illness.'

3. Improve consumer level of agreement rating (increase satisfaction) with the MHSIP survey item 'I, not staff, decided my treatment goals.'"

Finding(s)

All evaluation elements for this activity were *Met*, including one critical element.

Strength(s)

The study question was answerable and stated in clear, simple terms, maintaining the focus of the study. The question was formatted to meet CMS Protocols.

Requirement(s) (for Critical Elements)

There were no requirements identified for this activity during this review.

Recommendation(s) (for Noncritical Elements)

There were no recommendations identified for this activity during this review.

Activity III. Clearly Defined Study Indicator(s)

Study Indicator(s)

FBH had three study indicators:

- Study Indicator 1: "Total score on MHSIP item #10 ('Staff here believe I can grow, change, and recover.')."

- Study Indicator 2: "Total score on MHSIP item #19 ('Staff helped me obtain information so that I can take charge of managing my illness.')."
- Study Indicator 3: "Total score on MHSIP item #17 ("I, not staff, decided my treatment goals.')."

Finding(s)

Six of the seven evaluation elements were *Met* for this activity, including three critical elements. One element was *Not Applicable* because the study indicators were not internally developed.

Strength(s)

The study indicators were well-defined, objective, and measurable. They measured changes (outcomes) in consumer satisfaction and were based on nationally recognized questions for the MHSIP survey.

Requirement(s) (for Critical Elements)

There were no requirements identified for this activity during this review.

Recommendation(s) (for Noncritical Elements)

There were no recommendations identified for this activity during this review.

Activity IV. Use a Representative and Generalizable Study Population

Study Population

The study population included all adult consumers (18 years and older who were **FBH** Medicaid-eligible consumers at the time of their encounter) who received at least one mental health service from an **FBH** provider during the study period, beginning with the first study period (July 2006 through December 2006). The study population parameters were based on those used by the Colorado Department of Mental Health (DMH) in its annual administration of the MHSIP survey."

Finding(s)

All evaluation elements for this activity were *Met,* including two critical elements.

Strength(s)

The method for identifying the eligible populations was accurately and completely defined, included the required length of consumer enrollment, and captured all consumers to whom the study question applied.

Requirement(s) (for Critical Elements)

There were no requirements identified for this activity during this review.

Recommendation(s) (for Noncritical Elements)

There were no recommendations identified for this activity during this review.

Activity V. Valid Sampling Techniques

Sampling Technique(s)

FBH did not use a true random sample; rather, a computer-generated random sample from the study population was used. Those consumers sampled previously were removed from the study population. The sample size was determined by estimating a 20 percent return rate with a goal to achieve 60 returned surveys per quarter for a total sample size of 120 for the six-month period.

Finding(s)

All evaluation elements for this activity were *Met*, including one critical element.

Strength(s)

The frequency of occurrence was provided in the PIP. The sample size was identified as 120. The confidence level was reported as 95 percent with an acceptable margin of error reported as +/-.209 to +/-.220. The sampling technique used ensured a representative sample and was in accordance with generally accepted principles of research design and statistical analysis.

Requirement(s) (for Critical Elements)

There were no requirements identified for this activity during this review.

Recommendation(s) (for Noncritical Elements)

There were no recommendations identified for this activity during this review.

Activity VI. Accurate/Complete Data Collection

Data Collection

FBH used administrative data pulled from claims/encounters to capture all necessary data elements defined in the PIP study. Survey data were entered by an administrative assistant into SPSS.

Finding(s)

Six of the 11 evaluation elements were *Met* for this activity. Five evaluation elements, including one critical element, were *Not Applicable* because manual data collection was not used for this PIP.

Strength(s)

The data elements collected were clearly identified, and a systematic process with a timeline for baseline and remeasurement data collection was provided in the PIP documentation. A description of the administrative data collection process was provided, as was the estimated degree of administrative data completeness, which was reported as 96.6 percent.

Requirement(s) (for Critical Elements)

There were no requirements identified for this activity during this review.

Recommendation(s) (for Noncritical Elements)

There were no recommendations identified for this activity during this review.

Activity VII. Appropriate Improvement Strategies

Improvement Strategies

FBH implemented several improvement strategies to three groups:

1. Consumers were provided with educational brochures that discussed recovery—what it is, how providers may help, and how they could help themselves; posters with recovery messages; and notepads with recovery tips.

2. Providers were provided with recovery training, and were encouraged to update consumer treatment goals on an ongoing basis.

3. Support for the development of a peer specialist.

Finding(s)

Three of the four evaluation elements of this activity were *Met* and one evaluation element was *Not Applicable* because interventions had not yet been standardized at the time of the review.

Strength(s)

Improvement strategies were based on a causal/barrier analysis identified through quality improvement processes. System changes noted in the PIP were likely to induce permanent changes.

Requirement(s) (for Critical Elements)

There were no requirements identified for this activity during this review.

Recommendation(s) (for Noncritical Elements)

There were no recommendations identified for this activity during this review.

Activity VIII. Sufficient Data Analysis and Interpretation

Data Analysis and Interpretation

FBH completed data analysis on the baseline and the first and second remeasurements for the three study indicators. Table 3-1 illustrates results for the study indicators.

Table 3-1—Study Indicator Results

Study Indicators	Baseline Results	Remeasurement 1 Results	Remeasurement 2 Results
	January 2005 to June 2005*	July 2006 to December 2006*	January 2007 to June 2007*
Study Indicator 1: "Total score on MHSIP item #10 ('Staff here believe I can grow, change, and recover.')."	2.07	1.93	1.96
Study Indicator 2: "Total score on MHSIP item #19 ('Staff helped me obtain information so that I can take charge of managing my illness.')."	2.20	1.98	2.24
Study Indicator 3: "Total score on MHSIP item #17 ('I, not staff, decided my treatment goals.')."	2.31	1.95	2.12

*The results are based on mean scores.

Finding(s)

All evaluation elements for this activity were *Met,* including two critical elements.

Strength(s)

The data findings were presented in an accurate, clear, and easily understood format. The PIP identified factors that threatened the internal and external validity of the findings. Data analysis was conducted according to the analysis plan in the study and *t* testing was used to determine statistical significance.

Requirement(s) (for Critical Elements)

There were no requirements identified for this activity during this review.

Recommendation(s) (for Noncritical Elements)

Future submissions of the PIP should provide an explanation as to why there was a 13-month gap from baseline to the first remeasurement, while there was no gap from the first to the second remeasurement.

Activity IX. Real Improvement Achieved

Real Improvement Achieved

There was statistically significant improvement noted for Study Indicator 3 from baseline to the first remeasurement period. All other improvement noted was not statistically significant.

Finding(s)

One evaluation element for this activity was *Met* and three evaluation elements were *Partially Met.*

Strength(s)

The improvement noted from baseline to the first remeasurement period for all three study indicators appeared to be the result of planned interventions.

Requirement(s) (for Critical Elements)

There were no requirements identified for this activity during this review.

Recommendation(s) (for Noncritical Elements)

There was statistically significant improvement noted for Study Indicator 3 from baseline to the first remeasurement period. All other improvement noted was not statistically significant. Further assessment and/or intervention changes may be desired.

Activity X. Sustained Improvement Achieved

Sustained Improvement Achieved

The PIP has not yet demonstrated sustained improvement over comparable time periods. The noted improvement and declines across all study indicators were not statistically significant, with the exception of Study Indicator 3 from baseline to the first remeasurement period.

Finding(s)

The evaluation element for this activity was *Partially Met*

Strength(s)

There was statistically significant improvement noted for Study Indicator 3 from baseline to the first remeasurement.

Requirement(s) (for Critical Elements)

There were no requirements identified for this activity during this review.

Recommendation(s) (for Noncritical Elements)

Updated statistical testing for Study Indicators 1 and 2 showed that declines in performance from the first remeasurement to the second remeasurement were not statistically significant. Study Indicator 3 demonstrated a statistically significant improvement in performance from baseline to the first remeasurement, without significantly declining for the second remeasurement. Further assessment and/or intervention changes may be desired.

Section 4: Colorado FY 07-08 PIP Validation Tool: Supporting Recovery for Foothills Behavioral Health, LLC

DEMOGRAPHIC INFORMATION			
Health Plan Name:	Foothills Behavioral Health, LLC		
Study Leader Name:	Barbara Smith	Title:	Dir. Quality Assurance and Performance Improvement
Phone Number:	(303) 432-5952	E-mail Address:	bsmith@fbhcolorado.org
Name of Project/Study:	Supporting Recovery		
Type of Study:	Clinical		
Date of Study:	7/1/2006 to 6/30/2007		
Type of Delivery System:	BHO	Number of Medicaid Consumers in BHO:	3,448
		Number of Medicaid Consumers in Study:	1,574
Year 3 Validation:	Resubmission		
Results:	Remeasurement 2		

EVALUATION ELEMENTS		SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation			
I.	**Appropriate Study Topic: Topics selected for the study should reflect the Medicaid enrollment in terms of demographic characteristics, prevalence of disease, and the potential consequences (risks) of the disease. Topics could also address the need for a specific service. The goal of the project should be to improve processes and outcomes of health care. The topic may be specified by the State Medicaid agency or on the basis of Medicaid consumer input.**		
	1. Reflects high-volume or high-risk conditions (or was selected by the State). NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study topic reflected high-risk conditions.
	2. Is selected following collection and analysis of data. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study topic was selected following the collection and analysis of data.
	3. Addresses a broad spectrum of care and services (or was selected by the State). The score for this element will be Met or Not Met.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study topic addressed a broad spectrum of care and services over time.
	4. Includes all eligible populations that meet the study criteria. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	All eligible populations that met the study criteria were included in the PIP.
	5. Does not exclude consumers with special health care needs. The score for this element will be Met or Not Met.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	Consumers with special health care needs were not excluded.
C*	6. Has the potential to affect consumer health, functional status, or satisfaction. The score for this element will be Met or Not Met.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study topic had the potential to affect consumer satisfaction.

