Comparative Analysis Colorado Children Enrolled in the CHP+ and Medicaid Programs

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Company Overview

JEN Associates Incorporated (JAI), located in Cambridge, Massachusetts, was founded in 1985 and specializes in the assembly and analysis of large administrative databases for medical research and health policy applications. JAI works with state policy makers, academics, actuarial contractors, and other consultants in the design of data instruments to be used for budget neutrality analyses, program profiling, health services strategic planning, policy evaluation and population risk assessment. JAI staff and collaborating consultants includes trained economists, epidemiologists, research methodologists and experts in system design and automated process control.

Project Overview

JEN Associates, Inc. (JAI) has performed a series of data analyses of Colorado state children less than 20 years of age enrolled in the Medicaid program and the Children's Health Insurance Program (CHP+). The purpose of the analysis is to assess whether sufficient similarities exist between Medicaid and CHP+ enrolled populations to allow for the partial integration of administrative functions. To this end comparative profiles were produced to identify equivalence and difference in demographics, disease levels, benefit types and utilization rates between the two populations. The study population includes income-eligible Medicaid children[*] covered under fee-for-service (FFS) financing and children with Primary Care Physician Program (PCPP) capitated care, as well as HMO and managed care network CHP+. The claims and program eligibility data used for the analyses included service and enrollment dates between CY 2000-CY 2002.

This report is divided into two sections. The first section describes the study population selection, analytic methodology and data sources used in the analysis. Section two presents detailed descriptive and analytic findings based on a comparative review of the Medicaid and CHP+ populations' profiles.

The primary findings of the analyses are listed below.

- The number of children under one year of age is significantly higher in the Medicaid program;
- The number of young women between 15-19 years of age with a pregnancy diagnosis is significantly higher in the Medicaid program;
- The disease profiles and risk distribution of the two populations are similar;
- Differences in utilization in the two programs are driven by higher outpatient physician utilization in CHP+ and higher inpatient acute care in Medicaid;
- Cost per case differences by disease are driven by conditions that are of intermediate severity (as opposed to high and low severity conditions);
- Per enrollee per month service costs for CHP+ services are lower than Medicaid in the comparable population by close to 17%;
- The CHP+ benefit limits are not exceeded in the comparable Medicaid population to any large degree.

More specific findings behind these primary findings are listed below.

- Population prevalence of diagnoses/conditions and cost per case are similar between Medicaid and CHP+ for low severity conditions and for high severity conditions where hospitalizations are unavoidable. The largest differences are with undetermined severity respiratory disease diagnoses.
- Top tier patients in terms of costs are much higher in Medicaid than CHP+ for less than 1 year olds, Special Needs enrollees, and Pregnant Young women. These costs are primarily driven by inpatient costs.

[*] Medicaid enrollees who were SSI eligible, in Foster Care, in a Home and Community Based Waiver, or otherwise not linked to an income-eligible aid category were excluded from the study population.

- Medicaid pregnant women have higher rates of high-risk pregnancies and complications during delivery compared to CHP+.
- Medicaid infants have higher rates of diagnoses related to pregnancy and birth complications compared to CHP+.
- CHP+ pregnant women and infants have much higher rates of physician and pediatrician encounters than Medicaid. For pregnant women the CHP+ encounter rate per 1000 is six times higher than that of Medicaid (6,398 vs. 1,086).

The conclusion is that the current CHP+ program as currently configured, in terms of the types of children enrolled, the benefits offered and the costs of care, is compatible, but not equivalent, with the care needs and costs of low-risk children currently covered under the Medicaid program. Also, in the cases where expenses are higher in Medicaid compared to CHP+ (specifically for inpatient costs related to children with special needs, infants, and pregnant young women) the current CHP+ benefit package would adequately cover all of these costs.

Analytic Methodology

Data Sources

Medicaid and CHP+ enrollment and FFS paid claims and CHP+ encounter data from the administrative period of FY 2000-FY 2003 were processed by JAI for the development of the study databases. The sources of the Medicaid FFS claims and enrollment data were the state Medicaid Management Information System (MMIS). The source of CHP+ enrollment data was the CHP+ enrollment contractor and the source of CHP+ claims and encounter data was the CHP+ actuary. The Medicaid and CHP+ data were processed into uniform format treatment level records. Data quality checks were performed in the following areas: 1) frequency and distribution of invalid and missing code values; 2) frequency and distribution of outlier values; 3) continuity analysis of the data by service type and month. The data quality checks were repeated by Medicaid managed care status and CHP+ plan type.

Most encounter data is not as robust as FFS claims data. For this reason, several additional steps were performed to make the key data elements for profiling comparable between the two data sources (See Appendix D - Notes).[1] Data not available from treatment level records e.g. end of year provider reconciliations, pharmaceutical company rebate payments, and aggregated federal reimbursements to Medicaid or state reimbursements of CHP+ plans or providers are not included in the presentation of treatment costs for either the Medicaid or CHP+ program.

The study populations developed for these analyses were designed to address the underlying question of cross-program compatibility. The goal was to answer questions related to the populations most likely to be included in the streamlining of the Medicaid program. Medicaid children with Supplemental Security Income (SSI) eligibility, children institutionalized in a long term care facility, or children using special behavioral health related residential facilities were excluded from the study population as unique

special needs groups. Medicaid children, who were enrolled in a Home and Community Based Service (HCBS) waiver program or whose eligibility categories could not be linked to a federal poverty level (FPL) for categorizing the type of enrollment, were also excluded from the analyses for similar reasons as above. Medicaid and CHP+ children with incomplete payment histories due to identified data omissions were not included in the analyses.

Approximately 30% of the FFS non SSI Medicaid beneficiary enrollment-months were edited from the analyses. The total of the CY 2002 Medicaid study population includes 72,033 per capita eligibles (PCEs) computed as the number of enrollee months divided by 12. In total approximately 25% of the CHP+ beneficiary enrollment-months were edited from the analyses. The total of the CY 2002 CHP+ study population includes 27,505 per capita eligibles. The CY 2002 populations were chosen for the study because the data was the most recent after accounting for data lag effects. Due to large fluctuations over the study period (FY 1999-2003) in Medicaid managed care enrollment and CHP+ plan participation, the CY 2002 data was also considered the most representative of current conditions.

Analytic Design

A comparison of the CHP+ and Medicaid program can be measured using a variety of criteria. However, an essential first step is to understand the impact of program design on the demographics and risk characteristics of the enrolled populations. Both programs are structured to provide specific population's access to state supported care. The result is that the populations are not pure cross-sections of all children, but rather represent specific sub-groups whose selection is determined by program eligibility criteria and level of outreach to eligible populations.

The Medicaid program enrolls low income children based on a combination of applicant income status and medical care needs. For a large portion of the Medicaid population program eligibility is contingent on low income, for these children the medical benefit may be used for preventive care or to treat pre-existing conditions. A second significant population is children who are eligible for Social Security benefits due to disability. For these beneficiaries the Medicaid benefit represents essential support for high cost and persistent medical and rehabilitation care. A third major non-adult population in Medicaid is pregnant young women and subsequently their babies, requiring coverage for the costs of pre-natal, delivery and new-born care.

CHP+ beneficiary population is composed of a cross-section of low-income children whose families sought enrollment for the coverage of preventive care costs or to address identified health problems. Parent sensitivity to the value of preventive care and/or the recognition of a current health care need of varying severity is critical to CHP+ enrollment. The self-selection aspect of CHP+ enrollment contrasts with Medicaid in which eligibility may be coupled to a state or federal cash benefit (historically), a determination of a major disability or pregnancy. Further complicating any comparison are the CHP+ program benefit design features that limit reimbursement for specific services. These types of restrictions of benefits are not in place with the regular Medicaid program.

To accommodate the differences in program eligibility and benefit design, utilization and disease measures have been constructed to allow standardized comparisons between the Medicaid and CHP+ programs. The other way that comparability is achieved is through the identification of significant sub-populations within the Medicaid program based on eligibility type and the presence of disabling conditions. Sub-population definitions were used for either the implementation of study group edits or for the preparation of normalized comparative statistics.

The analyses proceeded in three stages: 1) the identification of significant sub-populations within each program; 2) the preparation of detailed comparative descriptive profiles between like populations enrolled in the different programs; and 3) the compilation of adjusted utilization measurements using multivariate linear and logistic regression methods. The Medicaid and CHP+ comparisons are made using four common domains of administrative health care measurements:

- Beneficiary demographics;
- Disability and chronic disease prevalence;
- Acute and preventive care utilization; and
- Costs of care.

Findings

Measurement Goals and Analytic Approach

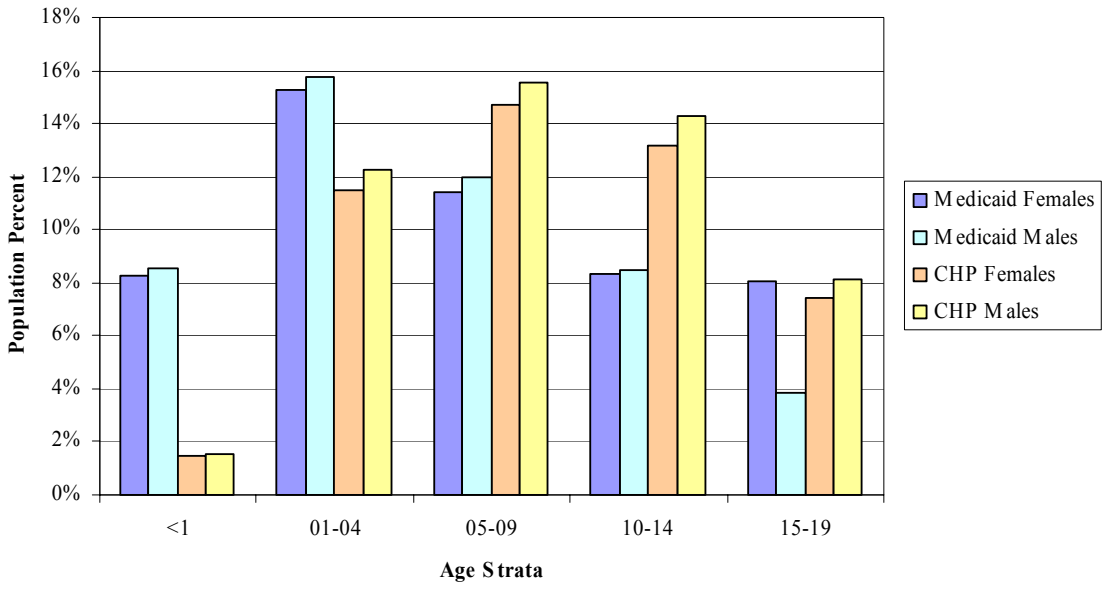
The findings reported below are intended to illustrate the extent to which CHP+ programs enroll children that are "comparable" to Medicaid enrollees. The relevance of the analyses to strategic planning for the Medicaid population is based primarily on a demonstration that the CHP+ population includes a diverse population whose characteristics and care needs overlap those exhibited by Medicaid children. Significant differences, even substantial differences between the populations are expected. However, the identification of significant, common risk groups and cost structures between the programs will be evidence of CHP+ program capacity to manage like populations. Statements in the findings regarding comparability or similarities in the population should be understood in this policy context.

The presentation of the analytic findings is based on a narrative model. Descriptive statistics are presented in order to illustrate how special populations and program characteristics were identified and interpreted and used in model construction. The descriptive statistics build a foundation for the conceptualization and structure of the multivariate model. The multivariate analyses test the robustness and document the origins of program correlated differences and similarities reported in the comparative descriptive analyses. Observations reported from a well designed descriptive analysis will be supported in the fully adjusted analytic results.

CHP+ and Medicaid Demographics

The differences between the CHP+ and Medicaid program eligibility criteria are immediately evident from comparisons of age and gender between the two populations (Figure 1). The Medicaid population profile is representative of children/teens whose Medicaid eligibility falls under the low income aid categories (TANF, 1931, Baby Care Kid Care). The level of medical need is primarily related to well care and episodic illness and /or prenatal and postpartum maternity and newborn care. The CHP+ distribution represents a more normal demographic pattern except with diminished coverage for the oldest teens and children less than one year of age. After reviewing pregnancy rates for the Medicaid versus CHP+ females between the ages of 15-19 years old, the gender discrepancy can be explained by higher pregnancy rates in the Medicaid eligible population, attributable to the linkage between program eligibility and pregnancy. Within this female subset of Medicaid eligibles, there were 51% pregnancy related diagnoses in CY 2002.

Figure 1
CY 2002 Medicaid and CHP Demographic Distribution



Disability and Illness in the Programs

The Medicaid population contains many disabled children who are eligible for SSI benefits. The SSI eligibles have not been included in the Medicaid population analysis since they represent a clearly identified special needs group that has no direct analog among CHP+ enrollees. However, disabling conditions can occur in non-SSI populations and children with non-disabling chronic and acute conditions are present in the Medicaid

and CHP+ study populations. Figure 2 presents the prevalence rates of disability related conditions per 1,000 per capita eligibles (PCE) beneficiaries in the two programs. These four disability categories are aggregate groupings of a population "grouper" developed by JEN Associates based on diagnoses that are commonly used to substantiate claims for Social Security Disability Income benefits. The physical, sensory, neurological, and development disability groups (see Appendix C) were chosen for this study after a review of observed primary and secondary ICD9-CM diagnosis codes reported in Medicaid and CHP+ claims and encounter data.[2]

The main observed difference in disability rates between the two populations is in the category of Mental retardation/Developmental disability with a relative rate in Medicaid that is twice as high as observed in the CHP+ population. However, the main conclusion is that the non-SSI Medicaid and CHP+ children do exhibit significant rates of conditions that are disability related and that the rates are sufficiently similar to suggest cross-program comparability in the care management challenge. Likewise the similar prevalence of conditions that are high cost or chronic in children demonstrates comparability between the program populations (see Figure 3). The conditions listed in Figure 3 are selected due to their relevance across the age spectrum of the study population, their relative high frequency, need for outpatient surveillance or as conditions that are signs of poor care outcomes. The importance of these measures is that they represent the cost drivers of payments for non-preventive care in the populations. The measurement of similar levels of prevalence directly demonstrates population compatibility.

Figure 2
Rates of Disability Related Conditions in CY 2002 CHP and Medicaid Children

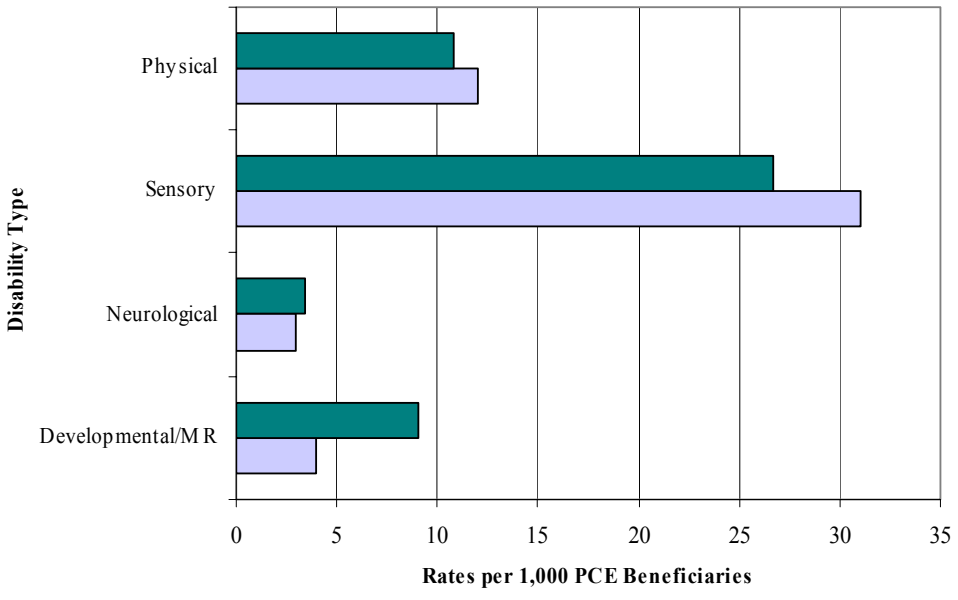
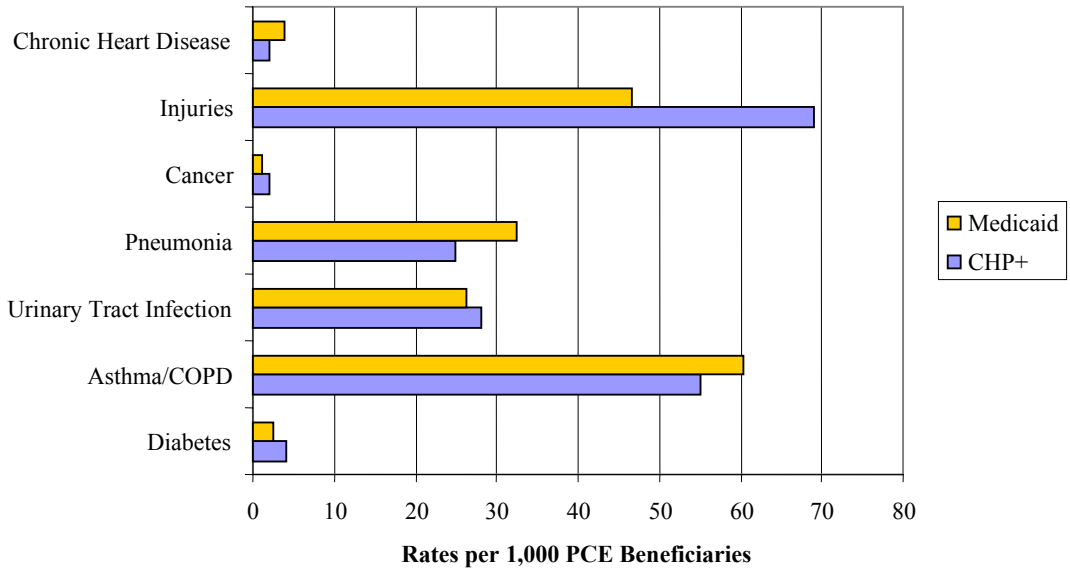


Figure 3
Selected Conditions Rates in CY 2002 Medicaid and CHP+ Children



Population Types and Payments

The payment profiles are broken out by those significant subpopulations identified in the demographic and disease profiles to ensure comparability of children between CHP+ and Medicaid. A natural demographic classification for the presentation of payment profiles is as follows: 1) children with a disability related diagnosis; 2) less than one year of age; 3) young women with a pregnancy diagnosis; 4) the low risk population (all others). The categorization allows for the comparison of like populations within each program and adjusting for eligibility and program design based variations.

The distribution of the populations in the two programs according to this taxonomy, both in terms of population and cost of care distributions is presented in Figures 4a and 4b. In each of the programs the predominant population is the low-risk group. Eighty-eight percent (88%) of CHP+ enrollees and approximately two thirds of all expenditures are accounted for in this low risk group. In the Medicaid program, the low risk eligibles account for three quarters of all enrollees, but only one third of all payments. The populations that are most comparable in terms of relative size, costliness and benefit requirements are the two Low Risk sub-populations. The 74% of the non-SSI Medicaid enrollees that are flagged as Low Risk are an evident target population for program administrative integration both due to the leverage associated with the large numbers as well as the similarities in monthly treatment costs. A detailed breakout of payments and enrollment by population type is included in Table 1.