Results for Activity I				
# of Elements				
Critical Elements**	**Met**	**Partially Met**	**Not Met**	**Not Applicable**
1	6	0	0	0

* "C" in this column denotes a critical evaluation element.

** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS		SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation			
II.	**Clearly Defined, Answerable Study Question: Stating the study question(s) helps maintain the focus of the PIP and sets the framework for data collection, analysis, and interpretation.**		
	1. States the problem to be studied in simple terms. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study question was stated in simple terms and maintained the focus of the PIP.
C*	2. Is answerable. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study question was answerable.

Results for Activity II				
# of Elements				
Critical Elements**	**Met**	**Partially Met**	**Not Met**	**Not Applicable**
1	2	0	0	0

* "C" in this column denotes a critical evaluation element.

** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS		SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation			
III.	**Clearly Defined Study Indicator(s): A study indicator is a quantitative or qualitative characteristic or variable that reflects a discrete event (e.g., an older adult has not received a flu shot in the last 12 months) or a status (e.g., a consumer's blood pressure is or is not below a specified level) that is to be measured. The selected indicators should track performance or improvement over time. The indicators should be objective, clearly and unambiguously defined, and based on current clinical knowledge or health services research.**		
C*	1. Are well-defined, objective, and measurable. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study indicators were well-defined, objective, and measurable.
	2. Are based on current, evidence-based practice guidelines, pertinent peer review literature, or consensus expert panels.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study indicators were based on practice guidelines.
C*	3. Allow for the study question to be answered. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study indicators allowed for the study question to be answered.
	4. Measure changes (outcomes) in health or functional status, consumer satisfaction, or valid process alternatives. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study indicators measured changes (outcomes) in consumer satisfaction.
C*	5. Have available data that can be collected on each indicator. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	There were data available to be collected on each study indicator.
	6. Are nationally recognized measures such as HEDIS specifications, when appropriate. The scoring for this element will be Met or NA.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study indicators were based on nationally recognized questions from the MHSIP Medicaid consumer survey.
	7. Includes the basis on which the indicator(s) was adopted, if internally developed.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	The study indicators were not internally developed. The study indicators included items from the MHSIP Medicaid consumer survey.

Results for Activity III				
# of Elements				
Critical Elements**	**Met**	**Partially Met**	**Not Met**	**Not Applicable**
3	6	0	0	1

* "C" in this column denotes a critical evaluation element.

** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS		SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation			
IV.	**Use a representative and generalizable study population: The selected topic should represent the entire eligible Medicaid enrollment population with systemwide measurement and improvement efforts to which the PIP study indicators apply.**		
C*	1. Is accurately and completely defined. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The method for identifying the eligible population was completely and accurately defined.
	2. Includes requirements for the length of a consumer's enrollment in the BHO.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The method for identifying the eligible population included the required length of enrollment based on those used by the Colorado Division of Mental Health.
C*	3. Captures all consumers to whom the study question applies. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The method for identifying the eligible population captured all consumers to whom the study question applied.

Results for Activity IV				
# of Elements				
Critical Elements**	**Met**	**Partially Met**	**Not Met**	**Not Applicable**
2	3	0	0	0

* "C" in this column denotes a critical evaluation element.

** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS		SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation			
V.	**Valid Sampling Techniques: (This activity is only scored if sampling was used.) If sampling is to be used to select consumers of the study, proper sampling techniques are necessary to provide valid and reliable information on the quality of care provided. The true prevalence or incidence rate for the event in the population may not be known the first time a topic is studied.**		
	1. Consider and specify the true or estimated frequency of occurrence.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The frequency of occurrence was provided in the PIP documentation.
	2. Identify the sample size.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The sample size was reported as 120.
	3. Specify the confidence level.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The confidence level was reported as 95 percent.
	4. Specify the acceptable margin of error.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The acceptable margin of error was reported as +/- .209 to +/- .220.
C*	5. Ensure a representative sample of the eligible population.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The sampling techniques ensured a representative sample of the eligible population.
	6. Are in accordance with generally accepted principles of research design and statistical analysis.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The sampling techniques used were in accordance with generally accepted principles of research design and statistical analysis.

Results for Activity V				
# of Elements				
Critical Elements**	**Met**	**Partially Met**	**Not Met**	**Not Applicable**
1	6	0	0	0

* "C" in this column denotes a critical evaluation element.

** This number is a tally of the total number of critical evaluation elements for this review activity.

	EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation			
VI.	**Accurate/Complete Data Collection: Data collection must ensure that the data collected on the PIP indicators are valid and reliable. Validity is an indication of the accuracy of the information obtained. Reliability is an indication of the repeatability or reproducibility of a measurement.**		
	1. Clearly defined data elements to be collected. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The data elements collected were identified in the PIP documentation.
	2. Clearly identified sources of data. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The sources for data collection were specified as survey and administrative data.
	3. A clearly defined and systematic process for collecting data that includes how baseline and remeasurement data will be collected. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	A defined and systematic process for collecting data was provided in the PIP.
	4. A timeline for the collection of baseline and remeasurement data. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	A timeline for the collection of baseline and remeasurement data was provided.
	5. Qualified staff and personnel to abstract manual data.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Manual data collection was not used for this PIP.
C*	6. A manual data collection tool that ensures consistent and accurate collection of data according to indicator specifications.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Manual data collection was not used for this PIP.
	7. A manual data collection tool that supports interrater reliability.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Manual data collection was not used for this PIP.
	8. Clear and concise written instructions for completing the manual data collection tool.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Manual data collection was not used for this PIP.
	9. An overview of the study in written instructions.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Manual data collection was not used for this PIP.
	10. Administrative data collection algorithms/flow charts that show activities in the production of indicators.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	A description of the administrative data collection process was provided in the PIP documentation.

* "C" in this column denotes a critical evaluation element.

** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS		SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation			
VI.	**Accurate/Complete Data Collection: Data collection must ensure that the data collected on the PIP indicators are valid and reliable. Validity is an indication of the accuracy of the information obtained. Reliability is an indication of the repeatability or reproducibility of a measurement.**		
	11. An estimated degree of administrative data completeness. Met = 80 - 100% Partially Met = 50 - 79% Not Met = <50% or not provided	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The estimated degree of administrative data completeness was reported as 96.6 percent, and the supporting documentation of how this percentage was calculated was included in the PIP documentation.

Results for Activity VI				
# of Elements				
Critical Elements**	**Met**	**Partially Met**	**Not Met**	**Not Applicable**
1	6	0	0	5

* "C" in this column denotes a critical evaluation element.

** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS		SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation			
VII.	**Appropriate Improvement Strategies: Real, sustained improvements in care result from a continuous cycle of measuring and analyzing performance, and developing and implementing systemwide improvements in care. Interventions are designed to change behavior at an institutional, practitioner, or consumer level.**		
	1. Related to causes/barriers identified through data analysis and quality improvement processes. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The improvement strategies noted in the PIP were based on causes/barriers identified through data analysis and quality improvement processes.
	2. System changes that are likely to induce permanent change.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The system changes noted in the PIP were likely to induce permanent change.
	3. Revised if the original interventions were not successful.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	New interventions and improvement strategies implemented were based on data analysis and quality improvement meetings.
	4. Standardized and monitored if interventions were successful.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Interventions had not been standardized at the time of the review.

Results for Activity VII				
# of Elements				
Critical Elements**	**Met**	**Partially Met**	**Not Met**	**Not Applicable**
0	3	0	0	1

** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS			SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation				
VIII.	**Sufficient Data Analysis and Interpretation: Describe the data analysis process on the selected clinical or nonclinical study indicators. Include the statistical analysis techniques used.**			
C*	1.	Is conducted according to the data analysis plan in the study design. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The data analysis was conducted according to the data analysis plan in the study.
C*	2.	Allows for the generalization of results to the study population if a sample was selected. If no sampling was performed, this element is scored NA.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	Statistical techniques used support generalization of the results to the study population.
	3.	Identifies factors that threaten internal or external validity of findings.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	Factors that threatened the internal and external validity of the findings were identified in the PIP.
	4.	Includes an interpretation of findings.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	An interpretation of the findings was included in the PIP documentation.

* "C" in this column denotes a critical evaluation element.

** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS		SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation			
VIII.	**Sufficient Data Analysis and Interpretation: Describe the data analysis process on the selected clinical or nonclinical study indicators. Include the statistical analysis techniques used.**		
	5. Is presented in a way that provides accurate, clear, and easily understood information.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The data were presented in an accurate, clear, and easily understood format. Point of clarification: Future submissions of the PIP should provide an explanation as to why there was a 13-month gap from baseline to the first remeasurement while there was not a gap from the first remeasurement to the second remeasurement. The baseline period was from January 1, 2005 through June 30, 2005. The first remeasurement period was from July 1, 2006 through December 31, 2006, and the second remeasurement period was from January 1, 2007 through June 30, 2007. Re-review March 2008: After review of the resubmitted PIP documentation, the point of clarification will remain. The resubmitted PIP did not provide an explanation as to why there was a 13-month gap from baseline to the first remeasurement when there was no gap from the first to the second remeasurements.
	6. Identifies initial measurement and remeasurement of study indicators.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The initial measurement and remeasurement were identified for each study indicator.

* "C" in this column denotes a critical evaluation element.

** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS		SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation			
VIII.	**Sufficient Data Analysis and Interpretation: Describe the data analysis process on the selected clinical or nonclinical study indicators. Include the statistical analysis techniques used.**		
	7. Identifies statistical differences between initial measurement and remeasurement.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	Statistical testing was performed and statistical differences between the initial measurement (baseline) and remeasurements were discussed; however, HSAG was unable to replicate all t test values. It appeared that the differences could have been significant digit rounding errors for Study Indicators 1 and 2 from baseline to the first remeasurement period, and for Study Indicator 3 from the first remeasurement period to the second remeasurement period. HSAG was only able to replicate the t test value for Study Indicator 3 from baseline to the first remeasurement period. Re-review March 2008: After review of the resubmitted PIP documentation, the score for this evaluation element has been changed from Partially Met to Met. The statistical values reported in the resubmitted PIP were accurate and could be replicated by HSAG.
	8. Identifies factors that affect the ability to compare initial measurement with remeasurement.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The PIP identified factors that affected the ability to compare measurement periods.
	9. Includes interpretation of the extent to which the study was successful.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	An interpretation of the extent to which the study was successful was provided in the PIP.

* "C" in this column denotes a critical evaluation element.

** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		

Results for Activity VIII				
# of Elements				
Critical Elements**	**Met**	**Partially Met**	**Not Met**	**Not Applicable**
2	9	0	0	0

* "C" in this column denotes a critical evaluation element.

** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS		SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation			
IX.	**Real Improvement Achieved: Describe any meaningful change in performance observed and demonstrated during baseline measurement. Discuss any random year-to-year variation, population changes, and sampling error that may have occurred during the measurement process.**		
	1. Remeasurement methodology is the same as baseline methodology.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The remeasurement methodology was the same as the baseline methodology.
	2. There is documented improvement in processes or outcomes of care.	☐ Met ☑ Partially Met ☐ Not Met ☐ NA	Study Indicator 1 demonstrated improvement from baseline to the first remeasurement; however, there was a slight decline in results (less agreement) for the second remeasurement period. Study Indicator 2 demonstrated improvement from baseline to the first remeasurement; however, there was a decline in results (less agreement) for the second remeasurement period. Study Indicator 3 also demonstrated improvement from baseline to the first remeasurement, but there was a decline in results (less agreement) for the second remeasurement period. Re-review March 2008: After review of the resubmitted PIP documentation, the score for this evaluation element will remain Partially Met. There was nonstatistically significant improvement for Study Indicators 1 and 2, and statistically significant improvement for Study Indicator 3 from baseline to the first remeasurement; however, all three indicators demonstrated nonstatistically significant decreases in performance from the first remeasurement to the second remeasurement with Study Indicator 2 performing below baseline.

** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS		SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation			
IX.	**Real Improvement Achieved: Describe any meaningful change in performance observed and demonstrated during baseline measurement. Discuss any random year-to-year variation, population changes, and sampling error that may have occurred during the measurement process.**		
	3. The improvement appears to be the result of planned intervention(s).	☐ Met ☑ Partially Met ☐ Not Met ☐ NA	The improvement noted from baseline to the first remeasurement period for all three study indicators appeared to be the result of the planned interventions. Re-review March 2008: After review of the resubmitted PIP documentation, the score for this evaluation element will remain Partially Met. The improvement noted for all three study indicators from baseline to the first remeasurement period appeared to be the result of the planned interventions.
	4. There is statistical evidence that observed improvement is true improvement.	☐ Met ☑ Partially Met ☐ Not Met ☐ NA	There was statistically significant improvement noted for Study Indicator 3 from baseline to the first remeasurement period. All other remeasurement periods for each study indicator demonstrated non-statistically significant changes. Re-review March 2008: After review of the resubmitted PIP documentation, the score for this evaluation element will remain Partially Met. Study Indicator 3 demonstrated statistically significant improvement from baseline to the first remeasurement. All other improvement noted was not statistically significant.

** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		

Results for Activity IX				
# of Elements				
Critical Elements**	**Met**	**Partially Met**	**Not Met**	**Not Applicable**
0	1	3	0	0

** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
X. **Sustained Improvement Achieved: Describe any demonstrated improvement through repeated measurements over comparable time periods. Discuss any random year-to-year variation, population changes, and sampling error that may have occurred during the remeasurement process.**		
1. Repeated measurements over comparable time periods demonstrate sustained improvement, or that a decline in improvement is not statistically significant.	☐ Met ☑ Partially Met ☐ Not Met ☐ NA	The PIP has not demonstrated sustained improvement over comparable time periods at this time. The noted improvements and declines across all study indicators were not statistically significant, except for Study Indicator 3 from baseline to the first remeasurement period, which demonstrated a statistically significant improvement. Re-review March 2008: After review of the resubmitted PIP documentation, the score for this evaluation element was changed from Not Met to Partially Met. Updated statistical testing for Study Indicators 1 and 2 show that declines in performance from the first remeasurement to the second remeasurement were not significant. Study indicator 3 showed a statistically significant improvement in performance from baseline to the first remeasurement without significantly declining for the second remeasurement.

Results for Activity X				
# of Elements				
Critical Elements**	**Met**	**Partially Met**	**Not Met**	**Not Applicable**
0	0	1	0	0

** This number is a tally of the total number of critical evaluation elements for this review activity.

Table 4-1—FY 07-08 PIP Validation Report Scores: Supporting Recovery for Foothills Behavioral Health, LLC											
Review Activity		**Total Possible Evaluation Elements (Including Critical Elements)**	**Total Met**	**Total Partially Met**	**Total Not Met**	**Total NA**	**Total Possible Critical Elements**	**Total Critical Elements Met**	**Total Critical Elements Partially Met**	**Total Critical Elements Not Met**	**Total Critical Elements NA**
I.	Appropriate Study Topic	6	6	0	0	0	1	1	0	0	0
II.	Clearly Defined, Answerable Study Question	2	2	0	0	0	1	1	0	0	0
III.	Clearly Defined Study Indicator(s)	7	6	0	0	1	3	3	0	0	0
IV.	Use a representative and generalizable study population	3	3	0	0	0	2	2	0	0	0
V.	Valid Sampling Techniques	6	6	0	0	0	1	1	0	0	0
VI.	Accurate/Complete Data Collection	11	6	0	0	5	1	0	0	0	1
VII.	Appropriate Improvement Strategies	4	3	0	0	1	0	No Critical Elements			
VIII.	Sufficient Data Analysis and Interpretation	9	9	0	0	0	2	2	0	0	0
IX.	Real Improvement Achieved	4	1	3	0	0	0	No Critical Elements			
X.	Sustained Improvement Achieved	1	0	1	0	0	0	No Critical Elements			
Totals for All Activities		**53**	**42**	**4**	**0**	**7**	**11**	**10**	**0**	**0**	**1**

Table 4-2—FY 07-08 PIP Validation Report Overall Scores: Supporting Recovery for Foothills Behavioral Health, LLC	
Percentage Score of Evaluation Elements Met*	**91%**
Percentage Score of Critical Elements Met**	**100%**
Validation Status***	***Met***

* The percentage score is calculated by dividing the total Met by the sum of the total Met, Partially Met, and Not Met.

** The percentage score of critical elements Met is calculated by dividing the total critical elements Met by the sum of the critical elements Met, Partially Met, and Not Met.

*** Met equals confidence/high confidence that the PIP was valid.
Partially Met equals low confidence that the PIP was valid.
Not Met equals reported PIP results that were not credible.

EVALUATION OF THE OVERALL VALIDITY AND RELIABILITY OF PIP RESULTS
HSAG assessed the implications of the study's findings on the likely validity and reliability of the results based on CMS Protocols. HSAG also assessed whether the State should have confidence in the reported PIP findings.
***Met* = Confidence/high confidence in reported PIP results** ****Partially Met = Low confidence in reported PIP results** *****Not Met = Reported PIP results not credible**

Summary of Aggregate Validation Findings

*	X	*Met*	**		*Partially Met*
***		*Not Met*			

Summary statement on the validation findings:

Activities I through X were assessed for this PIP Validation Report. Based on the validation of this PIP, HSAG's assessment determined confidence in the results.

Appendices

for Foothills Behavioral Health, LLC

Introduction

The appendices consist of documentation supporting the validation process conducted by HSAG using the CMS Protocol for validating PIPs. Appendix A is the study ***FBH*** submitted to HSAG for review, Appendix B is the CMS rationale for each activity, and Appendix C includes PIP definitions and explanations.