Figure 4a

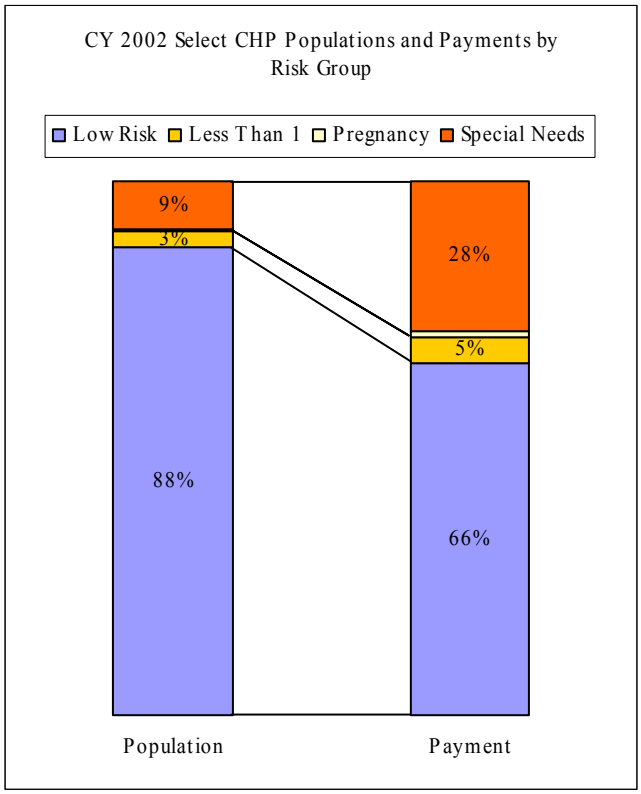


Figure 4b

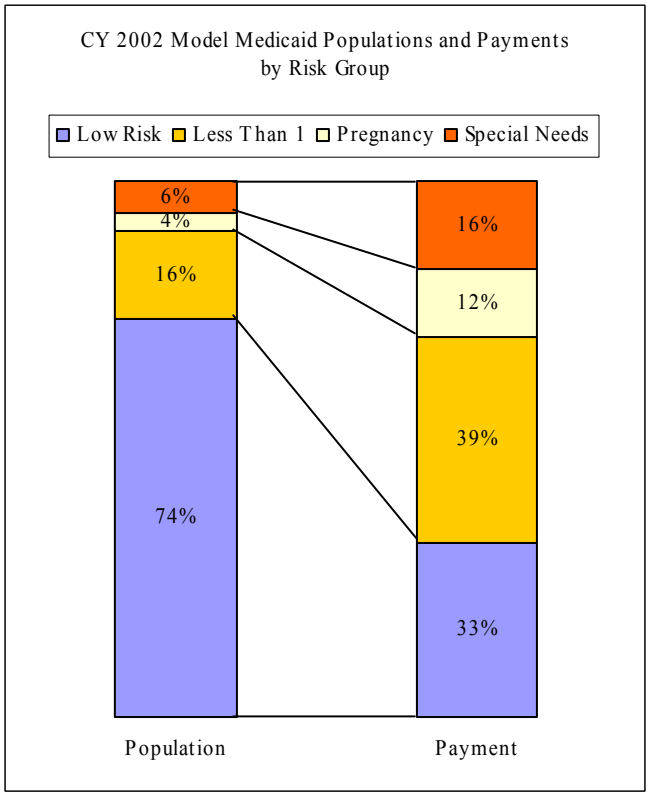


Table 1
Payment and Enrollment by Population Type
Colorado Children in CHP+ and Medicaid CY2002

CY 2002 Medicaid Population Type	Enrollee Months	Population Percent	Payments	Payment Percent	Per Enrollee Per Month
Special Needs	50,090	6%	$ 17,574,375	16%	$ 351
Pregnancy	32,107	4%	$ 13,344,760	12%	$ 416
Less Than 1	139,042	16%	$ 41,173,977	39%	$ 296
Low Risk Population	642,882	74%	$ 34,738,482	33%	$ 54
Total	864,121	100%	$ 106,831,594	100%	$ 124

CY 2002 CHP+ Population Type	Enrollee Months	Population Percent	Payments	Payment Percent	Per Enrollee Per Month
Special Needs	29,670	9%	$ 5,526,360	28%	$ 186
Pregnancy	857	0%	$ 227,407	1%	$ 265
Less Than 1	9,863	3%	$ 893,191	5%	$ 91
Low Risk Population	289,667	88%	$ 12,947,345	66%	$ 45
Total	330,057	100%	$ 19,594,302	100%	$ 59

The challenge of providing care to a continually enrolled population is different from providing care to beneficiaries with only short spans of eligibility. Opportunities exist for preventive care and long term condition management as opposed to short term

remediation. To some extent significant differences in enrollment length would impact both the analyses of population comparability, e.g. the opportunity for observing disease diagnoses, as well as program compatibility. Table 2 presents a univariate distribution of the number of enrolled months by program and risk group. The median length of enrollment between the two programs is reasonably similar. In the low risk population the median is eight months in CHP+ and ten months in Medicaid. Although the mandated eligibility period for CHP+ is one year from month of enrollment, CHP+ program entry, disenrollment after one year and transfers to Medicaid eligibility result in the eight month statistic. The statistic for the median and the underlying distribution suggest good comparability in the low risk population in the annual duration of enrollment.

Table 2
Univariate Distribution of Enrolled Months Per Beneficiary in Year 2002

Risk	Special Needs		Under 1		Pregnant		Low Risk	
Program	CHP	Medicaid	CHP	Medicaid	CHP	Medicaid	CHP	Medicaid
100% Max	12	12	12	12	12	12	12	12
99%	12	12	12	12	12	12	12	12
95%	12	12	10	10	12	12	12	12
90%	12	12	9	9	12	12	12	12
75% Q3	12	12	7	6	12	11	12	12
50% Median	12	12	4	3	7	6	8	10
25% Q1	8	7	2	2	4	3	4	4
10%	5	3	1	1	1	2	2	2
5%	4	2	1	1	1	2	1	1
1%	1	1	1	1	1	1	1	1
0% Min	1	1	1	1	1	1	1	1

The Low Risk Population Profile-Disease, Payment and Utilization

Descriptive Comparison of Medicaid and CHP+ Low Risk Children

The comparability within the low risk population can be further established by reviewing the types of conditions that drive Medicaid and CHP+ program costs and the relative costs per case. Table 3 lists the top twenty diagnoses (as ranked by rate per 10,000 PCE in CY 2002), total payments, frequency and the costs per case as calculated by payments for treatments supported by the listed code. The results show interesting similarities and differences between the programs. The only conditions that have slightly higher rates of prevalence in the CHP+ population compared to Medicaid are for episodic common childhood ear, nose and throat conditions (pharyngitis, strep sore throat, acute sinusitis and allergic rhinitis) and myopia. For Medicaid children conditions with higher prevalence include acute URI (upper respiratory infection), otitis media, acute pharyngitis, fever, and myopia. The higher prevalence of hypermetropia is most likely due to benefit differences in vision coverage. The costs per case do vary for some conditions and may relate to differences in the setting of care (inpatient versus outpatient) between the two programs. A look at differences in payments and utilization rates between the two programs by provider type, as shown in Table 4, supports this conclusion. Medicaid low risk children have higher rates of outpatient emergency room utilization and inpatient acute care days in comparison to their CHP+ program

counterparts. These utilization rates explain the differences in per member per month payments, where CHP+ low risk children have higher rate of encounters for general practitioners compared to Medicaid low risk children with higher utilization rates of inpatient and outpatient hospital care.

Table 3A presents the highest ranked diagnoses for inpatient care only and presents the overall population rate and cost per case. Looking specifically at those diagnoses where there are no hospitalizations for CHP+ low risk children cases compared to Medicaid, it is clear that the diagnoses are related to acute illnesses that are not treatable in a different setting and involve chronic or terminal illnesses. For other diagnoses, typically involving standard admitting diagnoses for children, the two programs have similar rates and comparable cost per cases. The general observation is that population prevalence and costs per case are similar between the programs for conditions that are low-severity (e.g. fever and unspecified abdominal pain) and for high severity conditions in which hospitalization is unavoidable (acute appendicitis). The largest difference in overall cost per case is observed for undetermined severity respiratory disease diagnoses. These same diagnoses are also observed to be associated with cross-program differences in population hospitalization rates.

Table 3
Payment and Prevalence of Highest Ranked Diagnoses
Colorado Low Risk Children in CHP+ and Medicaid CY2002

Treatment Diagnosis Code from all Provider Types	MCD Sum of Service Payment	MCD Rate per 10,000	MCD Cost per Case	CHP+ Sum of Service Payment	CHP+ Rate per 10,000	CHP+ Cost per Case
4659,ACUTE URI NOS	$ 723,936	1,788	$ 76	$ 110,173	1,584	$ 29
3829,OTITIS MEDIA NOS	$ 670,469	1,293	$ 97	$ 133,106	938	$ 59
462,ACUTE PHARYNGITIS	$ 433,742	1,284	$ 63	$ 131,415	1,528	$ 36
7806,FEVER	$ 283,810	531	$ 100	$ 78,442	347	$ 94
3671,MYOPIA	$ 200,416	467	$ 80	$ 143,918	515	$ 116
07999,VIRAL INFECTION NOS	$ 205,022	463	$ 83	$ 64,784	405	$ 66
3670,HYPERMETROPIA	$ 176,318	450	$ 73	$ 64,541	272	$ 98
7862,COUGH	$ 113,075	420	$ 50	$ 33,117	335	$ 41
49390,ASTH W/O STAT ASTHM NOS	$ 311,098	393	$ 148	$ 103,233	358	$ 120
0340,STREP SORE THROAT	$ 158,186	389	$ 76	$ 48,131	493	$ 40
4660,ACUTE BRONCHITIS	$ 156,878	375	$ 78	$ 25,352	300	$ 35
38200,AC SUPP OTITIS MEDIA NOS	$ 129,769	353	$ 69	$ 23,378	324	$ 30
5589,NONINF GASTROENTERIT NEC	$ 181,109	316	$ 107	$ 46,199	213	$ 90
4619,ACUTE SINUSITIS NOS	$ 91,226	314	$ 54	$ 20,224	340	$ 25
78900,ABDMNAL PAIN UNSPCF SITE	$ 196,980	273	$ 135	$ 80,875	271	$ 124
4779,ALLERGIC RHINITIS NOS	$ 101,254	270	$ 70	$ 42,148	344	$ 51
5990,URIN TRACT INFECTION NOS	$ 150,850	267	$ 106	$ 47,469	221	$ 89
37230,CONJUNCTIVITIS NOS	$ 73,877	236	$ 58	$ 13,446	190	$ 29
463,ACUTE TONSILLITIS	$ 104,608	231	$ 84	$ 25,786	239	$ 45
6929,DERMATITIS NOS	$ 66,554	213	$ 58	$ 14,473	180	$ 33

Table 3A
Payment and Prevalence of Highest (by Rate per 10,000) Ranked Inpatient Diagnoses Colorado Low Risk Children in CHP+ and Medicaid CY2002

Treatment Diagnosis Code from all Provider Types	MCD Sum of Service Payment	MCD Rate per 10,000	MCD Cost per Case	CHP+ Sum of Service Payment	CHP+ Rate per 10,000	CHP+ Cost per Case
49392,ASTHMA WACUTE EXACERBTN	$ 325,557	23	$ 2,668	$ 84,306	12	$ 3,011
486,PNEUMONIA, ORGANISM NOS	$ 248,245	14	$ 3,224	$ 82,221	13	$ 2,569
2765,HYPOVOLEMIA	$ 121,934	10	$ 2,345	$ 12,618	4	$ 1,402
46611,ACU BRONCHOLITIS D/T RSV	$ 135,569	9	$ 2,884	$ 6,619	2	$ 1,655
46619,ACU BRNCHLTS D/T OTH ORG	$ 119,667	9	$ 2,546	$ 29,885	4	$ 3,321
5409,ACUTE APPENDICITIS NOS	$ 134,066	7	$ 3,623	$ 41,652	5	$ 3,204
49391,ASTHMA WSTATUS ASTHMAT	$ 63,083	5	$ 2,175	$ 35,834	2	$ 5,972
4809,VIRAL PNEUMONIA NOS	$ 118,727	5	$ 4,240	$ 9,630	2	$ 2,407
49390,ASTH W/O STAT ASTHM NOS	$ 49,172	5	$ 1,891	$ 12,437	3	$ 1,555
4644,CROUP	$ 33,550	4	$ 1,598	$ -	0	$ -
4801,RESP SYNCYT VIRAL PNEUM	$ 43,913	3	$ 2,440	$ 3,147	1	$ 1,574
66411,DEL W 2 DEG LACERAT-DEL	$ 38,044	3	$ 2,114		0	
5400,AC APPEND W PERITONITIS	$ 119,331	3	$ 7,019	$ 18,670	2	$ 4,667
59010,AC PYELONEPHRITIS NOS	$ 39,532	3	$ 2,635	$ 12,077	2	$ 2,415
4660,ACUTE BRONCHITIS	$ 22,541	2	$ 1,734	$ 2,017	1	$ 672
5589,NONINF GASTROENTERIT NEC	$ 25,567	2	$ 1,967	$ 5,876	2	$ 979
64421,EARLY ONSET DELIVERY-DEL	$ 47,035	2	$ 3,618	$ 2,574	0	$ 2,574
81241,SUPRCONDYL FX HUMERUS-CL	$ 61,988	2	$ 4,768	$ 8,951	1	$ 2,984
25011,DMI KETO NT ST UNCNTRLD	$ 31,301	2	$ 2,846	$ 11,718	2	$ 2,344
59080,PYELONEPHRITIS NOS	$ 25,373	2	$ 2,307	$ 5,469	1	$ 1,823

Table 4
Payment and Utilization Rates by Provider Type - Low Risk Population Colorado Low Risk Children in CHP+ and Medicaid CY2002

Low Risk Population	Medicaid			CHP		
Payment Type	Payments	PMPM	Percent	Payments	PMPM	Percent
Acute Care Hospital	$6,062,577	$9	17%	$1,616,206	$6	12%
Physician/Professional	$12,678,695	$19	36%	$5,662,636	$20	44%
Pharmacy	$5,545,539	$9	16%	$2,301,146	$8	18%
Outpatient Hospital/Clinic	$5,386,116	$8	16%	$1,439,219	$5	11%
Other	$5,065,555	$8	15%	$1,928,721	$7	15%
Program Total	$34,738,482	$54	100%	$12,947,928	$45	100%
Utilization Type	Utilization	Rate per 1,000		Utilization	Rate per 1,000	
MCD Acute Care Hospital Days	5,039	94		1,180	49	
Specialist Encounters	22,895	427		8,005	332	
General Practitioner/Pediatrician Encounters	63,650	1,188		48,377	2,004	
Pharmacy Rx/Refills	150,434	2,808		63,800	2,643	
Outpatient Emergency Visits	21,029	393		6,569	272	

Descriptive Comparison of Medicaid and CHP+ Children – Other Risk Groups

For comparison purposes, payment and utilization profiles for all other risk groups are detailed in Appendix A. A summary of findings for these groups follows.

Children/Infants Less than One Year of Age

Tables 3 and 4, included as Appendix A-1, details payment and utilization comparisons between Colorado Medicaid and CHP+ infants under the age of 1. The key findings for this risk group are:

- The top ranking diagnoses by rate show similarities to low risk children. The primary differences are attributable to conditions associated with newborns, e.g. fetal/neonatal jaundice, thrush and newborn feeding problems;
- As for comparisons between the two programs, overall Medicaid has much higher rates of conditions associated with newborn conditions compared to CHP. In general, These higher rates are expected given the higher rates of pregnancy and birth complication diagnoses shown with pregnant young woman in Medicaid (see Appendix A-2 Table 3);
- Differences in payment and utilization rates between Medicaid and CHP+ reflect the treatment of sicker and low birth weight infants ($296 in Medicaid versus $91 in CHP+ PMPM), with one exception CHP+ infants have higher rates of physician/pediatrician encounters. This conclusion can be supported by looking specifically at the top inpatient diagnoses (see Appendix A-1, Table 3A) where Medicaid infants have most of the inpatient cases associated with sick/ low birth weight newborns;
- Overall cost per case for high ranking diagnoses are similar between the two programs for diagnoses of where inpatient rates for these diagnoses are lower in both programs – otitis media (382.9), cough (786.2), non-inflammatory gastroenteritis (558.9),vomiting alone (787.03), diarrhea (787.91), acute pharyngitis (462) and acute bronchitis (466.0);
- Where inpatient diagnoses (Table 3A) are high for Medicaid and lower/non-existent for CHP+ infants, the Medicaid cost per case (Table 3) is significantly higher overall, as would be expected, compared to CHP. Examples of these higher Medicaid cost per case diagnoses for infants includes acute upper respiratory infections (4659),fetal/neonatal jaundice (774.6), fever (780.6),viral infection (079.99) and acute brochiolitis due to RSV(Respiratory Syncytial Virus) (466.11); and
- In the few cases where inpatient diagnoses are high for CHP+ and lower for Medicaid infants (disorders relating to Preterm Infants, 765.10 and abdominal pain unspecified 466.0), CHP+ cost per case is higher compared to Medicaid.

Pregnant Young Women

As for pregnant young women, the differences between Colorado CHP+ and Medicaid (see Tables 3A Appendix A-2) are driven by higher rates of diagnoses associated with high-risk pregnancy and/or complication during delivery. The payment impacts are higher cost per case and overall higher Medicaid PMPM for this risk group ($416 in Medicaid versus $265 in CHP+ PMPM). The same utilization differences observed between CHP+ low risk children and infants are even more pronounced with this risk

group, i.e. higher rates of encounters for Medicaid compared to CHP+ except for encounters with physician/pediatricians. CHP+ young pregnant women see these doctors at a rate approximately 6 times higher than their Medicaid counterpart.

Special Need Children

Special need children share utilization patterns in common with both low risk and infants, regardless of program, with high rates of childhood illnesses like URI and otitis media (see tables in Appendix A-3). Specific findings for this risk group are:

- Medicaid and CHP+ special need children have striking similar conditions, except for diagnoses that you might expect for physically disabled children – backache (724.5) and lumbago (724.2). Otalgia (388.70), ear pain, could also a byproduct of another secondary condition, e.g. dental disorders, associated with physically disabilities; and
- Acute care hospital stays primarily drive payment differences between the two programs ($351 in Medicaid versus $186 in CHP+ PMPM). Looking specifically at top ranking inpatient diagnoses of special need children in both programs (see Appendix A-3 Table 3A), it is clear that Medicaid special need children have significantly higher rates of diagnoses related to pregnancy.

Multivariate Comparison of Medicaid and CHP+ Low Risk Children

Many of the payment and utilization differences drawn from the descriptive tables presented cannot be fully attributed to program differences. Health status, geographical and other factors facilitating access to health care services, age of the child and other factors impact payment and utilization rates of children enrolled in Colorado Medicaid and CHP. Multiple regression analysis is designed to produce an overall mathematical representation of program payments as a function of these predictors. The mathematical form that is typically used to predict payment is linear model. Linear regression procedures fit a line between points representing payment and predictors of payments. Mathematical regression computes a line so that the squared deviations of the observed points from that line are minimized (least squares estimation). For the mathematical technique to be valid, the statistical distribution of payments must comply with certain assumptions. A common problem in applying an ordinary least square (OLS) regression to annual health care payments in low risk populations is that significant numbers of beneficiaries use no services in the course of the year. A payment distribution which is heavily influenced toward non-users does not comply with the statistical requirements of the regression methodology. Table 5 is a univariate distribution of annual payments (not including PCPP payments) in the low risk populations by program. As can be observed, both programs show the presence of large number of non-users. The rate of non-use is higher in the CHP+ population in comparison to Medicaid. The Medicaid expenditures are significantly higher on average across the entire distribution, but do have similar functional characteristics, i.e. the profiles have the same shape.

Table 5 (see Appendices A-1 through A-3) present payment distributions for the other risk groups. Children under the age of 1, like low risk children, have payment distributions influenced by non-users. By the nature of how the other two risk groups are defined, special needs children and young pregnant woman are all users. However, non-users, for these latter risk groups, do influence provider-specific payment distributions.

Table 5 Univariate Distribution of Total Payments Per Low Risk Enrollee in Year 2002

Low Risk Population Distribution of Annual Payments		
Percentile	**CHP**	**Medicaid**
100% Max	$142,087	$234,286
99%	$3,351	$8,061
95%	$902	$3,001
90%	$444	$1,419
75% Q3	$137	$550
50% Median	$0	$142
25% Q1	$0	$0
10%	$0	$0
5%	$0	$0
1%	$0	$0
0% Min	$0	$0

The two stage model partially rectifies the problem of the interpretation of non-compliant distribution by separately modeling and pooling the results of populations that are more likely to be users and populations that are more likely to be non-users. The first stage is the implementation of a probabilistic model (logistic) of annual non-zero payments as a function of population characteristics (Table 6a). The second stage is the implementation of a regression analysis of payments in populations that are more likely to be users (Table 6b). In both models the measurement of program effect is represented as a CHP+ population in comparison to the Medicaid population. The multiple stage approach can lead to complex conclusions based on regression estimates for the same factors with opposite signs in the different stages, e.g. a lower probability of utilization but a report of higher costs. In such cases the first stage regression may be showing that the factor relates to an overall lower probability of utilization, while the second stage regression indicates that in the population in which utilization does occur the same factor correlates with higher levels of expenditures. The variables used in the specification of the models are listed in the table below.

Variables Used to Specify First Stage Models

Variable	Description
Male	1=Male 0=Female
Rural	Child lives in County designated as Rural(1);0= Metropolitan
Age <1	1=Infants under the Age of 1(Reference Age 5-9)
Age 1-4	1=Children Between the Ages of 1 to 4
Age 10-14	1=Children Between the Ages of 10 to 14
Age 15-19	1=Children Between the Ages of 15 to 19
FPL 36%	1=Parent's Income between 0 and 36% of Federal Poverty Level (Reference 37%-100% FPL)
FPL 133%	1=Parents Income is between 101 and 133% of FPL
FPL 185%	1=Parents Income is between 134 and 185% of FPL
Chronic Mental Illness	1=Children with diagnosis on claims
Developmental/MR Disability	1=Children with diagnosis on claims
Neurological Disability	1=Children with diagnosis on claims

Variable	Description
Physical Disability	1=Children with diagnosis on claims
Sensory Disability	1=Children with diagnosis on claims
Asthma	1=Children with diagnosis on claims
Diabetes	1=Children with diagnosis on claims
Injury	1=Children with diagnosis on claims
Cancer	1=Children with diagnosis on claims
Pneumonia	1=Children with diagnosis on claims
UTI	1=Children with diagnosis on claims
Heart Disease	1=Children with diagnosis on claims
Ill-defined Symptoms	1=Children with diagnosis on claims
Nutritional Deficiencies	1=Children with diagnosis on claims
Pregnant	1=Children with diagnosis on claims
CHP	1=Children enrolled in CHP;0=Children enrolled in Medicaid
New Enrollment in Yr	1=Children newly enrolled in 2002
Ended Enrollment in Yr	1=Children whose enrollment ended in 2002
Eligible Months in Yr	Number Month of Enrolled Months in Medicaid or CHP+ in 2002
Denver County	1=Children residing in Denver County
PCCM	1=Children with an assigned PCCM in 2002; 0=Medicaid FFS

Findings from the multivariate comparisons between Medicaid and CHP+ low risk children are similar to the findings from the descriptive comparisons on disease, payment and utilization. The multivariate methodology controls for socioeconomic and individual characteristics that could possible explain profile differences between the two programs. Tables 6a and 6b report on the results of two-stage multivariate analyses for predicting total health care payments for Colorado low risk children enrolled in Medicaid and CHP. The first stage logistic probability (Table 6a) predicts the probability of any payment for health care services. The results from the second stage of the model, reported in Table 6b, predicts actual payments amounts for low risk children, relative to the probability of any health care payments. What can be concluded from the multivariate total payment model for all low risk children are:

- If a child was between the ages of 15 to 19 (relative to the ages of 5 to 9) in 2002, they had a higher probability of any health care expenditures, and if there were any expenditures for these children in 2002, they were approximately $780 higher than a child between the ages of 5 to 9 with health care payments;[3];
- If a child's parents had incomes between 134% and 185% of FPL, they had a 160 percent probability (parameter estimate), or odds ratio of 5 to1, of having health care expenditures in 2002 compared to children whose parents had incomes less than between 37% and 100% of FPL (see note 3). However, on average the amount of expenditures for these children, who had health care expenditures in 2002,were $226 less than for children whose parents' income fell below 37% FPL and also had any health care expenditures;
- If a child had a serious health problem in 2002, including cancer, heart disease, nutrition deficiencies, or diabetes, and they had any health care expenditures, they had on average significantly higher health care expenditures relative to children without these conditions;[4]

- Other variables predictive of any health care expenditures include children who live in rural areas (relative to those who did not) and children who were enrolled during most of 2002 (eligible month variable). For children with expenditures, those who ended enrollment in 2002(relative to those who remained in one of the programs) and/or those who lived in the Denver County (relative to those who did not) had higher payments in 2002. However, those living in rural areas, those with higher incomes (134%-185% FPL relative to 37%-100% FPL) and/or those enrolled with a PCCM (relative to children without a PCCM) had lower payments in 2002.

As for conclusions regarding specific findings about differences between the two programs, the multivariate total payment model suggests (controlling for all other specified effects):

- CHP+ low risk children, relative to Medicaid children (variable "CHP") in 2002, had a 140% probability (parameter estimate Table 6a) or odds ratio of 0.25 to 1, **of not** having (negative parameter) any health care expenditures, and on average, if they did have any expenditures, their payments in 2002 were approximately $272 lower (negative parameter) relative to a low risk Medicaid child with any expenditures. Most of payment differential between the two programs can be explained by lower use of inpatient health care by CHP+ low risk children relative to Medicaid low risk children (see Appendix B) Low risk CHP+ children had significantly **lower** odds of having any inpatient expenditures and the payments for those with any health care expenditures was in 2002 approximately $608 less than Medicaid low risk children with any expenditures ; and
- CHP+ low risk children, relative to Medicaid low risk children, had a lower probability of having any outpatient expenditures (see Appendix B) in 2002, but for those CHP+ children with outpatient expenditures, on average their outpatient expenditures were $76 higher than Medicaid low risk children with any expenditure in 2002.

Appendix B includes the multivariate two stage results for expenditure models by provider type (inpatient, outpatient, physician, other professional and pharmacy (drugs)). In general findings reported in the descriptive section are born out in the provider level payment models. For all provider types, except outpatient, CHP+ low risk children have lower predicted probability of any health care payments and, for those with payments, lower average amounts relative to low risk Medicaid children with expenditures.

Table 6a
Logistic Probability of Low Risk CHP+ Children Having Any Health Care Dollar Payments in Year 2002 Relative to Medicaid Low Risk Children

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=91,738	**-1.20**	**0.05**	**630.6986**	**<.0001**		
Male	48%	**-0.13**	**0.02**	**56.9548**	**<.0001**	**0.88**	**0.85-0.91**
Rural	26%	**0.38**	**0.02**	**350.9235**	**<.0001**	**1.47**	**1.41-1.52**
Age 1-4	31%	**0.11**	**0.02**	**24.6704**	**<.0001**	**1.12**	**1.07-1.17**
Age 10-14	23%	0.02	0.02	0.9563	0.3281	1.02	0.98-1.07
Age 15-19	18%	**0.38**	**0.03**	**217.7465**	**<.0001**	**1.46**	**1.39-1.53**
FPL 36%	70%	**0.26**	**0.03**	**108.063**	**<.0001**	**1.30**	**1.24-1.37**
FPL 133%	17%	**0.11**	**0.02**	**20.9096**	**<.0001**	**1.12**	**1.07-1.18**
FPL 185%	4%	**1.60**	**0.10**	**261.9674**	**<.0001**	**4.93**	**4.06-5.98**
CHP	30%	**-1.40**	**0.02**	**4082.4316**	**<.0001**	**0.25**	**0.24-0.26**
New Enrollment in Yr	43%	**-0.33**	**0.03**	**174.9161**	**<.0001**	**0.72**	**0.68-0.75**
Ended Enrollment in Yr	20%	**0.17**	**0.03**	**48.097**	**<.0001**	**1.19**	**1.13-1.25**
Eligible Months in Yr	7.92	**0.29**	**0.00**	**7929.1271**	**<.0001**	**1.34**	**1.33-1.35**

Table 6b
OLS Model For Colorado Kids Total Dollars in Year 2002 (Low Risk)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=60,620	$100.58	68.00	1.48	0.1391
Male	47%	**-$44.28**	**21.76**	**-2.04**	**0.0419**
Rural	29%	**-$176.20**	**25.32**	**-6.96**	**<.0001**
Age 1-4	32%	-$17.82	29.03	-0.61	0.5392
Age 10-14	22%	**$68.34**	**30.18**	**2.26**	**0.0235**
Age 15-19	18%	**$780.25**	**33.15**	**23.54**	**<.0001**
FPL 36%	71%	**$58.29**	**26.85**	**2.17**	**0.0299**
FPL 133%	18%	$35.13	30.00	1.17	0.2415
FPL 185%	6%	**-$226.59**	**50.65**	**-4.47**	**<.0001**
Asthma	8%	**$749.76**	**45.47**	**16.49**	**<.0001**
Diabetes	0%	**$1,244.92**	**199.90**	**6.23**	**<.0001**
Injury	7%	**$453.95**	**47.93**	**9.47**	**<.0001**
Cancer	0%	**$9,324.82**	**248.64**	**37.5**	**<.0001**
Pneumonia	4%	**$922.07**	**64.56**	**14.28**	**<.0001**
UTI	3%	**$382.23**	**68.12**	**5.61**	**<.0001**
Heart Disease	1%	**$8,002.86**	**142.90**	**56**	**<.0001**
General Symptoms	10%	**$836.16**	**41.98**	**19.92**	**<.0001**
Nutritional Deficiencies	3%	**$2,188.05**	**68.88**	**31.77**	**<.0001**
CHP	22%	**-$271.56**	**30.30**	**-8.96**	**<.0001**
New Enrollment in Yr	30%	**$186.64**	**35.72**	**5.23**	**<.0001**
Ended Enrollment in Yr	16%	**$370.31**	**36.01**	**10.28**	**<.0001**
Eligible Months in Yr	9.40	**$63.06**	**4.83**	**13.05**	**<.0001**
Denver County	6%	**$177.82**	**52.72**	**3.37**	**0.0007**
PCCM	70%	**-$475.14**	**32.87**	**-14.46**	**<.0001**

Appendix B-1 through B-3 presents the multivariate two stage results for all other children's risk groups' payment model (less than 1 year of age, pregnant young women and special needs). Note because of the definition of the latter two risk groups, step1 logistic results will only be presented for provider specific payment models. Conclusions by risk group regarding specific findings and differences between Medicaid and CHP+ follows.

Children/Infants Less than One Year of Age

- For infants under the age of one there is little difference between Medicaid and CHP, in terms of the odds of having any health care expenditure. Variables which are strong predictors of use include income and number of eligible program months a child is enrolled in one of the programs.
- For infants with any health care expenditures the same factors found to be predictive of amount of payment in the low risk group are also predictors for infants including chronic disease and whether a child is enrolled with a PCCM.. However, some of the specific diseases that *are* significant predictors for payment levels for low risk children *are not* predictors for the level of infant payments. These disease markers include diabetes, injury and cancer. However, the payment differential associated with a chronic disease for infants compared to low risk children is much higher relative to infants without the disease, especially heart disease, all other things being equal.
- CHP+ program enrollment, relative to Medicaid, is not a significant predictor but having a PCCM is a significant predictor of level of payment (lower relative to non-PCCM infants) regardless of program.
- For other provider payment models CHP+ infant enrollees, relative to Medicaid infants, have lower odds of having any expenditure for all provider types. Only for other practitioners and drug payment models is CHP+ a significant predictor of level of payments in 2002($121 for other practitioners and $-104 for drugs) relative to Medicaid infants with expenditures for these providers.

Young Pregnant Women

- For young pregnant women chronic disease is not a significant predictor of level of payment, except for those women with general symptoms (transient loss of consciousness), who on average have $3873 higher payments in 2002.
- Young pregnant women with a PCCM have on average $1,251 more expenditures relative to those without a PCCM and CHP+ enrollees have on average almost $3,000 less payments than their young pregnant women counterparts in Medicaid.
- Young pregnant women, whose income's (or parent's) are at 101%-133% FPL (relative to those with incomes between 37%-100% FPL), have on average $810 higher payments in 2002.
- Overall for all provider type payments, the odds of any expenditure for CHP+ are lower than for Medicaid young pregnant women. For only one provider type,

physicians, is CHP, relative to Medicaid a significant predictor of payment, on average $439 lower.

Special Needs Children

- Chronic diseases, along with age, income, type of disability , enrollment in CHP+ and having a PCCM are all significant predictors of level of payments for special needs children specifically:
- Age is a predictor of higher payments (relative to 5-9 years olds) for all age groups except those special need children between the ages of 1 and 4;
- Special needs children whose parents have lower incomes (0-36% FPL) (relative to 37%-100%FPL) have higher payments and those whose parents have higher incomes(134%-185%) have lower payments;
- The presence of all disability conditions are significant positive predictors of payment with neurological and physical disabilities having the highest positive payment effect relative to those without these disabilities;
- All chronic conditions (except diabetes) are strong predictors of level of payment, with highest average dollar effects (separately) for cancer and heart disease relative to those without these conditions ($18,000 and $20,000 respectively.
- Special needs children living in rural areas have on average -$1,263 less payments than those living metropolitan areas in 20002;
- CHP+ special need children on average have $1,400 less payments in 2002 relative to Medicaid special need children; those with a PCCM have on average -$4,665 fewer payments relative to those without a PCC;
- Pregnancy diagnoses are among the top frequency inpatient diagnoses of special need children, but after controlling for other factors pregnancy alone is not a predictor of the level of total payments for special need children; and
- For all provider types, the odds of any expenditure for CHP+ are lower than for Medicaid special need children. For special need children with drug and physician expenditures, CHP, relative to Medicaid is a significant predictor of lower payments, but for outpatient clinic care CHP+ is a significant predictor of higher payments ($133).

Compatibility of CHP+ Benefit Structure

The analysis of Medicaid payments includes services that have annual caps in the CHP+ program. To the extent that the Medicaid low risk populations used these services beyond the capped amount the analysis may include skewed comparisons between the programs. Additionally if the Medicaid population includes large numbers of children with care needs far in excess of the services normally provided by CHP+ there will be implications in terms of the understanding of CHP+ administrative and network capacity to support the low-risk Medicaid children.

The affected benefits include the following list of per annum caps on coverage.

1) Durable Medical Equipment is capped at $2,000;
2) Mental health related inpatient covered stay days are limited to 45 days;
3) Rehabilitation therapist covered encounters are limited to 30 encounters;
4) Mental health outpatient covered services is limited to 20 encounters; and
5) Substance abuse outpatient covered services is limited to 20 encounters.

Table 7
CY 2002 Medicaid non-SSI FFS,
and HMO Enrolled Children with Utilization Beyond
CHP+ Benefit Limits

Benefit Limit	Beneficiaries	Payments
DME, $2,000 annual cap	10	$75,925
Outpatient Substance Abuse, 20 encounter annual cap	1	$2,238
Outpatient Rehabilitation Therapy, 30 annual encounters	4	$1,982
Outpatient Mental Health, 20 encounter annual cap	0	$0
Inpatient Psychiatric Hospital Care, 45 day annual cap	0	$0
Hearing Supplies, $800 annual cap	2	$1,728
Vision related encounters, 2 encounters annual cap	13	$572

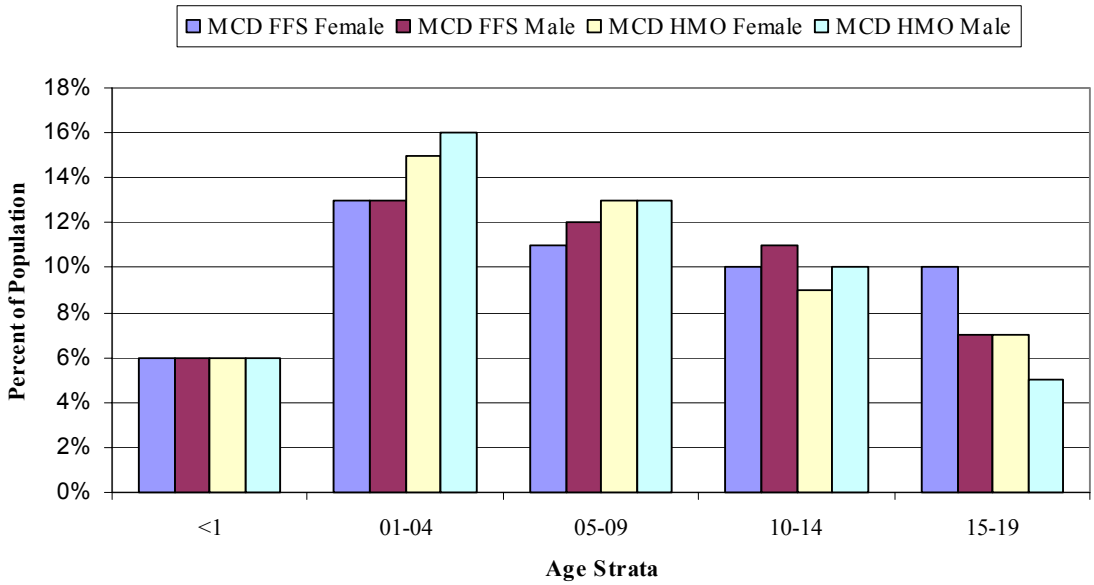
Table 7 demonstrates that the number of Medicaid children with high care needs that exceed the current CHP+ benefit structure is relatively low.

Limitations of Analysis: Medicaid HMO Enrollees Not Present

Due to the lack of availability of HMO encounter data the Medicaid study population does not include HMO enrollees who represent 50% of all Colorado Medicaid children. The lack of encounter data implies that utilization, payment and diagnostic data for this population is not available and therefore comparative analyses are not feasible. The Medicaid eligibility data does include HMO enrollees. From this source several relevant observations can be made:

1) The percent of SSI eligible children in HMO population is 4% as compared to 5% among the non-HMO enrollees;
2) The age profile is similar between the HMO and study populations with a higher proportion of the HMO population falling in 1-9 year old range (Figure 5 below).

Figure 5
Medicaid HMO to FFS CY 2002 Demographic Comparison



An accepted assertion is that the HMO population is subject to enhanced levels of care management in relation to a FFS population. Supportable conclusion are that the HMO is no more at risk (disability or chronic disease) than the FFS population and is lower cost with higher levels of outpatient care and lower levels of inpatient acute care – more like CHP+ enrollees. The inclusion of the HMO population in the analysis would most likely have proportionally increased the size of the Medicaid low risk group and made the utilization statistics more comparable between the CHP+ and Medicaid programs.[†]

[†]Derek DeLia, Joel C. Cantor and David Sandman (2001)."Medicaid Managed Care in New York City: Recent Performance and Coming Challenges." The American Journal of Public Health, (91): p458.