- Appendix A: **Foothills Behavioral Health, LLC's** PIP Study: ***Supporting Recovery***
- Appendix B: CMS Rationale by Activity
- Appendix C: Definitions and Explanations by Activity

Appendix A: PIP Summary Form: Supporting Recovery *for* Foothills Behavioral Health, LLC

DEMOGRAPHIC INFORMATION			
BHO Name and ID:	Foothills Behavioral Health		
Study Leader Name:	Barbara Smith, PhD, RN	Title:	Director of Quality Assurance and Performance Improvement
Telephone Number:	303.432.5952	E-mail Address:	bsmith@fbhcolorado.org
Name of Project/Study:	Supporting Recovery		
Type of Study:	☒ Clinical	☐ Nonclinical	
Date of Study Period:	From **July 1, 2006** to **June 30, 2007** **All Updates in this document are are in bold and underlined.** *Resubmission updates in italics and underlined 3/31/08*		

3,448 (consumers as of January, 2007) Number of Medicaid Consumers served by BHO 1,574 (average number of adult consumers eligible for the study on a quarterly basis as of January, 2007) Number of Medicaid Consumers served by BHO	**Section to be completed by HSAG** _____ Year 1 Validation _____ Initial Submission _____ Resubmission _____Year 2 Validation _____Initial Submission _____ Resubmission __X__ Year 3 Validation _____ Initial Submission __X__ Resubmission
	Section to be completed by HSAG _____ Baseline Assessment _____ Remeasurement 1 __X__ Remeasurement 2 _____ Remeasurement 3

Appendix A: PIP Summary Form: Supporting Recovery *for* Foothills Behavioral Health, LLC

A. Activity I: Choose the study topic. PIP topics should target improvement in relevant areas of services and reflect the population in terms of demographic characteristics, prevalence of disease, and the potential consequences (risks) of the disease. Topics may be derived from utilization data (ICD-9 or CPT coding data related to diagnoses and procedures; NDC codes for medications; state HCPC codes for medications, medical supplies, and medical equipment; adverse events; admissions; readmissions; etc.); grievances and appeals data; survey data; provider access or appointment availability data; consumer characteristics data such as race/ethnicity/language; other fee-for-service data; local or national data related to Medicaid risk populations; etc. The goal of the project should be to improve processes and outcomes of health care or services in order to have a potentially significant impact on consumer health, functional status, or satisfaction. The topic may be specified by the State Medicaid agency or CMS and be based on input from consumers. Over time, topics must cover a broad spectrum of key aspects of consumer care and services, including clinical and nonclinical areas, and should include all enrolled populations (i.e., certain subsets of consumers should not be consistently excluded from studies).

Study Topic: FBH's mission, vision, and values reflect FBH's focus on promoting recovery for its Members. Examples of mental health treatment aspects that support consumer recovery include a provider network that believes in and promotes consumer potential for recovery, consumer involvement in and self-advocacy for determining treatment and treatment goals, and an effective program of services that assists/educates consumers on their illness, symptom management, and recovery. Three year trends in Medicaid consumer responses on the MHSIP adult survey suggest that consumers may not be experiencing the level of recovery support FBH would like within its provider network.

Since FY '03 the FBH Network MHC's (MHCBBC and JCMH) MHSIP survey results indicate decreasing satisfaction in the Appropriate/Quality domain survey items, with MHCBBC percent satisfaction in this domain decreasing from 68.2% to 59.1% in FY '05 and JCMH Medicaid respondents indicating a similar decrease, from 77.5% to 63.9%. Specific items within the Appropriateness/Quality domain that consistently indicate a lower satisfaction rating are: "Staff here believe I can grow, change, and recover" and "Staff helped me obtain information so that I could take charge of managing my illness." In addition, FY '05 results, for both Network MHCs, indicate a significant decline in satisfaction with a specific MHSIP Participation domain item: "I, not staff, decided my treatment goals." All three of these survey items reflect key elements of recovery.

Because promotion of recovery is a key objective for FBH and consumer perspective appears to suggest a need for improvement in this area, FBH decided to conduct a performance improvement project to improve consumer satisfaction with Network provider service Appropriateness/Quality and Participation elements related to recovery. A project team was formed and a cause analysis was conducted to determine main causes to this performance problem (see Attachment **A** Recovery PIP - cause analysis). Once the cause analysis was completed, key strategies were designed to address the main causes. Those strategies are outlined in **Attachment B Project Steps Causes and Strategies.** Below are the study questions formulated to evaluate the effectiveness of the strategies in improving consumer perception of the Network MHC provider support of key recovery care processes.

B. Activity II: Define the study question(s). Stating the question(s) helps maintain the focus of the PIP and sets the framework for data collection, analysis, and interpretation.

Study Question:

Does implementation of strategies to educate and inform Network MHC providers on methods for timely communication of recovery elements with consumers, including ways to increase consumer involvement in setting treatment goals and strategies to educate and inform consumers as to methods for managing their illness and progressing in their recovery, within FBH's Network MHCs:

1. Improve consumer level of agreement rating (increase satisfaction) with the MHSIP survey item "Staff here believe I can grow, change, and recover?"
2. Improve consumer level of agreement rating (increase satisfaction) with the MHSIP survey item "Staff helped me obtain information so that I can take charge of managing my illness?"
3. Improve consumer level of agreement rating (increase satisfaction) with the MHSIP survey item "I, not staff, decided my treatment goals?"

Appendix A: PIP Summary Form: Supporting Recovery *for* Foothills Behavioral Health, LLC

C. Activity III: Select the study indicator(s). A study indicator is a quantitative or qualitative characteristic or variable that reflects a discrete event (e.g., an older adult has not received an influenza vaccination in the last twelve months), or a status (e.g., a consumer's blood pressure is/is not below a specified level) that is to be measured. The selected indicators should track performance or improvement over time. The indicators should be objective, clearly and unambiguously defined, and based on current clinical knowledge or health services research.

Study Indicator #1:	Adult Consumer rating on the MHSIP adult survey 5-point Likert agreement scale for the MHSIP survey item "Staff here believe I can grow, change, and recover."
Numerator:	Total score on MHSIP item #10 (Staff here believe I can grow, change, and recover).
Denominator:	Number of respondents rating MHSIP item #10.
First Measurement Period Dates:	**July 1** through December 31 2006 - measurement beginning **November,**200**6 for consumers with an encounter in the 1st Qtr, FY '07 and completed in February, 2007 for consumers with an encounter in the 2nd Qtr, FY '07 (See Attachment C for updated procedures for data collection and data analysis)**
Baseline Benchmark:	**Baseline: 2.07 mean score from the FY '06 MHSIP survey**
Source of Benchmark:	**FY '06 State MHSIP survey FBH consumer survey**
Baseline Goal:	Significantly decrease (decrease = improved satisfaction) the mean score for MHSIP item #10 from **baseline** benchmark or pre-intervention to post intervention
Study Indicator #2:	Adult Consumer rating on the MHSIP adult survey 5-point Likert agreement scale for the MHSIP survey item "Staff helped me obtain information so that I can take charge of managing my illness."
Numerator:	Total score on MHSIP item #19 (Staff helped me obtain information so that I could take charge of managing my illness).
Denominator:	Number of respondents rating MHSIP item #19.
First Measurement Period Dates:	**July 1** through December 31 2006 - measurement beginning **November** 200**6 for consumers with an encounter in the 1st qtr, FY '07 and completed in February, 2007 for consumers with an encounter in the 2nd Qtr, FY '07 (See attachment C for updated procedures for data collection and data analysis)**
Benchmark:	**Baseline: 2.20 mean score from the FY '06 MHSIP survey**
Source of Benchmark:	**FY 06 State MHSIP survey FBH consumer survey**
Baseline Goal:	Significantly decrease (decrease = improved satisfaction) the mean score for MHSIP item #19 form **baseline** benchmark or pre-intervention to post intervention

Appendix A: PIP Summary Form: Supporting Recovery *for* Foothills Behavioral Health, LLC

C. Activity III: Select the study indicator(s). A study indicator is a quantitative or qualitative characteristic or variable that reflects a discrete event (e.g., an older adult has not received an influenza vaccination in the last twelve months), or a status (e.g., a consumer's blood pressure is/is not below a specified level) that is to be measured. The selected indicators should track performance or improvement over time. The indicators should be objective, clearly and unambiguously defined, and based on current clinical knowledge or health services research.

Study Indicator #3:	Adult Consumer rating on the MHSIP adult survey 5-point Likert agreement scale for the MHSIP survey item "I, not staff, decided my treatment goals."
Numerator:	Total score on MHSIP item #17 (I, not staff, decided my treatment goals").
First Measurement Period Dates:	**July 1** through December 31 2006 - measurement beginning **November**, 200**6 for consumers with an encounter in the 1st qtr, FY '07 and completed in February, 2007 for consumers with an encounter in the 2nd Qtr, FY '07 (See attachment C for updated procedures for data collection and data analysis)**
Benchmark:	**Baseline: 2.31 mean score from the FY '06 MHSIP survey**
Source of Benchmark:	**FY '06 State MHSIP FBH consumer survey**
Baseline Goal:	Significantly decrease (decrease = improved satisfaction) the mean score for MHSIP item #17 from **baseline** benchmarks or pre-intervention to post intervention

D. Activity IV: Use a representative and generalizable study population. The selected topic should represent the entire Medicaid enrolled population, with system wide measurement and improvement efforts to which the study indicators apply. Once the population is identified, a decision must be made whether to review data for the entire population or a sample of that population. The length of a consumer's enrollment needs to be defined in order to meet the study population criteria.