Appendix A-1 Payment and Utilization Rates by Provider Type: Population Less Than 1 Year Old Children

Table 3
Payment and Prevalence of Highest Ranked Diagnoses
Colorado Less Than 1 Year Old Children in CHP+ and Medicaid CY2002

Treatment Diagnosis Code from all Provider Types	MCD Sum of Service Payment	MCD Rate per 10,000	MCD Cost per Case	CHP+ Sum of Service Payment	CHP+ Rate per 10,000	CHP+ Cost per Case
4659,ACUTE URI NOS	$ 771,208	5,977	$ 111	$ 16,699	5,293	$ 38
3829,OTITIS MEDIA NOS	$ 365,258	2,988	$ 106	$ 20,898	3,017	$ 84
7746,FETAL/NEONATAL JAUND NOS	$ 379,056	1,956	$ 167	$ 1,048	219	$ 58
7806,FEVER	$ 436,935	1,956	$ 193	$ 12,542	1,509	$ 101
7862,COUGH	$ 105,628	1,420	$ 64	$ 3,157	925	$ 42
07999,VIRAL INFECTION NOS	$ 327,032	1,364	$ 207	$ 7,809	1,424	$ 67
5589,NONINF GASTROENTERIT NEC	$ 161,623	1,174	$ 119	$ 5,894	1,034	$ 69
46619,ACU BRNCHLTS D/T OTH ORG	$ 767,875	1,061	$ 625	$ 11,815	694	$ 207
78703,VOMITING ALONE	$ 125,820	991	$ 110	$ 3,177	402	$ 96
38200,AC SUPP OTITIS MEDIA NOS	$ 75,176	829	$ 78	$ 5,265	1,472	$ 44
1120,THRUSH	$ 64,219	791	$ 70	$ 347	280	$ 15
78791,DIARRHEA	$ 83,612	722	$ 100	$ 4,472	730	$ 75
7793,NB FEEDING PROBLEMS	$ 132,629	659	$ 174	$ 577	110	$ 64
46611,ACU BRONCHOLITIS D/T RSV	$ 1,036,118	632	$ 1,415	$ 38,750	523	$ 901
76510,PRETERM INFANT NEC WTNOS	$ 324,626	629	$ 445	$ 18,688	73	$ 3,115
462,ACUTE PHARYNGITIS	$ 37,407	575	$ 56	$ 2,339	913	$ 31
6929,DERMATITIS NOS	$ 59,192	551	$ 93	$ 891	377	$ 29
37230,CONJUNCTIVITIS NOS	$ 42,301	530	$ 69	$ 1,329	511	$ 32
4660,ACUTE BRONCHITIS	$ 81,610	520	$ 135	$ 5,680	560	$ 123
78900,ABDMNAL PAIN UNSPCF SITE	$ 47,072	516	$ 79	$ 2,186	183	$ 146

Table 3A
Prevalence of Highest Ranked (by Rate per 10,000) Inpatient Diagnoses
Colorado Less Than 1 Year Old Children in CHP+ and Medicaid CY2002

Treatment Diagnosis Code from all Provider Types	MCD Sum of Service Payment	MCD Rate per 10,000	MCD Cost per Case	CHP+ Sum of Service Payment	CHP+ Rate per 10,000	CHP+ Cost per Case
46611,ACU BRONCHOLITIS D/T RSV	$ 900,494	239	$ 3,251	$ 34,549	158	$ 2,658
46619,ACU BRNCHLTS D/T OTH ORG	$ 580,091	155	$ 3,223	$ 5,632	49	$ 1,408
7746,FETAL/NEONATAL JAUND NOS	$ 144,343	89	$ 1,401		0	
07999,VIRAL INFECTION NOS	$ 178,324	61	$ 2,512	$ 3,326	49	$ 831
486,"PNEUMONIA, ORGANISM NOS"	$ 190,194	51	$ 3,224	$ 12,873	24	$ 6,436
7708	$ 316,364	46	$ 5,969		0	
7806,FEVER	$ 126,391	44	$ 2,478	$ -	12	$ -
2765,HYPOVOLEMIA	$ 120,496	43	$ 2,410	$ 2,112	12	$ 2,112
4659,ACUTE URI NOS	$ 102,838	42	$ 2,099	$ -	24	$ -
4801,RESP SYNCYT VIRAL PNEUM	$ 133,583	38	$ 3,036	$ 7,416	24	$ 3,708
769,RESPIRATORY DISTRESS SYN	$ 1,004,298	36	$ 23,912		0	
7505,CONG PYLORIC STENOSIS	$ 311,082	28	$ 9,721		0	
7718	$ 108,799	28	$ 3,400	$ 4,939	12	$ 4,939
76518,PRETERM NEC 2000-2499G	$ 183,367	27	$ 5,915		0	
53081,ESOPHAGEAL REFLUX	$ 114,545	25	$ 3,950		0	
4809,VIRAL PNEUMONIA NOS	$ 67,716	20	$ 2,944	$ 2,987	12	$ 2,987
59080,PYELONEPHRITIS NOS	$ 60,893	19	$ 2,768	$ 2,723	24	$ 1,361
7793,NB FEEDING PROBLEMS	$ 46,205	19	$ 2,100		0	
5990,URIN TRACT INFECTION NOS	$ 48,824	16	$ 2,570		0	
0088,VIRAL ENTERITIS NOS	$ 43,641	16	$ 2,424	$ 953	12	$ 953

Table 4 Payment and Utilization Rates by Provider Type
Less Than 1 Year Olds Colorado Children in CHP+ and Medicaid CY2002

Less Than 1 Population	Medicaid			CHP		
Payment Type	Payments	PMPM	Percent	Payments	PMPM	Percent
Acute Care Hospital	$23,990,017	$173	58%	$188,206	$19	21%
Physician/Professional	$8,729,596	$63	22%	$505,446	$52	57%
Pharmacy	$1,480,593	$11	4%	$59,185	$6	7%
Outpatient Hospital/Clinic	$4,787,475	$34	12%	$74,398	$8	8%
Other	$2,186,295	$16	5%	$65,956	$7	7%
Program Total	$41,173,977	$296	100%	$893,191	$91	100%
Utilization Type	Utilization	Rate per 1,000		Utilization	Rate per 1,000	
MCD Acute Care Hospital Days	30,264	2,612		322	392	
Specialist Encounters	5,617	485		256	311	
General Practitioner/Pediatrician Encounters	49,264	4,252		4,611	5,610	
Pharmacy Rx/Refills	37,867	3,268		2,083	2,534	
Outpatient Emergency Visits	10,133	875		399	485	

Table 5 Less Than 1 Year Old
Univariate Distribution of Total Payments Per Enrollee in Year 2002

Less Than 1 Year Old		
Quartile of Annual Payments	**CHP**	**Medicaid**
100% Max	$25,560	$493,165
99%	$3,617	$30,545
95%	$1,104	$5,591
90%	$600	$2,439
75% Q3	$224	$633
50% Median	$19	$268
25% Q1	$0	$82
10%	$0	$0
5%	$0	$0
1%	$0	$0
0% Min	$0	$0

Appendix A-2 Payment and Utilization Rates by Provider Type: Population Pregnant Young Women

Table 3
Payment and Prevalence of Highest Ranked Diagnoses
Colorado Pregnant Children in CHP+ and Medicaid CY2002

Treatment Diagnosis Code from all Provider Types	MCD Sum of Service Payment	MCD Rate per 10,000	MCD Cost per Case	CHP+ Sum of Service Payment	CHP+ Rate per 10,000	CHP+ Cost per Case
650,NORMAL DELIVERY	$ 1,019,778	3,610	$ 1,056	$ 23,319	3,361	$ 972
64893,OTH CURR COND-ANTEPARTUM	$ 191,859	2,358	$ 304	$ 1,530	980	$ 219
64683,PREG COMPL NEC-ANTEPART	$ 109,146	1,985	$ 206	$ 1,799	1,820	$ 138
5990,URIN TRACT INFECTION NOS	$ 39,190	1,727	$ 85	$ 676	1,540	$ 61
64403,THRT PREM LABOR-ANTEPART	$ 271,590	1,659	$ 612	$ 3,814	1,120	$ 477
6260,ABSENCE OF MENSTRUATION	$ 37,919	1,656	$ 86	$ 251	980	$ 36
64663,GU INFECTION-ANTEPARTUM	$ 142,331	1,525	$ 349	$ 6,982	1,680	$ 582
65653,POOR FETAL GRTH-ANTEPART	$ 49,633	1,271	$ 146	$ 1,360	560	$ 340
78900,ABDMNAL PAIN UNSPCF SITE	$ 56,031	1,263	$ 166	$ 825	1,540	$ 75
65693,FET/PLAC PROB NOS-ANTEPA	$ 16,251	1,129	$ 54	$ 305	840	$ 51
64413,THREAT LABOR NEC-ANTEPAR	$ 58,704	1,114	$ 197	$ 2,327	1,120	$ 291
64003,THREATEN ABORT-ANTEPART	$ 87,371	1,076	$ 303	$ 1,559	1,260	$ 173
61610,VAGINITIS NOS	$ 22,683	1,005	$ 84	$ 148	560	$ 37
6221,DYSPLASIA OF CERVIX	$ 33,460	953	$ 131	$ 1,661	1,120	$ 208
3671,MYOPIA	$ 20,859	946	$ 82	$ 1,761	2,100	$ 117
+4659,ACUTE URI NOS	$ 17,981	908	$ 74	$ 332	1,680	$ 28
462,ACUTE PHARYNGITIS	$ 16,030	893	$ 67	$ 805	2,660	$ 42
66401,DEL W 1 DEG LACERAT-DEL	$ 669,902	890	$ 2,815	$ 6,016	560	$ 1,504
65573,DEC FETAL MOVMT ANTEPART	$ 20,959	781	$ 100	$ 526	840	$ 88
6259,FEM GENITAL SYMPTOMS NOS	$ 24,773	733	$ 126	$ 408	700	$ 82

Table 3A
Payment and Prevalence of Highest Ranked (by Rate per 10,000) Inpatient Diagnoses Colorado Pregnant Young Women in CHP+ and Medicaid CY2002

Treatment Diagnosis Code from all Provider Types	MCD Sum of Service Payment	MCD Rate per 10,000	MCD Cost per Case	CHP+ Sum of Service Payment	CHP+ Rate per 10,000	CHP+ Cost per Case
66401,DEL W 1 DEG LACERAT-DEL	$ 613,688	792	$ 2,895	$ 9,844	700	$ 1,969
66411,DEL W 2 DEG LACERAT-DEL	$ 473,520	635	$ 2,785	$ 12,213	840	$ 2,036
650,NORMAL DELIVERY	$ 343,054	490	$ 2,619	$ 9,324	700	$ 1,865
65971,ABN FTL HRT RATE/RHY-DEL	$ 353,923	348	$ 3,806	$ 9,159	420	$ 3,053
64511,POST TERM PREG-DEL	$ 264,541	336	$ 2,939		0	
64421,EARLY ONSET DELIVERY-DEL	$ 508,039	314	$ 6,048	$ 2,500	140	$ 2,500
66331,CORD ENTANGLE NEC-DELIV	$ 169,761	228	$ 2,783		0	
64403,THRT PREM LABOR-ANTEPART	$ 155,389	217	$ 2,679	$ 1,762	140	$ 1,762
66551,OB INJ PELV ORG NEC-DEL	$ 149,960	198	$ 2,829	$ 3,608	280	$ 1,804
64891,OTH CURR COND-DELIVERED	$ 121,470	172	$ 2,641	$ 2,453	140	$ 2,453
65811,PREM RUPT MEMBRAN-DELIV	$ 124,742	138	$ 3,371		0	
64821,ANEMIA-DELIVERED	$ 107,591	123	$ 3,260		0	
65981,COMPLIC LABOR NEC-DELIV	$ 81,729	112	$ 2,724	$ 2,604	140	$ 2,604
64231,TRANS HYPERTEN-DELIVERED	$ 89,187	105	$ 3,185	$ 5,950	280	$ 2,975
66111,SEC UTERINE INERT-DELIV	$ 131,007	105	$ 4,679	$ 14,636	280	$ 7,318
64241,MILD/NOS PREECLAMP-DELIV	$ 116,952	97	$ 4,498	$ 21,819	560	$ 5,455
64663,GU INFECTION-ANTEPARTUM	$ 67,095	93	$ 2,684	$ 5,625	420	$ 1,875
65421,PREV C-DELIVERY-DELIVRD	$ 133,991	93	$ 5,360		0	
65801,OLIGOHYDRAMNIOS-DELIVER	$ 92,137	90	$ 3,839	$ 5,186	280	$ 2,593
66131,PRECIPITATE LABOR-DELIV	$ 64,893	86	$ 2,821		0	

Table 4 Payment and Utilization Rates by Provider Type
Colorado Pregnant Young Women in CHP+ and Medicaid CY2002

Pregnant Young Women Population	Medicaid			CHP		
Payment Type	Payments	PMPM	Percent	Payments	PMPM	Percent
Acute Care Hospital	$5,915,076	$184	44%	$116,008	$135	51%
Physician/Professional	$3,051,034	$95	23%	$48,778	$57	21%
Pharmacy	$569,452	$18	4%	$10,522	$12	5%
Outpatient Hospital/Clinic	$1,324,624	$41	10%	$10,677	$12	5%
Other	$2,484,574	$77	19%	$41,455	$48	18%
Program Total	$13,344,760	$416	100%	$227,441	$265	100%
Utilization Type	Utilization	Rate per 1,000		Utilization	Rate per 1,000	
MCD Acute Care Hospital Days	5,926	2,215		116	1,620	
Specialist Encounters	5,208	1,946		55	768	
General Practitioner/Pediatrician Encounters	2,905	1,086		458	6,398	
Pharmacy Rx/Refills	16,510	6,171		355	4,959	
Outpatient Emergency Visits	2,342	875		43	601	

Table 5 Pregnant Young Women
Univariate Distribution of Total Payments Per Enrollee in Year 2002

Pregnant Young Women Population		
Quartile of Annual Payments	**CHP**	**Medicaid**
100% Max	$15,650	$96,516
99%	$15,650	$15,683
95%	$5,752	$8,618
90%	$4,696	$6,762
75% Q3	$1,604	$5,083
50% Median	$340	$1,396
25% Q1	$116	$576
10%	$15	$274
5%	$0	$165
1%	$0	$45
0% Min	$0	$0

Appendix A-3 Payment and Utilization Rates by Provider Type: Population Special Need Children

Table 3
Payment and Prevalence of Highest Ranked Diagnoses
Colorado Special Need Children in CHP+ and Medicaid CY2002

Treatment Diagnosis Code from all Provider Types	MCD Sum of Service Payment	MCD Rate per 10,000	MCD Cost per Case	CHP+ Sum of Service Payment	CHP+ Rate per 10,000	CHP+ Cost per Case
4659,ACUTE URI NOS	$ 147,681	3,574	$ 99	$ 22,857	2,447	$ 38
3829,OTITIS MEDIA NOS	$ 174,351	2,980	$ 140	$ 60,951	1,881	$ 131
462,ACUTE PHARYNGITIS	$ 66,294	2,525	$ 63	$ 23,590	2,402	$ 40
38870,OTALGIA NOS	$ 37,158	1,732	$ 51	$ 10,846	1,209	$ 36
7806,FEVER	$ 63,584	1,241	$ 123	$ 14,475	607	$ 97
3671,MYOPIA	$ 40,606	1,234	$ 79	$ 30,957	1,052	$ 119
78900,ABDMNAL PAIN UNSPCF SITE	$ 71,547	1,136	$ 151	$ 29,032	712	$ 165
3670,HYPERMETROPIA	$ 34,953	1,037	$ 81	$ 15,773	582	$ 110
7862,COUGH	$ 22,471	1,004	$ 54	$ 8,235	546	$ 61
5990,URIN TRACT INFECTION NOS	$ 56,830	1,001	$ 136	$ 15,991	578	$ 112
7245,BACKACHE NOS	$ 37,332	992	$ 90	$ 16,794	720	$ 94
38200,AC SUPP OTITIS MEDIA NOS	$ 32,584	918	$ 85	$ 4,981	518	$ 39
49390,ASTH W/O STAT ASTHM NOS	$ 56,726	879	$ 155	$ 20,513	696	$ 119
5589,NONINF GASTROENTERIT NEC	$ 36,377	872	$ 100	$ 13,500	360	$ 152
07999,VIRAL INFECTION NOS	$ 56,745	865	$ 157	$ 9,377	724	$ 52
7242,LUMBAGO	$ 31,712	860	$ 88	$ 15,822	623	$ 103
4660,ACUTE BRONCHITIS	$ 24,895	740	$ 81	$ 4,778	465	$ 42
7840,HEADACHE	$ 60,556	733	$ 198	$ 52,198	546	$ 387
4619,ACUTE SINUSITIS NOS	$ 15,469	716	$ 52	$ 4,679	647	$ 29
0340,STREP SORE THROAT	$ 23,316	712	$ 79	$ 8,611	655	$ 53

Table 3A
Payment and Prevalence of Highest Ranked (by Rate per 10,000) Inpatient Diagnoses Colorado Special Needs Children in CHP+ and Medicaid CY2002

Treatment Diagnosis Code from all Provider Types	MCD Sum of Service Payment	MCD Rate per 10,000	MCD Cost per Case	CHP+ Sum of Service Payment	CHP+ Rate per 10,000	CHP+ Cost per Case
66401,DEL W 1 DEG LACERAT-DEL	$ 69,458	60	$ 2,778	$ -	4	$ -
78039,CONVULSIONS NEC	$ 76,498	55	$ 3,326	$ 16,129	16	$ 4,032
46611,ACU BRONCHOLITIS D/T RSV	$ 56,864	50	$ 2,708	$ 17,553	28	$ 2,508
66411,DEL W 2 DEG LACERAT-DEL	$ 55,040	46	$ 2,897		0	$ -
46619,ACU BRNCHLTS D/T OTH ORG	$ 50,885	43	$ 2,827	$ 3,832	4	$ 3,832
30500,ALCOHOL ABUSE-UNSPEC	$ 172,233	41	$10,131	$ -	12	$ -
650,NORMAL DELIVERY	$ 43,730	38	$ 2,733		0	$ -
2765,HYPOVOLEMIA	$ 33,245	36	$ 2,216	$ 5,511	12	$ 1,837
486,"PNEUMONIA, ORGANISM NOS"	$ 43,857	36	$ 2,924	$ 10,468	16	$ 2,617
07999,VIRAL INFECTION NOS	$ 27,167	26	$ 2,470	$ -	4	$ -
49392,ASTHMA WACUTE EXACERBTN	$ 27,309	24	$ 2,731	$ 21,301	28	$ 3,043
64403,THRT PREM LABOR-ANTEPART	$ 36,403	24	$ 3,640		0	$ -
64421,EARLY ONSET DELIVERY-DEL	$ 28,775	24	$ 2,877	$ 3,200	4	$ 3,200
7746,FETAL/NEONATAL JAUND NOS	$ 12,906	24	$ 1,291	$ -	4	$ -
64893,OTH CURR COND-ANTEPARTUM	$ 23,289	22	$ 2,588		0	$ -
65971,ABN FTL HRT RATE/RHY-DEL	$ 33,195	22	$ 3,688		0	$ -
769,RESPIRATORY DISTRESS SYN	$ 337,905	22	$37,545		0	$ -
4809,VIRAL PNEUMONIA NOS	$ 41,170	19	$ 5,146		0	$ -
64891,OTH CURR COND-DELIVERED	$ 22,075	17	$ 3,154		0	$ -
78341,FAILURE TO THRIVE-CHILD	$ 85,185	17	$12,169	$ 4,660	4	$ 4,660

Table 4 Payment and Utilization Rates by Provider Type
Special Needs Children in CHP+ and Medicaid CY2002

Special Needs Children Population	Medicaid			CHP		
Payment Type	Payments	PMPM	Percent	Payments	PMPM	Percent
Acute Care Hospital	$7,477,993	$149	43%	$1,418,953	$48	26%
Physician/Professional	$4,277,323	$85	24%	$1,579,499	$53	28%
Pharmacy	$2,081,349	$42	12%	$1,024,054	$35	19%
Outpatient Hospital/Clinic	$1,147,748	$23	7%	$501,551	$17	9%
Other	$2,589,962	$52	15%	$1,002,304	$34	18%
Program Total	$17,574,375	$351	100%	$5,526,360	$186	100%
Utilization Type	Utilization	Rate per 1,000		Utilization	Rate per 1,000	
MCD Acute Care Hospital Days	7,317	1,753		1,340	542	
Specialist Encounters	8,564	2,052		4,466	1,806	
General Practitioner/Pediatrician Encounters	15,533	3,721		11,109	4,493	
Pharmacy Rx/Refills	39,982	9,578		19,180	7,757	
Outpatient Emergency Visits	4,579	1,097		1,766	714	

Table 5
Special Need Children
Univariate Distribution of Total Payments Per Enrollee in Year 2002

Special Need Children		
Quartile of Annual Payments	**CHP**	**Medicaid**
100% Max	$66,525	$447,990
99%	$16,416	$67,962
95%	$5,922	$29,839
90%	$3,366	$19,942
75% Q3	$1,474	$6,272
50% Median	$546	$1,663
25% Q1	$203	$618
10%	$75	$277
5%	$21	$166
1%	$0	$53
0% Min	$0	$0

Appendix B-1 Multivariate Model (Two-Step) of Expenditures by Provider Type: Population Low Risk Children

Logistic Model For Colorado Kids Total Dollars in Year 2002 (Low Risk)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=91,738	**-1.20**	**0.05**	**630.6986**	**<.0001**		
Male	48%	**-0.13**	**0.02**	**56.9548**	**<.0001**	**0.88**	**0.85-0.91**
Rural	26%	**0.38**	**0.02**	**350.9235**	**<.0001**	**1.47**	**1.41-1.52**
Age 1-4	31%	**0.11**	**0.02**	**24.6704**	**<.0001**	**1.12**	**1.07-1.17**
Age 10-14	23%	0.02	0.02	0.9563	0.3281	1.02	0.98-1.07
Age 15-19	18%	**0.38**	**0.03**	**217.7465**	**<.0001**	**1.46**	**1.39-1.53**
FPL 36%	70%	**0.26**	**0.03**	**108.063**	**<.0001**	**1.30**	**1.24-1.37**
FPL 133%	17%	**0.11**	**0.02**	**20.9096**	**<.0001**	**1.12**	**1.07-1.18**
FPL 185%	4%	**1.60**	**0.10**	**261.9674**	**<.0001**	**4.93**	**4.06-5.98**
CHP	30%	**-1.40**	**0.02**	**4082.4316**	**<.0001**	**0.25**	**0.24-0.26**
New Enrollment in Yr	43%	**-0.33**	**0.03**	**174.9161**	**<.0001**	**0.72**	**0.68-0.75**
Ended Enrollment in Yr	20%	**0.17**	**0.03**	**48.097**	**<.0001**	**1.19**	**1.13-1.25**
Eligible Months in Yr	7.92	**0.29**	**0.00**	**7929.1271**	**<.0001**	**1.34**	**1.33-1.35**

OLS Model For Colorado Kids Total Dollars in Year 2002 (Low Risk)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=60,620	$100.58	68.00	1.48	0.1391
Male	47%	**-$44.28**	**21.76**	**-2.04**	**0.0419**
Rural	29%	**-$176.20**	**25.32**	**-6.96**	**<.0001**
Age 1-4	32%	-$17.82	29.03	-0.61	0.5392
Age 10-14	22%	**$68.34**	**30.18**	**2.26**	**0.0235**
Age 15-19	18%	**$780.25**	**33.15**	**23.54**	**<.0001**
FPL 36%	71%	**$58.29**	**26.85**	**2.17**	**0.0299**
FPL 133%	18%	$35.13	30.00	1.17	0.2415
FPL 185%	6%	**-$226.59**	**50.65**	**-4.47**	**<.0001**
Asthma	8%	**$749.76**	**45.47**	**16.49**	**<.0001**
Diabetes	0%	**$1,244.92**	**199.90**	**6.23**	**<.0001**
Injury	7%	**$453.95**	**47.93**	**9.47**	**<.0001**
Cancer	0%	**$9,324.82**	**248.64**	**37.5**	**<.0001**
Pneumonia	4%	**$922.07**	**64.56**	**14.28**	**<.0001**
UTI	3%	**$382.23**	**68.12**	**5.61**	**<.0001**
Heart Disease	1%	**$8,002.86**	**142.90**	**56**	**<.0001**
General Symptoms	10%	**$836.16**	**41.98**	**19.92**	**<.0001**
Nutritional Deficiencies	3%	**$2,188.05**	**68.88**	**31.77**	**<.0001**
CHP	22%	**-$271.56**	**30.30**	**-8.96**	**<.0001**
New Enrollment in Yr	30%	**$186.64**	**35.72**	**5.23**	**<.0001**
Ended Enrollment in Yr	16%	**$370.31**	**36.01**	**10.28**	**<.0001**
Eligible Months in Yr	9.40	**$63.06**	**4.83**	**13.05**	**<.0001**
Denver County	6%	**$177.82**	**52.72**	**3.37**	**0.0007**
PCCM	70%	**-$475.14**	**32.87**	**-14.46**	**<.0001**

Logistic Model For Colorado Kids Inpatient Dollars in Year 2002 (Low Risk)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=91,738	**-6.28**	**0.13**	**2187.4506**	**<.0001**		
Male	48%	**-0.86**	**0.05**	**325.93**	**<.0001**	**0.43**	**0.39-0.47**
Rural	26%	**-0.20**	**0.05**	**14.9971**	**0.0001**	**0.82**	**0.75-0.91**
Age 1-4	31%	**0.86**	**0.08**	**110.905**	**<.0001**	**2.36**	**2.01-2.77**
Age 10-14	23%	0.10	0.10	0.8835	0.3473	1.10	0.90-1.35
Age 15-19	18%	**2.43**	**0.08**	**1022.5537**	**<.0001**	**11.36**	**9.79-13.19**
FPL 36%	70%	**0.31**	**0.07**	**21.1157**	**<.0001**	**1.37**	**1.20-1.56**
FPL 133%	17%	**0.58**	**0.06**	**108.9025**	**<.0001**	**1.78**	**1.60-1.98**
FPL 185%	4%	-0.20	0.11	3.4331	0.0639	0.82	0.66-1.01
CHP	30%	**-1.93**	**0.09**	**511.4004**	**<.0001**	**0.15**	**0.12-0.17**
New Enrollment in Yr	43%	**0.62**	**0.06**	**115.3659**	**<.0001**	**1.85**	**1.66-2.07**
Ended Enrollment in Yr	20%	**1.50**	**0.05**	**832.8733**	**<.0001**	**4.46**	**4.03-4.94**
Eligible Months in Yr	7.92	**0.16**	**0.01**	**369.7745**	**<.0001**	**1.17**	**1.15-1.19**

OLS Model For Colorado Kids Inpatient Dollars in Year 2002 (Low Risk)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=2,737	**$4,610.35**	**1105.39**	**4.17**	**<.0001**
Male	24%	-$43.93	451.81	-0.1	0.9225
Rural	21%	**-$1,080.68**	**422.53**	**-2.56**	**0.0106**
Age 1-4	26%	$174.12	678.79	0.26	0.7976
Age 10-14	6%	$1,494.59	869.48	1.72	0.0857
Age 15-19	60%	-$253.43	707.87	-0.36	0.7204
FPL 36%	86%	-$288.74	575.54	-0.5	0.6159
FPL 133%	21%	-$153.93	416.76	-0.37	0.7119
FPL 185%	4%	**-$2,688.52**	**888.38**	**-3.03**	**0.0025**
Asthma	14%	-$16.07	535.17	-0.03	0.9761
Diabetes	1%	-$32.80	1405.27	-0.02	0.9814
Injury	6%	$329.24	702.34	0.47	0.6393
Cancer	1%	**$18,878.00**	**1516.57**	**12.45**	**<.0001**
Pneumonia	14%	-$737.95	552.70	-1.34	0.1819
UTI	7%	-$998.85	655.80	-1.52	0.1279
Heart Disease	4%	**$17,806.00**	**868.82**	**20.49**	**<.0001**
General Symptoms	18%	**$1,693.42**	**473.36**	**3.58**	**0.0004**
Nutritional Deficiencies	12%	**$1,975.62**	**530.94**	**3.72**	**0.0002**
CHP	6%	-$608.22	767.03	-0.79	0.4279
New Enrollment in Yr	43%	-$292.34	409.71	-0.71	0.4756
Ended Enrollment in Yr	42%	-$178.59	423.78	-0.42	0.6735
Eligible Months in Yr	7.77	$15.07	68.62	0.22	0.8262
Denver County	13%	$722.63	500.59	1.44	0.1490
PCCM	37%	**-$954.90**	**471.73**	**-2.02**	**0.0430**

Logistic Model For Colorado Kids Outpatient Dollars in Year 2002 (Low Risk)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=91,738	**-2.12**	**0.05**	**1920.9985**	**<.0001**		
Male	48%	**-0.09**	**0.02**	**36.7857**	**<.0001**	**0.91**	**0.88-0.94**
Rural	26%	**0.21**	**0.02**	**140.1367**	**<.0001**	**1.23**	**1.19-1.27**
Age 1-4	31%	**-0.34**	**0.02**	**266.9902**	**<.0001**	**0.71**	**0.69-0.74**
Age 10-14	23%	0.00	0.02	0.0019	0.9655	1.00	0.96-1.04
Age 15-19	18%	**-0.14**	**0.02**	**35.1598**	**<.0001**	**0.87**	**0.83-0.91**
FPL 36%	70%	**0.32**	**0.02**	**228.898**	**<.0001**	**1.37**	**1.32-1.43**
FPL 133%	17%	0.03	0.02	1.5748	0.2095	1.03	0.98-1.08
FPL 185%	4%	**0.41**	**0.04**	**127.3422**	**<.0001**	**1.50**	**1.40-1.61**
CHP	30%	**-1.62**	**0.02**	**5556.7668**	**<.0001**	**0.20**	**0.19-0.21**
New Enrollment in Yr	43%	**0.12**	**0.03**	**19.3535**	**<.0001**	**1.12**	**1.07-1.18**
Ended Enrollment in Yr	20%	**0.06**	**0.03**	**5.2717**	**0.0217**	**1.06**	**1.01-1.12**
Eligible Months in Yr	7.92	**0.20**	**0.00**	**3198.8069**	**<.0001**	**1.22**	**1.21-1.23**

OLS Model For Colorado Kids Outpatient Dollars in Year 2002 (Low Risk)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=31,873	**$33.63**	**11.65**	**2.89**	**0.0039**
Male	47%	-$6.24	3.28	-1.9	0.0574
Rural	30%	**$47.01**	**3.76**	**12.5**	**<.0001**
Age 1-4	30%	**$53.30**	**4.34**	**12.28**	**<.0001**
Age 10-14	24%	$3.98	4.46	0.89	0.3724
Age 15-19	16%	**$81.36**	**5.17**	**15.73**	**<.0001**
FPL 36%	75%	**$12.47**	**4.27**	**2.92**	**0.0035**
FPL 133%	15%	**$35.17**	**4.96**	**7.09**	**<.0001**
FPL 185%	8%	**-$17.27**	**6.12**	**-2.82**	**0.0048**
Asthma	10%	**$39.30**	**5.43**	**7.24**	**<.0001**
Diabetes	0%	**$81.06**	**25.37**	**3.2**	**0.0014**
Injury	10%	**$45.40**	**5.44**	**8.35**	**<.0001**
Cancer	0%	**$155.04**	**32.69**	**4.74**	**<.0001**
Pneumonia	5%	**$39.70**	**7.67**	**5.17**	**<.0001**
UTI	4%	**$55.05**	**8.25**	**6.67**	**<.0001**
Heart Disease	1%	**$176.27**	**17.14**	**10.28**	**<.0001**
General Symptoms	14%	**$38.51**	**4.88**	**7.9**	**<.0001**
Nutritional Deficiencies	4%	**$86.06**	**8.15**	**10.56**	**<.0001**
CHP	12%	**$76.56**	**5.63**	**13.59**	**<.0001**
New Enrollment in Yr	28%	**$17.36**	**6.21**	**2.79**	**0.0052**
Ended Enrollment in Yr	13%	$9.30	5.92	1.57	0.1161
Eligible Months in Yr	9.70	**$8.12**	**0.91**	**8.91**	**<.0001**
Denver County	7%	**-$27.30**	**6.43**	**-4.25**	**<.0001**
PCCM	65%	**-$45.77**	**4.48**	**-10.21**	**<.0001**

Logistic Model For Colorado Kids Physician Dollars in Year 2002 (Low Risk)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=91,738	**-1.91**	**0.05**	**1582.7346**	**<.0001**		
Male	48%	**-0.09**	**0.02**	**27.6775**	**<.0001**	**0.92**	**0.89-0.95**
Rural	26%	**-0.05**	**0.02**	**5.5477**	**0.0185**	**0.96**	**0.92-0.99**
Age 1-4	31%	**0.31**	**0.02**	**188.1582**	**<.0001**	**1.36**	**1.30-1.42**
Age 10-14	23%	**0.06**	**0.02**	**6.1094**	**0.0134**	**1.06**	**1.01-1.11**
Age 15-19	18%	**0.32**	**0.02**	**168.7722**	**<.0001**	**1.38**	**1.32-1.45**
FPL 36%	70%	**0.18**	**0.02**	**59.835**	**<.0001**	**1.20**	**1.14-1.25**
FPL 133%	17%	**0.10**	**0.02**	**19.1183**	**<.0001**	**1.11**	**1.06-1.16**
FPL 185%	4%	**1.23**	**0.06**	**360.9131**	**<.0001**	**3.42**	**3.01-3.88**
CHP	30%	**-1.37**	**0.02**	**4346.001**	**<.0001**	**0.26**	**0.25-0.27**
New Enrollment in Yr	43%	**-0.44**	**0.02**	**324.3149**	**<.0001**	**0.64**	**0.61-0.67**
Ended Enrollment in Yr	20%	**0.29**	**0.03**	**135.9869**	**<.0001**	**1.34**	**1.28-1.41**
Eligible Months in Yr	7.92	**0.30**	**0.00**	**7755.3579**	**<.0001**	**1.35**	**1.34-1.36**

OLS Model For Colorado Kids Physician Dollars in Year 2002 (Low Risk)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=49,472	**$104.00**	**27.41**	**3.79**	**0.0001**
Male	48%	**$43.90**	**8.37**	**5.25**	**<.0001**
Rural	28%	**-$75.05**	**9.78**	**-7.67**	**<.0001**
Age 1-4	34%	**$35.78**	**11.16**	**3.2**	**0.0014**
Age 10-14	22%	**$42.68**	**11.62**	**3.67**	**0.0002**
Age 15-19	17%	**$280.75**	**12.92**	**21.73**	**<.0001**
FPL 36%	70%	**$22.53**	**9.99**	**2.26**	**0.0241**
FPL 133%	18%	$20.11	11.32	1.78	0.0757
FPL 185%	7%	**-$47.48**	**19.00**	**-2.5**	**0.0124**
Asthma	9%	**$167.81**	**16.92**	**9.92**	**<.0001**
Diabetes	0%	$43.92	74.38	0.59	0.5549
Injury	8%	**$117.08**	**17.81**	**6.57**	**<.0001**
Cancer	0%	**$958.13**	**92.13**	**10.4**	**<.0001**
Pneumonia	4%	**$121.39**	**23.92**	**5.08**	**<.0001**
UTI	4%	**$124.17**	**25.31**	**4.91**	**<.0001**
Heart Disease	1%	**$964.89**	**52.63**	**18.33**	**<.0001**
General Symptoms	11%	**$152.43**	**15.64**	**9.75**	**<.0001**
Nutritional Deficiencies	4%	**$267.40**	**25.65**	**10.42**	**<.0001**
CHP	19%	$9.46	11.23	0.84	0.4000
New Enrollment in Yr	23%	**$98.03**	**13.77**	**7.12**	**<.0001**
Ended Enrollment in Yr	15%	**$143.16**	**14.15**	**10.12**	**<.0001**
Eligible Months in Yr	9.95	**$28.06**	**1.89**	**14.84**	**<.0001**
Denver County	5%	$34.68	23.14	1.5	0.1339
PCCM	78%	**-$379.85**	**13.75**	**-27.63**	**<.0001**

Logistic Model For Colorado Kids Other Practitioner Dollars in Year 2002 (Low Risk)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=91,738	**-2.92**	**0.06**	**2246.9985**	**<.0001**		
Male	48%	**-0.06**	**0.02**	**9.5011**	**0.0021**	**0.95**	**0.91-0.98**
Rural	26%	**-0.20**	**0.02**	**94.2215**	**<.0001**	**0.82**	**0.79-0.85**
Age 1-4	31%	**-0.69**	**0.02**	**813.9165**	**<.0001**	**0.50**	**0.48-0.53**
Age 10-14	23%	0.01	0.03	0.1462	0.7022	1.01	0.96-1.06
Age 15-19	18%	0.00	0.03	0.0011	0.9739	1.00	0.95-1.06
FPL 36%	70%	**0.25**	**0.02**	**101.4463**	**<.0001**	**1.28**	**1.22-1.35**
FPL 133%	17%	**-0.18**	**0.03**	**36.3605**	**<.0001**	**0.84**	**0.79-0.89**
FPL 185%	4%	**0.35**	**0.04**	**100.5326**	**<.0001**	**1.43**	**1.33-1.53**
CHP	30%	**-3.39**	**0.05**	**4783.342**	**<.0001**	**0.03**	**0.03-0.04**
New Enrollment in Yr	43%	**0.27**	**0.03**	**61.6619**	**<.0001**	**1.31**	**1.22-1.40**
Ended Enrollment in Yr	20%	-0.03	0.03	0.9786	0.3226	0.97	0.91-1.03
Eligible Months in Yr	7.92	**0.25**	**0.00**	**2850.7423**	**<.0001**	**1.28**	**1.27-1.29**

OLS Model For Colorado Kids Other Practitioner Dollars in Year 2002 (Low Risk)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=20,874	**$124.35**	**23.26**	**5.35**	**<.0001**
Male	48%	**$15.24**	**6.07**	**2.51**	**0.0121**
Rural	25%	-$10.70	7.33	-1.46	0.1446
Age 1-4	26%	**-$32.54**	**8.16**	**-3.99**	**<.0001**
Age 10-14	25%	**-$46.22**	**8.01**	**-5.77**	**<.0001**
Age 15-19	18%	-$1.49	9.18	-0.16	0.8707
FPL 36%	77%	-$0.55	7.79	-0.07	0.9435
FPL 133%	11%	**-$58.69**	**10.10**	**-5.81**	**<.0001**
FPL 185%	10%	**-$37.76**	**10.36**	**-3.64**	**0.0003**
Asthma	11%	**-$26.35**	**9.71**	**-2.71**	**0.0067**
Diabetes	0%	-$31.63	43.73	-0.72	0.4695
Injury	9%	$17.54	10.71	1.64	0.1016
Cancer	0%	$7.25	61.58	0.12	0.9063
Pneumonia	5%	**-$46.22**	**14.22**	**-3.25**	**0.0012**
UTI	4%	$5.97	15.32	0.39	0.6971
Heart Disease	1%	$9.29	31.25	0.3	0.7663
General Symptoms	13%	$17.63	9.25	1.91	0.0565
Nutritional Deficiencies	4%	**$148.54**	**14.64**	**10.15**	**<.0001**
CHP	2%	-$38.95	20.80	-1.87	0.0612
New Enrollment in Yr	24%	**$48.20**	**12.09**	**3.99**	**<.0001**
Ended Enrollment in Yr	10%	$21.48	12.06	1.78	0.0750
Eligible Months in Yr	10.13	**$14.88**	**1.86**	**8.01**	**<.0001**
Denver County	7%	-$18.86	11.92	-1.58	0.1136
PCCM	68%	-$1.73	8.25	-0.21	0.8343

Logistic Model For Colorado Kids Drug Dollars in Year 2002 (Low Risk)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=91,738	**-2.56**	**0.05**	**3068.1695**	**<.0001**		
Male	48%	**-0.06**	**0.02**	**14.403**	**0.0001**	**0.94**	**0.92-0.97**
Rural	26%	**0.39**	**0.02**	**519.915**	**<.0001**	**1.47**	**1.42-1.52**
Age 1-4	31%	**0.39**	**0.02**	**372.4903**	**<.0001**	**1.47**	**1.42-1.53**
Age 10-14	23%	-0.01	0.02	0.4414	0.5065	0.99	0.95-1.03
Age 15-19	18%	**0.37**	**0.02**	**257.866**	**<.0001**	**1.45**	**1.39-1.52**
FPL 36%	70%	**0.30**	**0.02**	**241.784**	**<.0001**	**1.35**	**1.30-1.41**
FPL 133%	17%	**0.17**	**0.02**	**64.8257**	**<.0001**	**1.19**	**1.14-1.24**
FPL 185%	4%	**0.51**	**0.04**	**187.4215**	**<.0001**	**1.67**	**1.55-1.80**
CHP	30%	**-0.31**	**0.02**	**274.4152**	**<.0001**	**0.74**	**0.71-0.76**
New Enrollment in Yr	43%	**-0.29**	**0.02**	**136.2375**	**<.0001**	**0.75**	**0.72-0.79**
Ended Enrollment in Yr	20%	**0.12**	**0.02**	**25.2688**	**<.0001**	**1.13**	**1.08-1.19**
Eligible Months in Yr	7.92	**0.22**	**0.00**	**4325.4825**	**<.0001**	**1.25**	**1.24-1.26**