1. **Identified Study Population:** The study population includes all adult Members (18 years and older) who received at least one mental health service from a FBH provider during the study period, beginning with the first study period (**July** through December, 2006) who were FBH Medicaid eligible Members **at the time of their encounter.** The study population parameters are based on those used by Colorado Department of Mental Health (DMH) in their annual administration of the MHSIP survey. The only difference is that DMH **has one 6-month study period/year; FBH has two 6-month study periods/year. In addition, FBH will administer the survey twice in the 6-month study period, using two randomly chosen samples (See attachment C for updated procedures for data collection).** The study population for **the six month study period (July –December, 2006) was 2422.**

Appendix A: PIP Summary Form: Supporting Recovery *for* Foothills Behavioral Health, LLC

E. Activity V: Use sound sampling methods. If sampling is to be used to select consumers of the study, proper sampling techniques are necessary to provide valid and reliable information on the quality of care provided. The true prevalence or incidence rate for the event in the population may not be known the first time a topic is studied.

Measure	Sample Error and Confidence Level	Sample Size	Population	Method for Determining Size (*describe*)	Sampling Method (*describe*)
Study Indicator #1-3: MHSIP Adult Consumer Survey	Sample error estimated from three items from FY '06 state survey ranging from .107 to .112, with a sample size of 105. **We expect a similar std error for our sample, giving a 95% c**onfidence **interval of** +/-.209 **to +/- .220**	n=**120/ 6 month study period,** based on recent survey results of a 20% return rate	n=1574/quarter	The sample size was determined estimating a 20% return rate, based on internal survey history. The goal **is to achieve** 60 returned surveys/**quarter for a total sample size of 120 for the 6 month study period.**	Computer generated random sample from the study population with those sampled previously removed from the study population. Not a true random sample.

Appendix A: PIP Summary Form: Supporting Recovery *for* Foothills Behavioral Health, LLC

F. Activity VIa: Data Collection Procedures. Data collection must ensure that the data collected on the PIP indicators are valid and reliable. Validity is an indication of the accuracy of the information obtained. Reliability is an indication of the repeatability or reproducibility of a measurement.

Data Sources

[☐] Hybrid (medical/treatment records and administrative)

[☐] Medical/treatment record abstraction
Record Type
[☐] Outpatient
[☐] Inpatient
[☐] Other _____

Other Requirements
[☐] Data collection tool attached
[☐] Data collection instructions attached
[☐] Summary of data collection training attached
[☐] IRR process and results attached

[☐] Other data

Description of Data Collection Staff

[☒] Administrative data

Data Source
[☒] Programmed pull from claims/encounters (for survey sample)
[☐] Complaint/appeal
[☐] Pharmacy data
[☐] Telephone service data /call center data
[☐] Appointment/access data
[☐] Delegated entity/vendor data _____
[☐] Other _MHSIP Adult consumer survey_____

Other Requirements
[☒] Data completeness assessment attached **(see Attachment D)**
[☐] Coding verification process attached

[☒] Survey Data

Fielding Method
[☐] Personal interview
[☒] Mail (see Attachment **E**_ Recovery MHSIP Survey JCMH English final.doc and Attachment **F** intro letter- JCMH_Recovery MHSIP.doc)
[☐] Phone with CATI script
[☐] Phone with IVR
[☐] Internet
[☐] Other _____

Other Requirements
[☒] Number of waves one wave_____
[☒] Response rate 20%_____
[☒] Incentives used _none_____

Data entry of survey conducted by the Administrative Assistant. QA of the data entry conducted by QI Data Analyst, checking 10% of surveys against entered data to assess for errors. If any errors found all data entered will be checked again the surveys (see Attachment **C** for updated data collection procedures).

F. Activity VIb: Determine the data collection cycle.	Determine the data analysis cycle.
[☐] Once a year [☐] Twice a year [☐] Once a season [☒] Once a quarter [☐] Once a month [☐] Once a week [☐] Once a day [☐] Continuous [☐] Other (list and describe): See Attachment C_Data Collection Procedures_Recovery PIP.doc for updated data collection procedures	[☐] Once a year [☐] Once a season [☐] Once a quarter [☐] Once a month [☐] Continuous [☒] Other (list and describe): **Updated to twice a year: Data will be collected quarterly but study period will be for a six month period with analysis occurring twice/year.**

F. Activity VIc. Data Analysis Plan and Other Pertinent Methodological Features

Data analysis will be conducted **every 6 months (twice/year)**, with the goal of achieving a significant change in mean scores, at the .05 level, from the **FY 06 FBH state survey** or **benchmark**, on three MHSIP items. Once a significant change in mean score is achieved, the goal is to sustain that **significant improvement for two 6 month study periods.** The data analysis plan includes the following steps:

1. Surveys will be mailed **quarterly** with a self-addressed stamped envelop to return to the FBH Research Dept.
2. The Administrative Assistant will enter the survey data into SPSS, as the surveys are returned.
3. Only one wave of surveys will be mailed. Effort will be made to locate correct addresses and resend surveys for surveys returned with bad addresses.
4. **Twice/year** analyses, on returned surveys, **from the two quarterly mailings,** will be conducted
5. The t-test will be used to assess change in mean score on the three MHSIP items **between results for each 6 month period (two quarterly mailings) and those on the baseline.** Significance will be determined based on a p=.05 level. Additional analyses will include descriptive information, summarizing consumer characteristics from the demographic data collection form sent with the survey as to whether there are any significant differences between baseline sample respondent characteristics and those in of the respondents from the re-measurement.

G. Activity VII. Improvement Strategies. Real, sustained improvements in care result from a continuous cycle of measuring and analyzing performance, and developing and implementing systemwide improvements in care. Describe interventions designed to change behavior at an institutional, practitioner, or consumer level.

Describe interventions.

Baseline to Remeasurement 1 *updates are in bold and underlined

Below are strategies implemented before or during study period, July 1, 2006-Dec 31, 2006. Re-measurement completed February, 2007.

Information/education for Consumers (to improve consumer ratings on item "Staff here believe I can grow, change, and recover (item 10)" and "Staff helped me obtain information so that I could take charge of managing my illness (item 19)":

1. Develop **and disseminate** an education brochure orienting consumer as to what is recovery, what the provider will do to assist in their recovery, how they can help themselves in recovery, etc. to be distributed by providers at various points along the treatment process. **Brochures completed and began distribution in Fall (Sept/Oct), 2006 at JCMH (see Attachment G_JCMH Recovery brochure.pdf and Attachment G_MHCBBC Recovery brochure.pdf)**

2. Design posters with recovery messages to be framed and hung in Network MHC offices **In JCMH offices Fall (Sept/Oct) 2006 at JCMH; not implemented yet at MHCBBC**

3. Began minimal dissemination of 10 Tips (see Attachment H_10 Tips Recovery Schizophrenic Illness.pdf and Attachment H_10 Tips Recovery Bipolar Illness.pdf)

Information/education for Providers (to improve consumer ratings on item "Staff here believe I can grow, change, and recover" and "I, not staff, decided my treatment goals":

1. Support implementation of recovery trainings, at least annually, with the Network MHCs to educate providers on recovery issues, methods for supporting recovery, and how to involved consumers in treatment planning and goals. **JCMH staff training on Recovery based treatment plans (Oct, 2006); JCMH recovery training conducted by peer specialists October, November 2006 at JCMH. No trainings at MHCBBC in this measurement period.**

2. Train providers at the MHCs to use their electronic client record system to review and revise treatment goals with consumers regularly, not just at the 6-month update. **MHCBBC developed new electronic treatment plans in June, 2006 – partially implemented during study period. No changes at JCMH**

Support development of the Peer Specialist position in Network MHCs (to improve consumer ratings on all three items)

1. **JCMH hired two specialists in June, 2006 and started first staff training in recovery in Fall, 2006; MHCBBC hired 3 peer specialists in Aug, 2006. Began WRAP training with consumers in fall, 2006.**

G. Activity VII. Improvement Strategies. Real, sustained improvements in care result from a continuous cycle of measuring and analyzing performance, and developing and implementing systemwide improvements in care. Describe interventions designed to change behavior at an institutional, practitioner, or consumer level.