OLS Model For Colorado Kids Drug Dollars in Year 2002 (Low Risk)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=37,450	$41.37	35.49	1.17	0.2438
Male	48%	**$18.96**	**9.73**	**1.95**	**0.0513**
Rural	33%	-$18.01	10.95	-1.64	0.1003
Age 1-4	35%	**-$38.73**	**12.85**	**-3.01**	**0.0026**
Age 10-14	21%	**$52.56**	**14.23**	**3.69**	**0.0002**
Age 15-19	18%	**$94.14**	**15.30**	**6.15**	**<.0001**
FPL 36%	68%	$1.36	11.96	0.11	0.9093
FPL 133%	19%	**-$43.59**	**13.36**	**-3.26**	**0.0011**
FPL 185%	7%	**-$45.54**	**19.19**	**-2.37**	**0.0177**
Asthma	12%	**$259.36**	**15.06**	**17.22**	**<.0001**
Diabetes	1%	**$728.08**	**66.44**	**10.96**	**<.0001**
Injury	9%	**$51.18**	**17.51**	**2.92**	**0.0035**
Cancer	0%	**$1,900.68**	**88.07**	**21.58**	**<.0001**
Pneumonia	6%	**$102.70**	**21.43**	**4.79**	**<.0001**
UTI	5%	$19.50	23.13	0.84	0.3993
Heart Disease	1%	**$1,036.89**	**49.66**	**20.88**	**<.0001**
General Symptoms	13%	**$98.07**	**14.59**	**6.72**	**<.0001**
Nutritional Deficiencies	4%	**$329.73**	**24.09**	**13.69**	**<.0001**
Pregnant	25%	**-$46.43**	**13.55**	**-3.43**	**0.0006**
CHP	23%	-$32.16	17.91	-1.8	0.0726
New Enrollment in Yr	14%	-$27.48	18.10	-1.52	0.1289
Ended Enrollment in Yr	10.00	**$8.45**	**2.73**	**3.1**	**0.0020**
Eligible Months in Yr	4%	$8.76	24.43	0.36	0.7199
Denver County	74%	$18.42	13.90	1.33	0.1850
PCCM	44%	**-$4,665.60**	**417.31**	**-11.18**	**<.0001**

Logistic Model For Colorado Kids Other Dollars in Year 2002 (Low Risk)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=91,738	**-2.50**	**0.05**	**2896.0343**	**<.0001**		
Male	48%	**-0.15**	**0.02**	**98.1852**	**<.0001**	**0.86**	**0.84-0.89**
Rural	26%	**0.07**	**0.02**	**15.0465**	**0.0001**	**1.07**	**1.03-1.10**
Age 1-4	31%	**-0.15**	**0.02**	**54.4318**	**<.0001**	**0.86**	**0.83-0.90**
Age 10-14	23%	**0.15**	**0.02**	**47.2437**	**<.0001**	**1.16**	**1.11-1.21**
Age 15-19	18%	**0.56**	**0.02**	**591.8158**	**<.0001**	**1.74**	**1.67-1.82**
FPL 36%	70%	**0.34**	**0.02**	**291.1414**	**<.0001**	**1.40**	**1.35-1.46**
FPL 133%	17%	**0.13**	**0.02**	**34.7986**	**<.0001**	**1.14**	**1.09-1.19**
FPL 185%	4%	**0.34**	**0.04**	**85.2591**	**<.0001**	**1.40**	**1.31-1.51**
CHP	30%	**-0.87**	**0.02**	**2095.8038**	**<.0001**	**0.42**	**0.41-0.44**
New Enrollment in Yr	43%	**0.08**	**0.02**	**10.5958**	**0.0011**	**1.08**	**1.03-1.14**
Ended Enrollment in Yr	20%	**0.08**	**0.02**	**9.8765**	**0.0017**	**1.08**	**1.03-1.13**
Eligible Months in Yr	7.92	**0.24**	**0.00**	**4964.7867**	**<.0001**	**1.27**	**1.26-1.28**

OLS Model For Colorado Kids Other Dollars in Year 2002 (Low Risk)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=37,133	-$22.37	51.22	-0.44	0.6624
Male	46%	$17.91	14.38	1.25	0.2128
Rural	29%	**-$41.42**	**16.54**	**-2.5**	**0.0123**
Age 1-4	29%	-$14.26	19.46	-0.73	0.4637
Age 10-14	23%	-$0.61	20.08	-0.03	0.9756
Age 15-19	20%	**$166.58**	**21.66**	**7.69**	**<.0001**
FPL 36%	71%	$31.08	18.03	1.72	0.0848
FPL 133%	17%	$10.92	20.47	0.53	0.5939
FPL 185%	7%	**-$58.94**	**28.39**	**-2.08**	**0.0379**
Asthma	10%	**$64.64**	**23.68**	**2.73**	**0.0063**
Diabetes	1%	$15.15	98.54	0.15	0.8778
Injury	10%	**$92.06**	**23.98**	**3.84**	**0.0001**
Cancer	0%	**$1,140.79**	**118.66**	**9.61**	**<.0001**
Pneumonia	5%	**$109.33**	**32.18**	**3.4**	**0.0007**
UTI	5%	$36.32	32.60	1.11	0.2652
Heart Disease	1%	**$854.80**	**70.40**	**12.14**	**<.0001**
General Symptoms	14%	**$143.88**	**21.23**	**6.78**	**<.0001**
Nutritional Deficiencies	5%	**$507.49**	**34.50**	**14.71**	**<.0001**
CHP	20%	-$28.33	20.94	-1.35	0.1762
New Enrollment in Yr	27%	$43.29	26.03	1.66	0.0963
Ended Enrollment in Yr	13%	-$7.66	25.71	-0.3	0.7659
Eligible Months in Yr	9.83	**$12.52**	**3.98**	**3.15**	**0.0017**
Denver County	6%	$22.51	29.99	0.75	0.4529
PCCM	71%	-$30.76	20.38	-1.51	0.1312

Appendix B-1 Multivariate Model (Two-Step) of Expenditures (Total and Provider Type): Population Less Than 1 Year Olds

Logistic Model For Colorado Kids Total Dollars in Year 2002 (Under1)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=12,681	-0.18	0.30	0.3728	0.5415		
Male	52%	0.04	0.05	0.7076	0.4003	1.04	0.95-1.15
Rural	22%	**0.54**	**0.07**	**66.4605**	**<.0001**	**1.71**	**1.50-1.94**
FPL 36%	96%	**0.42**	**0.20**	**4.629**	**0.0314**	**1.53**	**1.04-2.24**
FPL 133%	64%	**0.71**	**0.05**	**195.1689**	**<.0001**	**2.04**	**1.85-2.26**
FPL 185%	1%	0.55	0.29	3.6717	0.0553	1.74	0.99-3.05
CHP	4%	**-1.51**	**0.15**	**97.0468**	**<.0001**	**0.22**	**0.16-0.30**
New Enrollment in Yr	97%	-0.25	0.22	1.2374	0.2660	0.78	0.50-1.21
Ended Enrollment in Yr	7%	**-1.09**	**0.09**	**160.7841**	**<.0001**	**0.34**	**0.29-0.40**
Eligible Months in Yr	4.24	**0.32**	**0.01**	**625.4108**	**<.0001**	**1.38**	**1.34-1.41**

OLS Model For Colorado Kids Total Dollars in Year 2002 (Under1)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=10,348	$304.64	678.34	0.45	0.6534
Male	52%	$76.49	164.41	0.47	0.6418
Rural	24%	**-$449.69**	**203.71**	**-2.21**	**0.0273**
FPL 36%	97%	-$300.36	588.72	-0.51	0.6099
FPL 133%	68%	$15.39	183.22	0.08	0.9331
FPL 185%	2%	-$1,147.27	680.85	-1.69	0.0920
Asthma	2%	**$6,962.02**	**608.74**	**11.44**	**<.0001**
Diabetes	0%	-$35.33	2989.04	-0.01	0.9906
Injury	1%	$85.33	858.00	0.1	0.9208
Cancer	0%	$2,680.92	2677.60	1	0.3167
Pneumonia	3%	**$1,612.68**	**520.67**	**3.1**	**0.0020**
UTI	1%	**$1,783.68**	**846.76**	**2.11**	**0.0352**
Heart Disease	2%	**$19,372.00**	**538.51**	**35.97**	**<.0001**
General Symptoms	10%	**$1,448.67**	**292.87**	**4.95**	**<.0001**
Nutritional Deficiencies	8%	**$4,649.63**	**305.20**	**15.23**	**<.0001**
CHP	2%	-$211.55	560.74	-0.38	0.7060
New Enrollment in Yr	96%	$601.90	551.68	1.09	0.2753
Ended Enrollment in Yr	5%	$193.82	377.60	0.51	0.6078
Eligible Months in Yr	4.55	**$96.34**	**36.00**	**2.68**	**0.0075**
Denver County	17%	-$31.33	232.26	-0.13	0.8927
PCCM	20%	**-$1,028.13**	**261.14**	**-3.94**	**<.0001**

Logistic Model For Colorado Kids Inpatient Dollars in Year 2002 (Under1)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=12,681	**-1.97**	**0.21**	**86.4073**	**<.0001**		
Male	52%	0.06	0.05	1.2918	0.2557	1.06	0.96-1.18
Rural	22%	0.01	0.07	0.0292	0.8642	1.01	0.89-1.15
FPL 36%	96%	0.11	0.22	0.2391	0.6248	1.11	0.73-1.71
FPL 133%	64%	0.05	0.06	0.5893	0.4427	1.05	0.93-1.17
FPL 185%	1%	-0.09	0.22	0.1602	0.6890	0.92	0.59-1.42
CHP	4%	**-1.65**	**0.30**	**30.676**	**<.0001**	**0.19**	**0.11-0.35**
New Enrollment in Yr	97%	**-0.50**	**0.16**	**9.5801**	**0.0020**	**0.61**	**0.44-0.83**
Ended Enrollment in Yr	7%	**0.22**	**0.11**	**4.3861**	**0.0362**	**1.25**	**1.01-1.54**
Eligible Months in Yr	4.24	**0.08**	**0.01**	**61.037**	**<.0001**	**1.08**	**1.06-1.10**

OLS Model For Colorado Kids Inpatient Dollars in Year 2002 (Under1)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=1,570	$2,660.84	3160.17	0.84	0.3999
Male	53%	-$396.40	857.60	-0.46	0.6440
Rural	23%	**-$2,456.26**	**1089.68**	**-2.25**	**0.0243**
FPL 36%	97%	-$2,568.78	3224.75	-0.8	0.4258
FPL 133%	66%	-$7.74	926.63	-0.01	0.9933
FPL 185%	2%	-$3,412.79	3508.24	-0.97	0.3308
Asthma	5%	**$12,377.00**	**2098.50**	**5.9**	**<.0001**
Diabetes	0%	-$1,609.90	9781.75	-0.16	0.8693
Injury	1%	-$1,518.60	3720.93	-0.41	0.6832
Cancer	0%	$5,465.97	9782.87	0.56	0.5764
Pneumonia	9%	-$1,784.22	1591.93	-1.12	0.2626
UTI	2%	$1,851.85	2868.19	0.65	0.5186
Heart Disease	10%	**$19,235.00**	**1420.08**	**13.54**	**<.0001**
General Symptoms	20%	-$275.32	1120.78	-0.25	0.8060
Nutritional Deficiencies	19%	**$6,836.42**	**1115.20**	**6.13**	**<.0001**
CHP	1%	-$3,662.00	4752.87	-0.77	0.4411
New Enrollment in Yr	93%	**$4,911.17**	**2450.69**	**2**	**0.0452**
Ended Enrollment in Yr	8%	$597.19	1657.24	0.36	0.7186
Eligible Months in Yr	4.91	$268.41	178.54	1.5	0.1329
Denver County	19%	-$1,005.55	1167.93	-0.86	0.3894
PCCM	20%	**-$3,389.84**	**1319.36**	**-2.57**	**0.0103**

Logistic Model For Colorado Kids Outpatient Dollars in Year 2002 (Under1)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=12,681	**-1.06**	**0.17**	**39.3092**	**<.0001**		
Male	52%	0.06	0.04	2.6795	0.1017	1.06	0.99-1.14
Rural	22%	-0.07	0.04	2.3575	0.1247	0.93	0.86-1.02
FPL 36%	96%	**0.41**	**0.17**	**5.93**	**0.0149**	**1.51**	**1.08-2.10**
FPL 133%	64%	**0.32**	**0.04**	**65.5355**	**<.0001**	**1.38**	**1.28-1.49**
FPL 185%	1%	0.03	0.16	0.0345	0.8527	1.03	0.76-1.40
CHP	4%	**-1.40**	**0.16**	**76.9158**	**<.0001**	**0.25**	**0.18-0.34**
New Enrollment in Yr	97%	-0.22	0.14	2.7219	0.0990	0.80	0.61-1.04
Ended Enrollment in Yr	7%	**-0.67**	**0.08**	**65.2155**	**<.0001**	**0.51**	**0.44-0.60**
Eligible Months in Yr	4.24	**0.11**	**0.01**	**242.0405**	**<.0001**	**1.12**	**1.10-1.13**

OLS Model For Colorado Kids Outpatient Dollars in Year 2002 (Under1)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=5,504	**$95.33**	**34.09**	**2.8**	**0.0052**
Male	53%	**$21.40**	**7.96**	**2.69**	**0.0072**
Rural	22%	**$37.07**	**10.23**	**3.62**	**0.0003**
FPL 36%	97%	**$114.74**	**35.32**	**3.25**	**0.0012**
FPL 133%	69%	$13.60	8.99	1.51	0.1305
FPL 185%	2%	**-$79.98**	**32.58**	**-2.45**	**0.0141**
Asthma	3%	**$126.55**	**24.65**	**5.13**	**<.0001**
Diabetes	0%	-$48.14	111.26	-0.43	0.6652
Injury	1%	-$16.81	34.46	-0.49	0.6257
Cancer	0%	-$95.70	147.40	-0.65	0.5162
Pneumonia	4%	$8.77	22.25	0.39	0.6934
UTI	1%	-$12.16	34.76	-0.35	0.7264
Heart Disease	2%	**$53.40**	**27.43**	**1.95**	**0.0516**
General Symptoms	14%	-$2.32	12.01	-0.19	0.8469
Nutritional Deficiencies	9%	**$100.58**	**14.10**	**7.13**	**<.0001**
CHP	1%	$23.11	41.76	0.55	0.5799
New Enrollment in Yr	96%	-$35.39	27.27	-1.3	0.1945
Ended Enrollment in Yr	4%	**-$71.98**	**20.01**	**-3.6**	**0.0003**
Eligible Months in Yr	4.71	**$26.27**	**1.77**	**14.81**	**<.0001**
Denver County	22%	**-$47.34**	**10.27**	**-4.61**	**<.0001**
PCCM	17%	**-$173.64**	**13.19**	**-13.17**	**<.0001**

Logistic Model For Colorado Kids Physician Dollars in Year 2002 (Under1)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=12,681	**-0.65**	**0.23**	**7.8694**	**0.0050**		
Male	52%	**0.11**	**0.04**	**7.9564**	**0.0048**	**1.12**	**1.04-1.21**
Rural	22%	**0.48**	**0.05**	**89.6109**	**<.0001**	**1.61**	**1.46-1.78**
FPL 36%	96%	0.25	0.18	2.0251	0.1547	1.29	0.91-1.82
FPL 133%	64%	**0.42**	**0.04**	**98.8451**	**<.0001**	**1.52**	**1.40-1.65**
FPL 185%	1%	**1.13**	**0.25**	**20.2359**	**<.0001**	**3.08**	**1.89-5.04**
CHP	4%	**-0.96**	**0.14**	**45.7738**	**<.0001**	**0.38**	**0.29-0.51**
New Enrollment in Yr	97%	-0.25	0.17	2.0875	0.1485	0.78	0.55-1.09
Ended Enrollment in Yr	7%	**-0.69**	**0.08**	**77.7774**	**<.0001**	**0.50**	**0.43-0.59**
Eligible Months in Yr	4.24	**0.25**	**0.01**	**779.2602**	**<.0001**	**1.28**	**1.26-1.30**

OLS Model For Colorado Kids Physician Dollars in Year 2002 (Under1)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=8,323	$156.89	143.96	1.09	0.2758
Male	53%	$42.28	37.28	1.13	0.2569
Rural	25%	**-$96.60**	**45.08**	**-2.14**	**0.0322**
FPL 36%	97%	-$48.17	122.17	-0.39	0.6934
FPL 133%	67%	-$31.80	41.55	-0.77	0.4441
FPL 185%	2%	-$253.97	141.66	-1.79	0.0730
Asthma	2%	**$1,192.05**	**126.08**	**9.45**	**<.0001**
Diabetes	0%	-$200.14	652.58	-0.31	0.7591
Injury	1%	-$46.92	179.09	-0.26	0.7933
Cancer	0%	$579.80	546.82	1.06	0.2890
Pneumonia	3%	**$207.33**	**107.64**	**1.93**	**0.0541**
UTI	1%	**$670.45**	**178.36**	**3.76**	**0.0002**
Heart Disease	3%	**$3,603.17**	**113.19**	**31.83**	**<.0001**
General Symptoms	12%	**$278.68**	**61.81**	**4.51**	**<.0001**
Nutritional Deficiencies	9%	**$879.92**	**65.87**	**13.36**	**<.0001**
CHP	3%	-$53.79	116.79	-0.46	0.6451
New Enrollment in Yr	96%	$88.31	118.21	0.75	0.4550
Ended Enrollment in Yr	5%	-$81.73	85.89	-0.95	0.3413
Eligible Months in Yr	4.80	**$29.46**	**7.97**	**3.7**	**0.0002**
Denver County	12%	-$30.71	60.24	-0.51	0.6102
PCCM	24%	**-$130.94**	**55.31**	**-2.37**	**0.0179**

Logistic Model For Colorado Kids Other Practitioner Dollars in Year 2002 (Under1)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=12,681	**-3.40**	**0.26**	**176.8934**	**<.0001**		
Male	52%	0.09	0.07	1.8692	0.1716	1.09	0.96-1.24
Rural	22%	-0.14	0.08	3.2299	0.0723	0.87	0.74-1.01
FPL 36%	96%	**0.66**	**0.26**	**6.2345**	**0.0125**	**1.94**	**1.15-3.25**
FPL 133%	64%	0.04	0.07	0.2985	0.5848	1.04	0.91-1.19
FPL 185%	1%	0.15	0.23	0.4137	0.5201	1.16	0.74-1.82
CHP	4%	**-1.69**	**0.40**	**17.8713**	**<.0001**	**0.19**	**0.09-0.41**
New Enrollment in Yr	97%	-0.32	0.19	2.8133	0.0935	0.73	0.50-1.06
Ended Enrollment in Yr	7%	**-0.33**	**0.16**	**4.3657**	**0.0367**	**0.72**	**0.53-0.98**
Eligible Months in Yr	4.24	**0.14**	**0.01**	**155.5543**	**<.0001**	**1.15**	**1.13-1.18**

OLS Model For Colorado Kids Other Practitioner Dollars in Year 2002 (Under1)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=1,052	-$9.47	24.91	-0.38	0.7039
Male	54%	$9.08	6.30	1.44	0.1500
Rural	21%	-$1.75	8.05	-0.22	0.8281
FPL 36%	97%	$33.47	25.23	1.33	0.1849
FPL 133%	66%	-$4.44	6.91	-0.64	0.5209
FPL 185%	2%	-$35.95	22.47	-1.6	0.1099
Asthma	7%	**$27.18**	**12.74**	**2.13**	**0.0331**
Diabetes	0%	-$41.61	58.57	-0.71	0.4776
Injury	2%	$39.14	25.24	1.55	0.1212
Cancer	0%	$0.00	0.00	0	0.0000
Pneumonia	7%	-$15.67	12.99	-1.21	0.2279
UTI	2%	$17.30	22.10	0.78	0.4339
Heart Disease	4%	**$104.93**	**16.36**	**6.41**	**<.0001**
General Symptoms	21%	$6.23	8.34	0.75	0.4553
Nutritional Deficiencies	17%	**$21.11**	**8.54**	**2.47**	**0.0136**
CHP	1%	**$121.82**	**39.60**	**3.08**	**0.0022**
New Enrollment in Yr	93%	$11.11	18.36	0.61	0.5452
Ended Enrollment in Yr	5%	-$27.74	15.14	-1.83	0.0671
Eligible Months in Yr	5.44	**$7.51**	**1.34**	**5.62**	**<.0001**
Denver County	16%	$1.38	8.82	0.16	0.8760
PCCM	22%	**-$40.62**	**9.18**	**-4.42**	**<.0001**

Logistic Model For Colorado Kids Drug Dollars in Year 2002 (Under1)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=12,681	**-3.35**	**0.20**	**279.7487**	**<.0001**		
Male	52%	**0.12**	**0.05**	**6.524**	**0.0106**	**1.12**	**1.03-1.23**
Rural	22%	**0.64**	**0.05**	**155.3058**	**<.0001**	**1.90**	**1.72-2.10**
FPL 36%	96%	0.23	0.18	1.5702	0.2102	1.26	0.88-1.79
FPL 133%	64%	**-0.12**	**0.05**	**5.9748**	**0.0145**	**0.89**	**0.81-0.98**
FPL 185%	1%	**0.68**	**0.19**	**12.9766**	**0.0003**	**1.97**	**1.36-2.86**
CHP	4%	**-0.56**	**0.16**	**12.9873**	**0.0003**	**0.57**	**0.42-0.77**
New Enrollment in Yr	97%	0.30	0.17	3.3061	0.0690	1.35	0.98-1.88
Ended Enrollment in Yr	7%	**-0.49**	**0.10**	**22.8027**	**<.0001**	**0.62**	**0.50-0.75**
Eligible Months in Yr	4.24	**0.40**	**0.01**	**1991.5009**	**<.0001**	**1.49**	**1.46-1.51**

OLS Model For Colorado Kids Drug Dollars in Year 2002 (Under1)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=3,705	**$171.85**	**48.68**	**3.53**	**0.0004**
Male	53%	$25.92	14.00	1.85	0.0642
Rural	30%	$12.12	16.27	0.74	0.4565
FPL 36%	94%	**-$101.69**	**43.76**	**-2.32**	**0.0202**
FPL 133%	62%	**-$44.31**	**15.06**	**-2.94**	**0.0033**
FPL 185%	3%	-$35.37	41.81	-0.85	0.3976
Asthma	5%	**$151.09**	**32.78**	**4.61**	**<.0001**
Diabetes	0%	**$358.92**	**160.41**	**2.24**	**0.0253**
Injury	2%	-$22.14	53.90	-0.41	0.6812
Cancer	0%	**$569.74**	**190.30**	**2.99**	**0.0028**
Pneumonia	6%	-$28.75	31.01	-0.93	0.3540
UTI	2%	-$12.98	47.16	-0.28	0.7831
Heart Disease	4%	**$313.37**	**38.36**	**8.17**	**<.0001**
General Symptoms	19%	$20.43	18.33	1.11	0.2650
Nutritional Deficiencies	12%	**$93.92**	**21.73**	**4.32**	**<.0001**
CHP	3%	**-$104.60**	**47.58**	**-2.2**	**0.0280**
New Enrollment in Yr	93%	$3.95	37.13	0.11	0.9153
Ended Enrollment in Yr	4%	-$42.72	36.44	-1.17	0.2412
Eligible Months in Yr	6.39	$4.27	2.91	1.47	0.1428
Denver County	11%	$23.24	23.31	1	0.3188
PCCM	35%	$5.00	17.70	0.28	0.7778

Logistic Model For Colorado Kids Other Dollars in Year 2002 (Under1)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=12,681	**-1.36**	**0.17**	**62.5212**	**<.0001**		
Male	52%	**0.20**	**0.04**	**26.3493**	**<.0001**	**1.22**	**1.13-1.31**
Rural	22%	**0.10**	**0.05**	**4.6342**	**0.0313**	**1.10**	**1.01-1.21**
FPL 36%	96%	**0.51**	**0.17**	**8.8273**	**0.0030**	**1.67**	**1.19-2.34**
FPL 133%	64%	**0.27**	**0.04**	**40.8245**	**<.0001**	**1.30**	**1.20-1.41**
FPL 185%	1%	**0.34**	**0.16**	**4.523**	**0.0334**	**1.41**	**1.03-1.93**
CHP	4%	**-1.12**	**0.16**	**49.7376**	**<.0001**	**0.33**	**0.24-0.45**
New Enrollment in Yr	97%	**-0.57**	**0.14**	**16.642**	**<.0001**	**0.57**	**0.43-0.75**
Ended Enrollment in Yr	7%	**-0.41**	**0.08**	**23.7194**	**<.0001**	**0.66**	**0.56-0.78**
Eligible Months in Yr	4.24	**0.15**	**0.01**	**415.1509**	**<.0001**	**1.16**	**1.14-1.17**

OLS Model For Colorado Kids Other Dollars in Year 2002 (Under1)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=4,672	$5.41	43.43	0.12	0.9008
Male	55%	$17.99	11.09	1.62	0.1049
Rural	24%	**$67.96**	**13.93**	**4.88**	**<.0001**
FPL 36%	97%	$45.48	43.58	1.04	0.2967
FPL 133%	68%	-$15.06	12.49	-1.21	0.2281
FPL 185%	2%	-$4.27	40.58	-0.11	0.9163
Asthma	4%	**$236.10**	**29.36**	**8.04**	**<.0001**
Diabetes	0%	-$93.93	142.45	-0.66	0.5097
Injury	1%	**$92.26**	**46.60**	**1.98**	**0.0478**
Cancer	0%	**$610.50**	**188.89**	**3.23**	**0.0012**
Pneumonia	5%	**$109.28**	**24.99**	**4.37**	**<.0001**
UTI	2%	$15.03	38.71	0.39	0.6979
Heart Disease	5%	**$477.61**	**26.26**	**18.19**	**<.0001**
General Symptoms	18%	**$121.67**	**15.08**	**8.07**	**<.0001**
Nutritional Deficiencies	12%	**$131.40**	**17.12**	**7.67**	**<.0001**
CHP	1%	$86.82	51.12	1.7	0.0895
New Enrollment in Yr	94%	-$9.32	33.86	-0.28	0.7830
Ended Enrollment in Yr	5%	-$1.53	26.14	-0.06	0.9533
Eligible Months in Yr	5.02	**$12.30**	**2.36**	**5.21**	**<.0001**
Denver County	23%	$10.04	14.48	0.69	0.4883
PCCM	23%	**-$46.58**	**16.45**	**-2.83**	**0.0047**

Appendix B-2 Multivariate Model (Two-Step) of Expenditures (Total and Provider Type): Population Pregnant Young Women (YW)

OLS Model For Colorado Kids Total Dollars in Year 2002 (Pregnant YW)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=744	-$206.57	988.82	-0.21	0.8346
Rural	22%	-$426.85	414.08	-1.03	0.3030
Age 10-14	2%	-$1,002.68	1285.34	-0.78	0.4356
FPL 36%	91%	$275.29	683.18	0.4	0.6871
FPL 133%	31%	**$810.18**	**358.78**	**2.26**	**0.0242**
FPL 185%	2%	$417.19	1191.65	0.35	0.7264
Asthma	3%	$727.31	989.32	0.74	0.4625
Diabetes	0%	$1,454.31	3176.42	0.46	0.6472
Injury	6%	-$11.51	726.31	-0.02	0.9874
Cancer	1%	$682.26	1841.06	0.37	0.7111
Pneumonia	1%	-$989.90	1616.19	-0.61	0.5404
UTI	12%	$127.01	515.45	0.25	0.8054
Heart Disease	1%	$658.54	1590.91	0.41	0.6790
General Symptoms	6%	**$3,873.25**	**695.08**	**5.57**	**<.0001**
Nutritional Deficiencies	4%	$78.62	828.90	0.09	0.9245
CHP	9%	**-$2,799.72**	**751.51**	**-3.73**	**0.0002**
New Enrollment in Yr	61%	-$207.92	508.04	-0.41	0.6825
Ended Enrollment in Yr	16%	**$1,517.17**	**498.84**	**3.04**	**0.0024**
Eligible Months in Yr	6.70	**$325.50**	**70.39**	**4.62**	**<.0001**
Denver County	12%	$318.22	534.25	0.6	0.5516
PCCM	41%	**$1,251.86**	**463.69**	**2.7**	**0.0071**

Logistic Model For Colorado Kids Inpatient Dollars in Year 2002 (Pregnant YW)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=752	**-4.99**	**0.61**	**67.1259**	**<.0001**		
Rural	22%	-0.09	0.22	0.1697	0.6804	0.91	0.59-1.42
Age 10-14	2%	-15.02	837.70	0.0003	0.9857	<0.001	<.001
FPL 36%	90%	**0.72**	**0.36**	**4.0504**	**0.0442**	**2.06**	**1.02-4.17**
FPL 133%	30%	**0.51**	**0.20**	**6.2542**	**0.0124**	**1.66**	**1.12-2.47**
FPL 185%	2%	0.25	0.63	0.1547	0.6941	1.28	0.37-4.43
CHP	9%	**-1.30**	**0.41**	**10.2657**	**0.0014**	**0.27**	**0.12-0.60**
New Enrollment in Yr	61%	**0.70**	**0.28**	**6.1178**	**0.0134**	**2.02**	**1.16-3.52**
Ended Enrollment in Yr	16%	**1.88**	**0.29**	**41.2772**	**<.0001**	**6.58**	**3.70-11.70**
Eligible Months in Yr	6.66	**0.43**	**0.04**	**107.6893**	**<.0001**	**1.54**	**1.42-1.67**

OLS Model For Colorado Kids Inpatient Dollars in Year 2002 (Pregnant YW)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=286	**$5,030.03**	**2561.19**	**1.96**	**0.0506**
Rural	22%	-$1,307.52	951.99	-1.37	0.1708
Age 10-14	0%	$0.00	0.00	0	0.0000
FPL 36%	91%	-$895.97	1610.43	-0.56	0.5784
FPL 133%	33%	$722.28	766.01	0.94	0.3466
FPL 185%	4%	$879.36	1889.14	0.47	0.6420
Asthma	4%	-$441.88	1863.11	-0.24	0.8127
Diabetes	0%	$2,356.67	6559.08	0.36	0.7197
Injury	8%	$182.02	1316.96	0.14	0.8902
Cancer	1%	-$235.21	3685.69	-0.06	0.9492
Pneumonia	1%	$1,848.47	3758.90	0.49	0.6233
UTI	17%	-$261.81	962.92	-0.27	0.7859
Heart Disease	1%	-$346.60	3017.65	-0.11	0.9086
General Symptoms	11%	**$4,102.17**	**1236.99**	**3.32**	**0.0010**
Nutritional Deficiencies	7%	-$1,596.69	1462.89	-1.09	0.2761
CHP	4%	$80.48	2329.59	0.03	0.9725
New Enrollment in Yr	41%	-$1,139.20	922.16	-1.24	0.2178
Ended Enrollment in Yr	22%	$919.71	1011.18	0.91	0.3639
Eligible Months in Yr	8.95	-$42.20	183.20	-0.23	0.8180
Denver County	8%	$1,002.05	1363.61	0.73	0.4631
PCCM	64%	-$200.59	899.96	-0.22	0.8238

Logistic Model For Colorado Kids Outpatient Dollars in Year 2002 (Pregnant YW)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=752	-0.59	0.50	1.3888	0.2386		
Rural	22%	0.19	0.20	0.8734	0.3500	1.21	0.81-1.79
Age 10-14	2%	-0.49	0.61	0.6403	0.4236	0.61	0.18-2.04
FPL 36%	90%	0.15	0.36	0.1725	0.6779	1.16	0.58-2.34
FPL 133%	30%	0.15	0.18	0.6943	0.4047	1.16	0.82-1.64
FPL 185%	2%	-0.42	0.61	0.4629	0.4963	0.66	0.20-2.19
CHP	9%	**-1.28**	**0.34**	**14.1261**	**0.0002**	**0.28**	**0.14-0.54**
New Enrollment in Yr	61%	0.22	0.26	0.7371	0.3906	1.25	0.75-2.07
Ended Enrollment in Yr	16%	0.07	0.25	0.0728	0.7873	1.07	0.66-1.74
Eligible Months in Yr	6.66	**0.16**	**0.03**	**25.0124**	**<.0001**	**1.17**	**1.10-1.25**

OLS Model For Colorado Kids Outpatient Dollars in Year 2002 (Pregnant YW)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=492	$217.70	113.27	1.92	0.0552
Rural	23%	-$20.48	43.45	-0.47	0.6376
Age 10-14	1%	-$109.60	177.71	-0.62	0.5377
FPL 36%	91%	$125.67	80.27	1.57	0.1181
FPL 133%	32%	$44.24	37.70	1.17	0.2411
FPL 185%	2%	**-$235.02**	**119.52**	**-1.97**	**0.0498**
Asthma	4%	-$97.25	92.69	-1.05	0.2946
Diabetes	0%	$0.63	276.09	0	0.9982
Injury	8%	-$39.43	64.65	-0.61	0.5422
Cancer	1%	$65.85	174.63	0.38	0.7063
Pneumonia	1%	$85.50	150.47	0.57	0.5702
UTI	16%	-$20.69	49.39	-0.42	0.6754
Heart Disease	1%	-$143.74	173.98	-0.83	0.4091
General Symptoms	9%	$4.70	63.70	0.07	0.9412
Nutritional Deficiencies	5%	-$81.96	78.45	-1.04	0.2967
CHP	5%	-$60.73	99.99	-0.61	0.5439
New Enrollment in Yr	58%	-$39.88	54.12	-0.74	0.4616
Ended Enrollment in Yr	15%	-$74.43	52.85	-1.41	0.1596
Eligible Months in Yr	7.25	$4.03	8.10	0.5	0.6188
Denver County	13%	**-$138.13**	**53.99**	**-2.56**	**0.0108**
PCCM	40%	-$11.04	48.82	-0.23	0.8212

Logistic Model For Colorado Kids Physician Dollars in Year 2002 (Pregnant YW)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=752	-0.22	0.73	0.09	0.7642		
Rural	22%	0.22	0.27	0.6854	0.4077	1.25	0.74-2.11
Age 10-14	2%	**-1.54**	**0.68**	**5.0602**	**0.0245**	**0.22**	**0.06-0.82**
FPL 36%	90%	0.01	0.53	0.0005	0.9829	1.01	0.36-2.89
FPL 133%	30%	0.29	0.24	1.4657	0.2260	1.33	0.84-2.12
FPL 185%	2%	12.11	677.30	0.0003	0.9857	>999.999	-
CHP	9%	**-1.90**	**0.45**	**18.2811**	**<.0001**	**0.15**	**0.06-0.36**
New Enrollment in Yr	61%	-0.15	0.40	0.1425	0.7059	0.86	0.39-1.88
Ended Enrollment in Yr	16%	**1.04**	**0.41**	**6.3254**	**0.0119**	**2.82**	**1.26-6.31**
Eligible Months in Yr	6.66	**0.34**	**0.05**	**54.6049**	**<.0001**	**1.40**	**1.28-1.53**

OLS Model For Colorado Kids Physician Dollars in Year 2002 (Pregnant YW)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=613	-$334.34	230.30	-1.45	0.1471
Rural	22%	-$105.67	98.65	-1.07	0.2845
Age 10-14	1%	-$369.72	327.35	-1.13	0.2592
FPL 36%	91%	$263.09	152.60	1.72	0.0852
FPL 133%	31%	$81.46	85.70	0.95	0.3422
FPL 185%	2%	-$4.90	263.04	-0.02	0.9851
Asthma	4%	$273.57	223.28	1.23	0.2210
Diabetes	0%	-$423.92	701.68	-0.6	0.5460
Injury	6%	-$54.74	164.45	-0.33	0.7394
Cancer	1%	$119.54	406.20	0.29	0.7686
Pneumonia	1%	-$411.13	356.50	-1.15	0.2493
UTI	14%	$59.89	117.38	0.51	0.6101
Heart Disease	1%	$176.20	350.90	0.5	0.6157
General Symptoms	8%	**$345.20**	**153.56**	**2.25**	**0.0249**
Nutritional Deficiencies	5%	$147.38	185.46	0.79	0.4271
CHP	7%	**-$439.22**	**168.63**	**-2.6**	**0.0094**
New Enrollment in Yr	56%	-$32.94	116.22	-0.28	0.7769
Ended Enrollment in Yr	17%	**$304.88**	**116.21**	**2.62**	**0.0089**
Eligible Months in Yr	7.29	**$109.16**	**16.88**	**6.47**	**<.0001**
Denver County	9%	$182.12	142.24	1.28	0.2009
PCCM	46%	$131.91	105.64	1.25	0.2123

Logistic Model For Colorado Kids Other Practitioner $ in Year 2002 (Pregnant YW)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=752	-0.79	0.54	2.1011	0.1472		
Rural	22%	**-0.40**	**0.19**	**4.3185**	**0.0377**	**0.67**	**0.46-0.98**
Age 10-14	2%	-1.26	1.10	1.2964	0.2549	0.29	0.03-2.48
FPL 36%	90%	-0.07	0.41	0.0303	0.8619	0.93	0.42-2.08
FPL 133%	30%	0.06	0.17	0.118	0.7313	1.06	0.76-1.48
FPL 185%	2%	-0.30	0.55	0.2949	0.5871	0.74	0.25-2.20
CHP	9%	**-3.85**	**0.77**	**25.1891**	**<.0001**	**0.02**	**0.01-0.10**
New Enrollment in Yr	61%	0.21	0.26	0.6864	0.4074	1.24	0.75-2.04
Ended Enrollment in Yr	16%	-0.02	0.24	0.0077	0.9299	0.98	0.61-1.56
Eligible Months in Yr	6.66	**0.15**	**0.03**	**21.4911**	**<.0001**	**1.16**	**1.09-1.24**

OLS Model For Colorado Kids Other Practitioner Dollars in Year 2002 (Pregnant YW)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=370	$2.37	93.85	0.03	0.9799
Rural	19%	$64.98	37.73	1.72	0.0859
Age 10-14	0%	$76.17	265.06	0.29	0.7740
FPL 36%	93%	$44.74	63.60	0.7	0.4822
FPL 133%	32%	-$3.93	30.54	-0.13	0.8977
FPL 185%	2%	$41.26	93.61	0.44	0.6596
Asthma	5%	$37.37	72.27	0.52	0.6054
Diabetes	0%	$0.00	0.00	0	0.0000
Injury	6%	$18.35	59.44	0.31	0.7577
Cancer	1%	-$24.82	154.39	-0.16	0.8724
Pneumonia	1%	$69.68	124.92	0.56	0.5773
UTI	16%	-$1.59	39.62	-0.04	0.9680
Heart Disease	2%	**$226.95**	**111.44**	**2.04**	**0.0424**
General Symptoms	7%	**$135.71**	**56.29**	**2.41**	**0.0164**
Nutritional Deficiencies	4%	-$33.51	70.87	-0.47	0.6367
CHP	1%	-$213.40	197.34	-1.08	0.2803
New Enrollment in Yr	57%	$13.30	45.35	0.29	0.7695
Ended Enrollment in Yr	14%	$12.64	42.88	0.29	0.7684
Eligible Months in Yr	7.42	**$13.82**	**6.88**	**2.01**	**0.0453**
Denver County	8%	-$44.03	51.37	-0.86	0.3920
PCCM	45%	$60.97	37.77	1.61	0.1074

Logistic Model For Colorado Kids Drug Dollars in Year 2002 (Pregnant YW)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=752	**1.30**	**0.67**	**3.7585**	**0.0525**		
Rural	22%	0.23	0.25	0.8551	0.3551	1.26	0.77-2.06
Age 10-14	2%	-0.61	0.62	0.9846	0.3211	0.54	0.16-1.82
FPL 36%	90%	**-1.12**	**0.53**	**4.4317**	**0.0353**	**0.33**	**0.12-0.93**
FPL 133%	30%	0.09	0.22	0.1786	0.6725	1.10	0.72-1.68
FPL 185%	2%	-0.38	1.09	0.1201	0.7289	0.69	0.08-5.76
CHP	9%	**-2.01**	**0.43**	**22.2408**	**<.0001**	**0.13**	**0.06-0.31**
New Enrollment in Yr	61%	-0.15	0.33	0.2094	0.6472	0.86	0.45-1.64
Ended Enrollment in Yr	16%	-0.02	0.31	0.0054	0.9415	0.98	0.54-1.78
Eligible Months in Yr	6.66	**0.24**	**0.04**	**39.6823**	**<.0001**	**1.28**	**1.18-1.38**