Remeasurement 1 to Remeasurement 2

Below are additional strategies implemented during study period January, 2007 through June, 2007. Re-measurement 2 completed end of August, 2007

Information/education for Consumers (to improve consumer ratings on item "Staff here believe I can grow, change, and recover (item 10)" and "Staff helped me obtain information so that I could take charge of managing my illness (item 19)":

1. **Distribution of recovery brochure at both JCMH and MHCBBC (January, 2007)**
2. **Notepads (with recovery tips) and recovery folders used to put educational information developed and began inconsistent distribution January, 2007 (JCMH) and May, 2007 (MHCBBC)**
3. **Posters with recovery messages at MHCBBC offices by May, 2007 (all MHC offices by this date)**
4. **10 Tips (Schizophrenia, Bipolar disorder, Depression) for consumers distributed, inconsistently, in folders at JCMH; less use at MHCBBC January, 2007**

Information/education for Providers (to improve consumer ratings on item "Staff here believe I can grow, change, and recover" and "I, not staff, decided my treatment goals":

1. Staff recovery training: 2/14-2/15 at MHCBBC and JCMH on Recovery and Recovery treatment planning; ongoing monthly recovery discussions for staff at MHCBBC

2. Staff at MHCBBC fully trained to use electronic treatment plan with consumers to update according to their goals; no change at JCMH

Support development of the Peer Specialist position in Network MHCs (to improve consumer ratings on all three items)

1. **Peer specialists: since January, 2007 ongoing consumer classes in Pathways to Recovery at JCMH, supporting consumer Recovery. Not much involvement in distributing educational material; MHCBBC peer specialists on-going community support for consumers but little participation in distributing educational materials**

Remeasurement 2 to Remeasurement 3

H. Activity VIIIa. Data analysis: Describe the data analysis process in accordance with the analysis plan and any adhoc analysis done on the selected clinical or nonclinical study indicators. Include the statistical analysis techniques utilized and *p* values.

Baseline Measurement

Baseline: An excel data file, from HCPF (n=105), with scores from the FY '06 DMH survey, for Members with Medicaid, was merged and saved in an SPSS data file. This data came from the survey distributed in late fall, 2005/early winter, 2006. Survey results were from Members with services from January 2005 through June 2005. Baseline 2 mean scores, standard deviations, and standard error, on items #10, #17, and #19, were computed. The 95% confidence interval for each of the means was determined.

Remeasurement 1

Data, from returned surveys, for the six month study period, July – Dec, 2006, were entered into a SPSS file (see Data collection procedures, Attachment C). The first re-measurement analyzes were conducted in March, 2007, in advance of the next quarterly mailing. Results for the three items, #10, #17, and #19, from the first re-measurement period were merged with results from the same items from the baseline file. A t-test, comparing the means from the three items, from the first re-measurement and baseline, was conducted, to determine whether there were significant differences in mean scores at the p=.05 level. Additional analyzes were conducted to assess any significant differences, at p=.05 level, in available sample characteristics, between the re-measurement sample and baseline sample. More specifically, a chi-square, conducted for survey reported gender, age group, residence, ethnicity, race, marital status, and whether or not still in treatment, between the sample in re-measurement one and baseline, was non significant at the p=.05 level.

Remeasurement 2

Data, from returned surveys, for the six month study period, January-June, 2007, were entered into a SPSS file (see Data collection procedures, Attachment B). The second re-measurement analyzes were conducted in October, 2007, in advance of the next quarterly mailing. Results for the three items, #10, #17, and #19, from the second re-measurement period were merged with results from the same items from the baseline file *and re-measurement 1*. **A t-test, comparing the means from the three items, from the second re-measurement and** *re-measurement 1*, **was conducted, to determine whether there were significant differences in mean scores, at the p=.05 level. Additional analyzes were conducted to assess any significant differences, at p=.05 level, in available sample characteristics, between the** *two* **re-measurement samples and baseline sample. More specifically, a chi-square was conducted between reported gender, age group, residence, ethnicity/race, marital status, and whether or not the consumer was still in treatment, between the re-measurement 2 sample and the baseline sample. Results indicated there were no significant differences, at the p=.05 level, in the two sample characteristics.**

Remeasurement 3

H. Activity VIIIb. Interpretation of study results: Describe the results of the statistical analysis, interpret the findings, and discuss the successfulness of the study and indicate follow-up activities. Also, identify any factors that could influence the measurement or validity of the findings.

Baseline Measurement

Baseline results from State FBH survey, FY 06 (n=102): Mean score for item #10 was 2.07 (95% CI=2.07 +-.21), item #17 was 2.31 (95% CI=2.31+-.22), and #19 mean score was 2.20 (95% CI=2.20+-.22). Sample characteristics included: gender, age group (18-20; 21-30; 31-45; 46-64; 65+), still in treatment, ethnicity/race. Baseline sample description: 68% female, 44% age 46-64, 80% reported race as white, and 87% still in treatment.

Remeasurement 1

Re-measurement mean score results from FBH survey, study period July-December, 2006, for item #10, "staff here believe I can grow, change, and recover," was 1.93 (95% CI=1.93+-.20; n=102). Although the mean score, on re-measurement 1 was lower (increased agreement), the mean difference was non significant. Mean score re-measurement results, on item #19, "staff helped me obtain information to help me manage my illness," was 1.98 (95% CI=1.98+-23, n=101). The mean score for item #19 was lower (higher agreement) than the baseline mean but non significant. Mean score re-measurement results, on item #17, "I, not staff, decided my treatment goals," was 1.95 (95% CI=1.95+-..22, n=104), which was significantly lower, at the p<.05 level, compared to the baseline mean score for this item.

Although there was improvement on all three indicators (lower mean score), only one indicator was significantly lower. The particular item with a significantly lower mean score was also the item with the worst or highest mean score, at 2.31, on baseline, providing more opportunity for improvement. Strategies implemented, during this study period, was limited, that is, either just at one MHC or implemented towards the end of the study period. Along with inadequate implementation of study strategies there were other issues affecting internal validity of the study, because of the lack of a control group. First, there are efforts at both MHC, to improve their recovery focus, which may be positively affecting consumer perception, rather than the project strategies. Other, perhaps negative uncontrolled changes, occurring at the MHCs, in particular staff changes, changes in policies or types of services provided, may be affecting consumer perception of staff recovery support and/or affect staff time to provide educational material. Although the sample is randomly selected, results, if any, from this study may not be generalizable to a non MHC system or to a population of adults with SMI that may be less severely ill that the population in a MHC.

H. Activity VIIIb. Interpretation of study results: Describe the results of the statistical analysis, interpret the findings, and discuss the successfulness of the study and indicate follow-up activities. Also, identify any factors that could influence the measurement or validity of the findings.

Remeasurement 2

Re-measurement 2 mean score results from the FBH survey, study period January-June, 2007, for item #10, "staff here believe I can grow, change, and recover," was 1.96 (95% CI=1.96+-.22; n=89). The mean score, on re-measurement 2 was higher (*decreased* **agreement) from the** *re-measurement 1* **mean** *for this item*, *although* **the mean difference was non significant and essentially unchanged. Mean score re-measurement 2 results, on item #19, "staff helped me obtain information to help me manage my illness," was 2.24 (95% CI=2.24+-.25, n=92). The mean score for Item #19 was higher (***decreased* **agreement) than the** *re-measurement 1* **mean and was also higher than the mean score on** *baseline*. **Mean score re-measurement 2 results, on item #17, "I, not staff, decided my treatment goals," was 2.12 (95% CI=2.12+-.23, n=91). The mean score for Item #17 was** *higher (decreased agreement)* **than the** *re-measurement 1* **mean score but non significant** *and was non-significantly lower (increased* **agreement) than the mean score** *for this item from baseline*.

Results for re-measurement 2 were disappointing, particularly given the fact that there were no significant differences in available sample characteristics, between the baseline same and the sample in re-measurement 2. Although *non significant there was an increase in mean score (decreased agreement)* **for** *all three* **indicators from** *re-measurement 1.* **In addition, for indicator #3 results were worse than baseline, that is, Member respondents indicated less agreement on this indicator than the respondents on baseline. Because results for this indicator were less positive the project teams from the two MHCs met to discuss results. MHCBBC staff indicated that the Tip Sheets were not being distributed to consumers; in addition both MHC staff expressed concern that this type of information should also be distributed by the prescribers. A plan was developed to work with the prescribers at both Centers on distributing educational material. Additional extraneous variables, perhaps negatively affecting Member perception regarding all three items, were major changes at both MHCs in their outpatient model. In particular both MHCs, in an effort to assist Members in moving forward in their recovery, were working to increase Member use of community resources and reduce dependency on the MHC. These changes may be perceived by Members as non supportive and may have a more powerful effect on Members than the PIP strategies. In addition, although the sample is random, characteristic differences, unavailable from the survey, e.g. diagnosis or length of time in service, may be affecting responses.**

Other concerns, specific to the PIP strategies, are the inconsistencies in implementation across the MHCs, making it difficult to know if all Members in the sample are experiencing the activities implemented. The project team recommended implementation of an EBP called Illness Management and Recovery or Pathways to Recovery, which provide education, support, in understanding mental illness and how to participate in the treatment process. The MHCs had already considered this plan and will work to move this forward.

Last, because of the continued decrease in sample size, efforts will be implemented to improve the return rate in re-measurement 3.

Remeasurement 3

Appendix A: PIP Summary Form: Supporting Recovery *for* Foothills Behavioral Health, LLC

I. Activity IX: Report improvement. Describe any meaningful change in performance observed and demonstrated during baseline measurement.

#1 Quantifiable Measure: Adult Consumer mean rating on the MHSIP adult survey 5-point Likert agreement scale for the MHSIP survey item "Staff here believe I can grow, change, and recovery."

Time Period Measurement Covers	Baseline Project Indicator Measurement	Numerator	Denominator	Rate or Results	Industry Benchmark	Statistical Test and Significance*
Baseline: January through June, 2005	***Baseline:***	203	n=98	Mean =2.07 (SD=1.06)		
July through Dec, 2006	Remeasurement 1:	197	n=102	Mean = 1.93 (SD=1.06)		t=-.959; p=.339 (mean difference non significant)
January through June, 2007	Remeasurement 2:	174	n=89	Mean = 1.96 (SD=1.05)		*re-measurement 1 to 2:* t=-.*159*, p=.*874* (mean difference non-significant)
	Remeasurement 3:					

#2 Quantifiable Measure: Adult Consumer mean rating on the MHSIP adult survey 5-point Likert agreement scale for the MHSIP survey item "Staff helped me obtain information so that I can take charge of managing my illness."

Time Period Measurement Covers	Baseline Project Indicator Measurement	Numerator	Denominator	Rate or Results	Industry Benchmark	Statistical Test and Significance*
Baseline January through June, 2005	***Baseline:***	224	n=102	Mean=2.20 (SD=1.11)		
July through Dec, 2006	Remeasurement 1:	200	n=101	Mean=1.98 (SD=1.17)		t=-1.352, p=.178 (mean difference non significant)
January through June, 2007	Remeasurement 2:	206	n=92	Mean=2.24 (SD = 1.2)		*re-measurement 1 to 2*: t=-*1.52*, p=.*130* (mean difference non significant)
	Remeasurement 3:					

***** If used, specify the test, *p* value, and specific measurements (e.g., baseline to remeasurement #1, remeasurement #1 to remeasurement #2, etc., or baseline to final remeasurement) included in the calculations.

Appendix A: PIP Summary Form: Supporting Recovery *for* Foothills Behavioral Health, LLC

I. Activity IX: Report improvement. Describe any meaningful change in performance observed and demonstrated during baseline measurement.

#3 Quantifiable Measure: Adult Consumer mean rating on the MHSIP adult survey 5-point Likert agreement scale for the MHSIP survey item "I, not staff, decided my treatment goals."

Time Period Measurement Covers	Baseline Project Indicator Measurement	Numerator	Denominator	Rate or Results	Industry Benchmark	Statistical Test and Significance*
Baseline January through June, 2005	***Baseline:***	236	n=102	Mean=2.31 (SD=1.13)		t=-2.314, p=.022 (mean difference significant)* *re-measurement 1 to 2:* t=-1.050, p=.295 (mean difference non significant)
July through Dec, 2006	**Remeasurement 1:**	203	n=104	Mean=1.95 (SD=1.11)		
January through June, 2006	**Remeasurement 2:**	193	n=91	Mean=2.12 (SD=1.13)		
	Remeasurement 3:					
	Remeasurement 4:					
	Remeasurement 5:					

J. Activity X. Sustained improvement: Describe any demonstrated improvement through repeated measurements over comparable time periods. Discuss any random year-to-year variation, population changes, and sampling error that may have occurred during the remeasurement process.

PIPs provide a structured method of assessing and improving the processes, and thereby the outcomes, of care for the population that a BHO serves. This structure facilitates the documentation and evaluation of improvements in care or service. PIPs are conducted by the BHOs to assess and improve the quality of clinical and nonclinical health care services received by consumers.

The PIP evaluation is based on CMS guidelines as outlined in the CMS publication, *Validating Performance Improvement Projects: A Protocol for Use in Conducting Medicaid External Quality Review Activities*, Final Protocol, Version 1.0, May 1, 2002 (CMS PIP Protocol).

This document highlights the rationale for each activity as established by CMS. The protocols for conducting PIPs can assist the BHOs in complying with requirements.

CMS Rationale

Activity I. Appropriate Study Topic

All PIPs should target improvement in relevant areas of clinical care and nonclinical services. Topics selected for study by Medicaid managed care organizations must reflect the BHO's Medicaid enrollment in terms of demographic characteristics, prevalence of disease, and the potential consequences (risks) of disease (CMS PIP Protocol, page 2).

Activity II. Clearly Defined, Answerable Study Question

It is important for the BHO to clearly state, in writing, the question(s) the study is designed to answer. Stating the question(s) helps maintain the focus of the PIP and sets the framework for data collection, analysis, and interpretation (CMS PIP Protocol, page 5).

Activity III. Clearly Defined Study Indicator(s)

A study indicator is a quantitative or qualitative characteristic (variable) reflecting a discrete event (e.g., an older adult has/has not received an influenza vaccination in the last 12 months) or a status (e.g., a consumer's blood pressure is/is not below a specified level) that is to be measured.

Each project should have one or more quality indicators for use in tracking performance and improvement over time. All indicators must be objective, clearly and unambiguously defined, and based on current clinical knowledge or health services research. In addition, all indicators must be capable of objectively measuring either consumer outcomes, such as health status, functional status, or consumer satisfaction, or valid proxies of these outcomes.

Indicators can be few and simple, many and complex, or any combination thereof, depending on the study question(s), the complexity of existing practice guidelines for a clinical condition, and the availability of data and resources to gather the data.

Indicator criteria are the set of rules by which the data collector or reviewer determines whether an indicator has been met. Pilot or field testing is helpful in the development of effective indicator criteria. Such testing allows the opportunity to add criteria that might not have been anticipated in the design phase. In addition, criteria are often refined over time based on results of previous studies. However, if criteria are changed significantly, the method for calculating an indicator will not be consistent and performance on indicators will not be comparable over time.

It is important, therefore, for indicator criteria to be developed as fully as possible during the design and field testing of data collection instruments (CMS PIP Protocol, page 5).

Activity IV. Use a Representative and Generalizable Study Population

Once a topic has been selected, measurement and improvement efforts must be systemwide (i.e., each project must represent the entire Medicaid-enrolled population to which the study indicators apply). Once that population is identified, the BHO must decide whether to review data for that entire population or use a sample of that population. Sampling is acceptable as long as the samples are representative of the identified population (CMS PIP Protocol, page 8). (See Activity V. Valid Sampling Techniques.)

Activity V. Valid Sampling Techniques

If the BHO uses a sample to select consumers for the study, proper sampling techniques are necessary to provide valid and reliable (and, therefore, generalizable) information on the quality of care provided. When conducting a study designed to estimate the rates at which certain events occur, the sample size has a large impact on the level of statistical confidence in the study estimates. Statistical confidence is a numerical statement of the probable degree of certainty or accuracy of an estimate. In some situations, it expresses the probability that a difference could be due to chance alone. In other applications, it expresses the probability of the accuracy of the estimate. For example, a study may report that a disease is estimated to be present in 35 percent of the population. This estimate might have a 95 percent level of confidence, plus or minus 5 percentage points, implying a 95 percent certainty that between 30 percent and 40 percent of the population has the disease.

The true prevalence or incidence rate for the event in the population may not be known the first time a topic is studied. In such situations, the most prudent course of action is to assume that a maximum sample size is needed to establish a statistically valid baseline for the project indicators (CMS PIP Protocol, page 9).

Activity VI. Accurate/Complete Data Collection

Procedures used by the BHO to collect data for its PIP must ensure that the data collected on the study indicators are valid and reliable. Validity is an indication of the accuracy of the information obtained. Reliability is an indication of the repeatability or reproducibility of a measurement. The BHO should employ a data collection plan that includes:

- Clear identification of the data to be collected.
- Identification of the data sources and how and when the baseline and repeat indicator data will be collected.
- Specification of who will collect the data.
- Identification of instruments used to collect the data.

When data are collected from automated data systems, development of specifications for automated retrieval of the data should be devised. When data are obtained from visual inspection of medical records or other primary source documents, several steps should be taken to ensure the data are consistently extracted and recorded:

1. The key to successful manual data collection is in the selection of the data collection staff. Appropriately qualified personnel with conceptual and organizational skills should be used to abstract the data. However, their specific skills should vary depending on the nature of the data collected and the degree of professional judgment required. For example, if data collection involves searching throughout the medical record to find and abstract information or judge whether clinical criteria were met, experienced clinical staff members, such as registered nurses, should collect the data. However, if the abstraction involves verifying the presence of a diagnostic test report, trained medical assistants or medical records clerks may be used.
2. Clear guidelines for obtaining and recording data should be established, especially if multiple reviewers are used to perform this activity. The BHO should determine the necessary qualifications of the data collection staff before finalizing the data collection instrument. An abstractor would need fewer clinical skills if the data elements within the data source are more clearly defined. Defining a glossary of terms for each project should be part of the training of abstractors to ensure consistent interpretation among project staff members.
3. The number of data collection staff members used for a given project affects the reliability of the data. A smaller number of staff members promote interrater reliability; however, it may also increase the amount of time it takes to complete this task. Intrarater reliability (i.e., reproducibility of judgments by the same abstractor at a different time) should also be considered (CMS PIP Protocol, page 12).

Activity VII. Appropriate Improvement Strategies

Real, sustained improvements in care result from a continuous cycle of measuring and analyzing performance and developing and implementing systemwide improvements in care. Actual improvements in care depend far more on thorough analysis and implementation of appropriate solutions than on any other steps in the process.

An improvement strategy is defined as an intervention designed to change behavior at an institutional, practitioner, or consumer level. The effectiveness of the intervention activity or activities can be determined by measuring the BHO's change in performance according to predefined quality indicators. Interventions are key to an improvement project's ability to bring about improved health care outcomes. The BHO must identify and develop appropriate interventions for each PIP to ensure the likelihood of measurable change.

If repeated measurements of quality improvement (QI) indicate that QI actions were not successful (i.e., the QI actions did not achieve significant improvement), the problem-solving process begins again with data analysis to identify possible causes, propose and implement solutions, and so forth. If QI actions were successful, the new processes should be standardized and monitored (CMS PIP Protocol, page 16).

Activity VIII. Sufficient Data Analysis and Interpretation

Review of the BHO data analysis begins with examining the BHO's calculated plan performance on the selected clinical or nonclinical indicators. The review examines the appropriateness of, and the BHO's adherence to, the statistical analysis techniques defined in the data analysis plan (CMS PIP Protocol, page 17).

Activity IX. Real Improvement Achieved

When a BHO reports a change in its performance, it is important to know whether the reported change represents real change, is an artifact of a short-term event unrelated to the intervention, or is due to random chance. The external quality review organization (EQRO) will need to assess the probability that reported improvement is actually true improvement. This probability can be assessed in several ways, but is most confidently assessed by calculating the degree to which an intervention is statistically significant. While the protocol for this activity does not specify a level of statistical significance that a reported change in performance must meet, it does require that EQROs assess the extent to which any performance changes reported by a BHO can be found to be statistically significant. States may choose to establish their own numerical thresholds for the significance of reported improvements (CMS PIP Protocol, page 18).

Activity X. Sustained Improvement Achieved

Real change results from changes in the fundamental processes of health care delivery. Such changes should result in sustained improvements. In contrast, a spurious, one-time improvement can result from unplanned accidental occurrences or random chance. If real change has occurred, the BHO should be able to document sustained improvement (CMS PIP Protocol, page 19).

Appendix C. Definitions and Explanations by Activity

for Foothills Behavioral Health, LLC

This document was developed by HSAG as a resource to assist BHOs in understanding the broad concepts in each activity related to PIPs. The specific concept is delineated in the left column, and the explanations and examples are provided in the right column.

Concepts	Definitions and Explanations
Activity I. Appropriate Study Topic	
Broad spectrum of care	◆ Clinical focus areas: Includes prevention and care of acute and chronic conditions and high-volume/high-risk services. High-risk procedures may also be targeted (e.g., care received from specialized centers). ◆ Nonclinical areas: Continuity or coordination of care addressed in a manner in which care is provided from multiple providers and across multiple episodes of care (e.g., disease-specific or condition-specific care).
Eligible population	◆ May be defined as consumers who meet the study population parameters.
Selected by the State	◆ If the study topic was selected by the state Medicaid agency, this information is included as part of the description under Activity I: "Choose the Selected Study Topic" in the PIP Summary Form.
Activity II. Clearly Defined, Answerable Study Question	
Study question	◆ The question(s) directs and maintains the focus of the PIP and sets the framework for data collection, analysis, and interpretation. The question(s) must be measurable and clearly defined. ◆ Examples: 1. Does educational outreach about immunizations increase the rates of immunizations for children 0–2 years of age? 2. Does increasing flu immunizations for consumers with chronic asthma impact overall health status? 3. Will increased planning and attention to follow-up after inpatient discharge improve the rate of mental health follow-up services?

Concepts	Definitions and Explanations
Activity III. Clearly Defined Study Indicator(s)	
Study indicator	◆ A quantitative or qualitative characteristic reflecting a discrete event or status that is to be measured. Indicators are used to track performance and improvement over time. ◆ Example: The percentage of enrolled consumers who were 12–21 years of age who had at least one comprehensive well-care visit with a primary care practitioner or an obstetrician-gynecologist during the measurement year.
Sources identified	◆ Documentation/background information that supports the rationale for the study topic, study question, and indicators. ◆ Examples: HEDIS®[1] measures, medical community practice guidelines, evidence-based practices, or provider agreements. ◆ Practice guideline examples: American Academy of Pediatrics and American Diabetes Association.
Activity IV. Use a Representative and Generalizable Study Population	
Eligible population	◆ Refers to consumers who are included in the study. ◆ Includes age, conditions, enrollment criteria, and measurement periods. ◆ Example: The eligible population includes all children 0–2 years of age as of December 31 of the measurement period, with continuous enrollment and no more than one enrollment gap of 30 days or less.
Activity V. Valid Sampling Techniques	
True or estimated frequency of occurrence	◆ This may not be known the first time a topic is studied. In this case, the BHO should assume the need for a maximum sample size to establish a statistically valid baseline for the study. HSAG will review whether the BHO defined the impact the topic has on the population or the number of eligible consumers in the population.
Sample size	◆ Indicates the size of the sample to be used.
Representative sample	◆ Refers to the sample reflecting the entire population.
Confidence level	◆ Statistical confidence is a numerical statement of the probable degree of certainty or accuracy of an estimate (e.g., 95 percent level of confidence with a 5 percent margin of error).

[1] **HEDIS®** is a registered trademark of the National Committee for Quality Assurance (NCQA).

Concepts	Definitions and Explanations
Activity VI. Accurate/Complete Data Collection	
Data elements	◆ Identification of data elements includes unambiguous definitions of data that will be collected (e.g., the numerator/denominator, laboratory values).
Interrater reliability (IRR)	◆ The HSAG review team evaluates if there is a tool, policy, and/or process in place to verify the accuracy of the data abstracted. Is there an over-read (IRR) process for the review of a minimum percentage of records? ◆ Examples: A policy that includes how IRR is tested, documentation of training, and instruments and tools used.
Algorithms	◆ The development of any systematic process that consists of an ordered sequence of steps. Each step depends on the outcome of the previous step. ◆ The HSAG review team expects for the BHO to describe the process used in data collection. What are the criteria (e.g., what Current Procedural Terminology and/or source codes were used)?
Data completeness	◆ For the purposes of PIP scoring, data completeness refers to the degree of complete administrative data (e.g., encounter data or claims data). BHOs that compensate their providers on a fee-for-service basis require a submission of claims for reimbursement. However, providers generally have several months before they must submit the claim for reimbursement, and processing claims by the health plan may take several additional months, creating a claims lag. Providers paid on a capitated or salaried basis do not need to submit a claim to be paid, but should provide encounter data for the visit. In this type of arrangement, some encounter data may not be submitted. ◆ PIPs that use administrative data need to ensure that the data has a high degree of completeness prior to its use. Evidence of data completeness levels may include claim processing lag reports, trending of provider submission rates, policies and procedures regarding timeliness requirements for claims and encounter data submission, encounter data submission studies, and comparison reports of claims/encounter data versus medical record review. Discussion in the PIP should focus on evidence at the time the data was collected for use in identifying the population, sampling, and/or calculation of the study indicators. Statements such as, "Data completeness at the time of the data pull was estimated to be 97.8 percent based on claims lag reports (see attached Incurred But Not Reported report)," along with the attachment mentioned, usually (but not always) are sufficient evidence to demonstrate data completeness.

Concepts	Definitions and Explanations
Activity VII. Appropriate Improvement Strategies	
Causes and barriers	◆ Interventions for improvement are identified through evaluation or barrier analysis. If there is no improvement, what problem-solving processes are put in place to identify possible causes and proposed changes to implement solutions? ◆ It is expected that interventions associated with improvement of quality indicators will be system interventions.
Standardized	◆ If the interventions result in successful outcomes, the interventions should continue and the BHO should monitor them to ensure that the outcomes remain. ◆ Examples: If an intervention is the use of practice guidelines, then the BHO continues to use them. If mailers are a successful intervention, then the BHO continues the mailings and monitors the outcomes.
Activity VIII. Sufficient Data Analysis and Interpretation	
Analysis plan	◆ Each study should have a plan for how data analysis will occur. ◆ The HSAG review team will ensure that this plan was followed.
Generalization to the study population	◆ Study results can be applied to the general population with the premise that comparable results will occur.
Factors that threaten internal and external validity	◆ Did the analysis identify any factors (internal or external) that would threaten the validity of study results? ◆ Example: There was a change in record extraction (e.g., a vendor was hired or there were changes in HEDIS methodology).
Presentation of the data analysis	◆ Results should be presented in tables or graphs with measurement periods, results, and benchmarks clearly identified.
Identification of initial measurement and remeasurement of study indicators	◆ Clearly identify in the report which measurement period the indicator results reflect.
Statistical differences between initial measurement and remeasurement periods	◆ The HSAG review team looks for evidence of a statistical test (e.g., a *t* test or Chi-square test).
Identification of the extent to which the study was successful	◆ The HSAG review team looks for improvement over several measurement periods. ◆ Both interpretation and analysis should be based on continuous improvement philosophies, with the BHO documenting data results and the follow-up steps that will be taken for improvement.

Concepts	Definitions and Explanations
Activity IX. Real Improvement Achieved	
Remeasurement methodology is the same as baseline	◆ The HSAG review team looks to see that the study methodology remains the same for the entire study.
Documented improvement in processes or outcomes of care	◆ The study should document how interventions were successful in impacting system processes or outcomes. ◆ Examples: There was a change in data collection or a rate increase or decrease demonstrated in graphs/tables.
Activity X. Sustained Improvement Achieved	
Sustained improvement	◆ The HSAG review team looks to see if study improvements have been sustained over the course of the study. This needs to be demonstrated over a period of several (more than two) remeasurement periods.