OLS Model For Colorado Kids Drug Dollars in Year 2002 (Pregnant YW)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=598	-$77.01	95.01	-0.81	0.4179
Rural	22%	$0.21	38.80	0.01	0.9956
Age 10-14	1%	-$79.25	145.92	-0.54	0.5872
FPL 36%	90%	**$169.29**	**64.94**	**2.61**	**0.0094**
FPL 133%	31%	-$1.78	33.65	-0.05	0.9579
FPL 185%	2%	$11.35	104.41	0.11	0.9135
Asthma	4%	**$355.65**	**85.91**	**4.14**	**<.0001**
Diabetes	0%	$21.33	269.39	0.08	0.9369
Injury	7%	$39.67	62.95	0.63	0.5288
Cancer	1%	**$343.14**	**155.56**	**2.21**	**0.0278**
Pneumonia	1%	-$21.66	136.63	-0.16	0.8741
UTI	14%	**$157.62**	**46.41**	**3.4**	**0.0007**
Heart Disease	1%	$216.46	143.60	1.51	0.1323
General Symptoms	8%	$87.62	59.11	1.48	0.1388
Nutritional Deficiencies	5%	$36.15	71.49	0.51	0.6133
CHP	7%	$65.15	78.43	0.83	0.4065
New Enrollment in Yr	57%	-$66.24	46.69	-1.42	0.1565
Ended Enrollment in Yr	15%	-$16.29	47.33	-0.34	0.7309
Eligible Months in Yr	7.26	**$15.51**	**6.95**	**2.23**	**0.0261**
Denver County	11%	-$51.76	51.77	-1	0.3179
PCCM	46%	-$40.02	42.53	-0.94	0.3471

Logistic Model For Colorado Kids Other Dollars in Year 2002 (Pregnant YW)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=752	**2.15**	**1.02**	**4.4386**	**0.0351**		
Rural	22%	0.12	0.50	0.0575	0.8106	1.13	0.43-2.99
Age 10-14	2%	**-2.13**	**0.69**	**9.489**	**0.0021**	**0.12**	**0.03-0.46**
FPL 36%	90%	-0.12	0.62	0.035	0.8516	0.89	0.26-3.02
FPL 133%	30%	-0.06	0.44	0.0218	0.8825	0.94	0.40-2.21
FPL 185%	2%	11.68	783.40	0.0002	0.9881	>999.999	-
CHP	9%	**-1.97**	**0.56**	**12.3737**	**0.0004**	**0.14**	**0.05-0.42**
New Enrollment in Yr	61%	0.58	0.59	0.9661	0.3257	1.79	0.56-5.74
Ended Enrollment in Yr	16%	-0.33	0.59	0.3176	0.5730	0.72	0.23-2.27
Eligible Months in Yr	6.66	**0.21**	**0.07**	**9.2225**	**0.0024**	**1.24**	**1.08-1.42**

OLS Model For Colorado Kids Other Dollars in Year 2002 (Pregnant YW)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=717	$2.54	97.99	0.03	0.9793
Rural	22%	-$6.06	39.72	-0.15	0.8787
Age 10-14	1%	-$157.79	151.22	-1.04	0.2971
FPL 36%	91%	$88.58	68.52	1.29	0.1965
FPL 133%	31%	**$73.78**	**34.55**	**2.14**	**0.0331**
FPL 185%	2%	-$85.21	112.37	-0.76	0.4485
Asthma	3%	$143.27	93.34	1.53	0.1252
Diabetes	0%	$566.57	299.67	1.89	0.0591
Injury	6%	$56.00	68.58	0.82	0.4144
Cancer	1%	$236.88	173.57	1.36	0.1728
Pneumonia	1%	$30.36	152.37	0.2	0.8421
UTI	13%	**$200.10**	**48.65**	**4.11**	**<.0001**
Heart Disease	1%	**$319.44**	**150.02**	**2.13**	**0.0336**
General Symptoms	7%	**$358.70**	**65.62**	**5.47**	**<.0001**
Nutritional Deficiencies	4%	$72.59	78.15	0.93	0.3533
CHP	8%	-$83.13	76.86	-1.08	0.2799
New Enrollment in Yr	62%	**$96.58**	**49.18**	**1.96**	**0.0500**
Ended Enrollment in Yr	15%	-$28.00	48.34	-0.58	0.5626
Eligible Months in Yr	6.75	**$36.50**	**6.93**	**5.27**	**<.0001**
Denver County	12%	**$173.80**	**50.62**	**3.43**	**0.0006**
PCCM	41%	$76.86	44.23	1.74	0.0827

Appendix B-3 Multivariate Model (Two-Step) of Expenditures (Total and Provider Type): Population Special Needs

OLS Models For Colorado Kids Total Dollars in Year 2002 (Special Needs)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=8,131	**-$8,315.53**	**1068.75**	**-7.78**	**<.0001**
Male	52%	**$1,335.95**	**279.68**	**4.78**	**<.0001**
Rural	26%	**-$1,263.54**	**329.64**	**-3.83**	**0.0001**
Age <1	5%	**$2,445.45**	**797.60**	**3.07**	**0.0022**
Age 1-4	17%	**-$1,661.60**	**469.85**	**-3.54**	**0.0004**
Age 10-14	24%	**$867.93**	**432.23**	**2.01**	**0.0447**
Age 15-19	34%	**$3,904.18**	**443.04**	**8.81**	**<.0001**
FPL 36%	73%	**$1,287.89**	**373.72**	**3.45**	**0.0006**
FPL 133%	17%	$278.36	437.14	0.64	0.5243
FPL 185%	5%	**-$2,398.11**	**660.10**	**-3.63**	**0.0003**
Chronic Mental Illness	40%	**$5,032.20**	**507.92**	**9.91**	**<.0001**
Developmental/MR Disability	14%	**$7,453.82**	**523.56**	**14.24**	**<.0001**
Neurological Disability	6%	**$7,724.79**	**683.51**	**11.3**	**<.0001**
Physical Disability	16%	**$3,325.59**	**503.18**	**6.61**	**<.0001**
Sensory Disability	35%	**$3,604.86**	**497.91**	**7.24**	**<.0001**
Asthma	12%	**$1,068.18**	**439.41**	**2.43**	**0.0151**
Diabetes	1%	-$1,564.38	1677.74	-0.93	0.3511
Injury	15%	**$1,255.64**	**405.51**	**3.1**	**0.0020**
Cancer	0%	**$17,590.00**	**2060.77**	**8.54**	**<.0001**
Pneumonia	5%	**$6,928.40**	**675.03**	**10.26**	**<.0001**
UTI	7%	**$1,278.74**	**561.65**	**2.28**	**0.0228**
Heart Disease	3%	**$19,837.00**	**831.61**	**23.85**	**<.0001**
General Symptoms	23%	**$1,953.81**	**359.11**	**5.44**	**<.0001**
Nutritional Deficiencies	9%	**$5,012.87**	**507.65**	**9.87**	**<.0001**
Pregnant	1%	-$1,811.54	1265.10	-1.43	0.1522
CHP	24%	**-$1,400.67**	**397.73**	**-3.52**	**0.0004**
New Enrollment in Yr	31%	**$2,047.50**	**470.47**	**4.35**	**<.0001**
Ended Enrollment in Yr	15%	**$2,586.71**	**503.15**	**5.14**	**<.0001**
Eligible Months in Yr	9.56	**$645.60**	**73.05**	**8.84**	**<.0001**
Denver County	6%	**$1,909.12**	**586.66**	**3.25**	**0.0011**
PCCM	68%	**-$4,665.60**	**417.31**	**-11.18**	**<.0001**

Logistic Model For Colorado Kids Inpatient Dollars in Year 2002 (Special Needs)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=8,214	**-4.31**	**0.31**	**191.1382**	**<.0001**		
Male	52%	**-0.32**	**0.08**	**15.7522**	**<.0001**	**0.73**	**0.62-0.85**
Rural	26%	0.08	0.09	0.7284	0.3934	1.08	0.90-1.30
Age <1	5%	**2.56**	**0.21**	**154.6023**	**<.0001**	**12.91**	**8.62-19.31**
Age 1-4	17%	**0.95**	**0.16**	**33.0719**	**<.0001**	**2.57**	**1.87-3.55**
Age 10-14	24%	0.32	0.17	3.5109	0.0610	1.38	0.99-1.93
Age 15-19	34%	**1.17**	**0.16**	**55.1239**	**<.0001**	**3.21**	**2.36-4.37**
FPL 36%	73%	**0.36**	**0.12**	**8.9172**	**0.0028**	**1.43**	**1.13-1.81**
FPL 133%	17%	**0.32**	**0.12**	**7.3475**	**0.0067**	**1.38**	**1.09-1.74**
FPL 185%	5%	0.10	0.19	0.2999	0.5840	1.11	0.77-1.60
Chronic Mental Illness	40%	**0.45**	**0.13**	**12.9846**	**0.0003**	**1.57**	**1.23-2.01**
Developmental/MR Disability	14%	**0.69**	**0.12**	**34.5054**	**<.0001**	**2.00**	**1.59-2.51**
Neurological Disability	6%	**1.82**	**0.13**	**191.4437**	**<.0001**	**6.16**	**4.76-7.97**
Physical Disability	17%	**0.76**	**0.12**	**41.772**	**<.0001**	**2.14**	**1.70-2.69**
Sensory Disability	35%	0.10	0.12	0.634	0.4259	1.10	0.87-1.41
CHP	25%	**-0.33**	**0.12**	**7.5385**	**0.0060**	**0.72**	**0.57-0.91**
New Enrollment in Yr	31%	-0.11	0.14	0.6269	0.4285	0.90	0.69-1.17
Ended Enrollment in Yr	15%	0.10	0.14	0.5305	0.4664	1.11	0.84-1.47
Eligible Months in Yr	9.53	0.04	0.02	3.1557	0.0757	1.04	1.00-1.08

OLS Model For Colorado Kids Inpatient Dollars in Year 2002 (Special Needs)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=781	-$3,593.94	5024.83	-0.72	0.4747
Male	46%	$2,385.01	1374.90	1.73	0.0832
Rural	26%	-$2,429.54	1575.98	-1.54	0.1236
Age <1	19%	$6,208.01	3285.09	1.89	0.0592
Age 1-4	19%	-$3,307.62	2812.02	-1.18	0.2399
Age 10-14	13%	-$359.06	2922.77	-0.12	0.9023
Age 15-19	40%	$3,641.93	2773.46	1.31	0.1895
FPL 36%	82%	$488.47	1955.25	0.25	0.8028
FPL 133%	26%	$540.48	1727.87	0.31	0.7545
FPL 185%	5%	-$2,089.14	3034.31	-0.69	0.4913
Chronic Mental Illness	35%	-$2,274.47	2040.91	-1.11	0.2654
Developmental/MR Disability	26%	$2,306.77	1791.46	1.29	0.1983
Neurological Disability	19%	$3,424.07	1940.38	1.76	0.0780
Physical Disability	23%	$1,140.52	1813.28	0.63	0.5296
Sensory Disability	23%	-$2,517.02	1924.52	-1.31	0.1913
Asthma	19%	$1,155.68	1750.95	0.66	0.5094
Diabetes	2%	-$3,360.19	4307.18	-0.78	0.4356
Injury	16%	$3,273.97	1782.59	1.84	0.0667
Cancer	2%	**$18,849.00**	**5021.44**	**3.75**	**0.0002**
Pneumonia	16%	**$4,992.46**	**1950.67**	**2.56**	**0.0107**
UTI	13%	-$2,434.19	1976.73	-1.23	0.2186
Heart Disease	16%	**$18,138.00**	**1877.13**	**9.66**	**<.0001**
General Symptoms	46%	$447.92	1483.36	0.3	0.7628
Nutritional Deficiencies	27%	**$5,362.12**	**1591.89**	**3.37**	**0.0008**
Pregnant	7%	-$3,877.84	2673.82	-1.45	0.1474
CHP	14%	-$470.38	2221.42	-0.21	0.8324

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
New Enrollment in Yr	37%	$3,848.15	2146.65	1.79	0.0734
Ended Enrollment in Yr	14%	$3,797.42	2235.25	1.7	0.0898
Eligible Months in Yr	9.20	$506.31	322.32	1.57	0.1167
Denver County	8%	**$7,301.48**	**2437.65**	**3**	**0.0028**
PCCM	61%	-$929.22	1792.06	-0.52	0.6042

Logistic Model For Colorado Kids Outpatient Dollars in Year 2002 (Special Needs)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=8,214	**-0.80**	**0.20**	**16.8934**	**<.0001**		
Male	52%	**-0.12**	**0.05**	**5.3393**	**0.0208**	**0.89**	**0.81-0.98**
Rural	26%	0.05	0.06	0.7773	0.3780	1.05	0.94-1.18
Age <1	5%	**0.42**	**0.14**	**8.3452**	**0.0039**	**1.52**	**1.14-2.02**
Age 1-4	17%	-0.12	0.09	1.8255	0.1767	0.89	0.75-1.06
Age 10-14	24%	0.07	0.08	0.6849	0.4079	1.07	0.91-1.25
Age 15-19	34%	**-0.19**	**0.08**	**5.585**	**0.0181**	**0.83**	**0.71-0.97**
FPL 36%	73%	0.10	0.07	2.241	0.1344	1.11	0.97-1.27
FPL 133%	17%	-0.03	0.08	0.1498	0.6987	0.97	0.83-1.13
FPL 185%	5%	**0.37**	**0.15**	**6.3008**	**0.0121**	**1.44**	**1.08-1.92**
Chronic Mental Illness	40%	**0.26**	**0.10**	**6.111**	**0.0134**	**1.29**	**1.06-1.58**
Developmental/MR Disability	14%	**0.55**	**0.11**	**24.9656**	**<.0001**	**1.73**	**1.40-2.15**
Neurological Disability	6%	**0.96**	**0.14**	**45.7226**	**<.0001**	**2.62**	**1.98-3.46**
Physical Disability	17%	**0.70**	**0.10**	**45.9119**	**<.0001**	**2.02**	**1.65-2.48**
Sensory Disability	35%	**0.60**	**0.10**	**33.1573**	**<.0001**	**1.82**	**1.49-2.23**
CHP	25%	**-1.38**	**0.06**	**460.0866**	**<.0001**	**0.25**	**0.22-0.29**
New Enrollment in Yr	31%	**-0.16**	**0.08**	**3.697**	**0.0545**	**0.86**	**0.73-1.00**
Ended Enrollment in Yr	15%	**-0.34**	**0.09**	**15.1093**	**0.0001**	**0.72**	**0.60-0.85**
Eligible Months in Yr	9.53	**0.14**	**0.01**	**128.8432**	**<.0001**	**1.15**	**1.12-1.18**

OLS Model For Colorado Kids Outpatient Dollars in Year 2002 (Special Needs)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=5,209	-$92.82	104.05	-0.89	0.3724
Male	51%	-$15.54	24.85	-0.63	0.5319
Rural	26%	**$146.24**	**29.35**	**4.98**	**<.0001**
Age <1	6%	-$43.87	69.66	-0.63	0.5289
Age 1-4	19%	**-$103.21**	**40.18**	**-2.57**	**0.0102**
Age 10-14	25%	-$20.33	37.59	-0.54	0.5887
Age 15-19	30%	$39.73	39.50	1.01	0.3145
FPL 36%	75%	**$93.08**	**32.91**	**2.83**	**0.0047**
FPL 133%	16%	$17.04	40.30	0.42	0.6724
FPL 185%	6%	**-$102.88**	**50.94**	**-2.02**	**0.0435**
Chronic Mental Illness	34%	-$10.91	41.82	-0.26	0.7943
Developmental/MR Disability	16%	**$387.52**	**42.14**	**9.2**	**<.0001**
Neurological Disability	7%	**$123.29**	**54.46**	**2.26**	**0.0236**
Physical Disability	19%	$17.74	40.80	0.43	0.6637
Sensory Disability	38%	$73.90	40.44	1.83	0.0677
Asthma	15%	$5.30	34.95	0.15	0.8795
Diabetes	1%	$172.83	138.57	1.25	0.2124
Injury	19%	$48.05	32.25	1.49	0.1363
Cancer	0%	$59.80	173.76	0.34	0.7308
Pneumonia	6%	$72.04	52.80	1.36	0.1725
UTI	8%	**$89.56**	**45.66**	**1.96**	**0.0499**
Heart Disease	4%	**$431.73**	**66.12**	**6.53**	**<.0001**
General Symptoms	29%	**$118.50**	**29.08**	**4.07**	**<.0001**
Nutritional Deficiencies	12%	**$237.20**	**40.48**	**5.86**	**<.0001**
Pregnant	2%	$50.50	99.92	0.51	0.6133

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
CHP	16%	**$135.11**	**38.57**	**3.5**	**0.0005**
New Enrollment in Yr	25%	-$44.61	46.24	-0.96	0.3347
Ended Enrollment in Yr	10%	$0.76	50.52	0.01	0.9881
Eligible Months in Yr	10.20	$13.01	7.69	1.69	0.0907
Denver County	7%	**$168.52**	**50.65**	**3.33**	**0.0009**
PCCM	71%	$1.99	35.75	0.06	0.9555

Logistic Model For Colorado Kids Physician Dollars in Year 2002 (Special Needs)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=8,214	-0.16	0.43	0.1341	0.7142		
Male	52%	0.02	0.09	0.0425	0.8367	1.02	0.85-1.23
Rural	26%	0.01	0.11	0.0042	0.9484	1.01	0.82-1.25
Age <1	5%	0.39	0.23	2.7928	0.0947	1.47	0.94-2.32
Age 1-4	17%	**0.71**	**0.18**	**14.6234**	**0.0001**	**2.03**	**1.41-2.91**
Age 10-14	24%	0.25	0.14	3.2242	0.0726	1.29	0.98-1.70
Age 15-19	34%	**0.38**	**0.14**	**7.0588**	**0.0079**	**1.46**	**1.10-1.92**
FPL 36%	73%	-0.15	0.13	1.3006	0.2541	0.86	0.67-1.11
FPL 133%	17%	-0.21	0.13	2.4224	0.1196	0.81	0.62-1.06
FPL 185%	5%	0.42	0.46	0.8307	0.3621	1.52	0.62-3.77
Chronic Mental Illness	40%	**1.79**	**0.33**	**29.5916**	**<.0001**	**5.98**	**3.14-11.39**
Developmental/MR Disability	14%	**0.85**	**0.32**	**6.8827**	**0.0087**	**2.34**	**1.24-4.40**
Neurological Disability	6%	**2.08**	**0.40**	**27.7778**	**<.0001**	**8.04**	**3.70-17.46**
Physical Disability	17%	**1.56**	**0.33**	**22.9768**	**<.0001**	**4.76**	**2.52-9.00**
Sensory Disability	35%	**2.14**	**0.33**	**41.1067**	**<.0001**	**8.50**	**4.42-16.34**
CHP	25%	**-1.79**	**0.12**	**229.0721**	**<.0001**	**0.17**	**0.13-0.21**
New Enrollment in Yr	31%	**-0.27**	**0.14**	**3.7821**	**0.0518**	**0.76**	**0.58-1.00**
Ended Enrollment in Yr	15%	0.18	0.15	1.4726	0.2249	1.20	0.89-1.62
Eligible Months in Yr	9.53	**0.19**	**0.02**	**90.3646**	**<.0001**	**1.20**	**1.16-1.25**

OLS Model For Colorado Kids Physician Dollars in Year 2002 (Special Needs)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=7,670	**-$2,793.05**	**449.41**	**-6.21**	**<.0001**
Male	52%	**$792.87**	**116.59**	**6.8**	**<.0001**
Rural	26%	**-$1,051.33**	**137.28**	**-7.66**	**<.0001**
Age <1	5%	$361.52	342.52	1.06	0.2912
Age 1-4	18%	$30.46	195.65	0.16	0.8763
Age 10-14	24%	**$579.29**	**180.08**	**3.22**	**0.0013**
Age 15-19	34%	**$1,908.18**	**185.21**	**10.3**	**<.0001**
FPL 36%	74%	$280.57	154.18	1.82	0.0688
FPL 133%	16%	$73.50	181.49	0.4	0.6855
FPL 185%	5%	**-$934.55**	**272.81**	**-3.43**	**0.0006**
Chronic Mental Illness	40%	**$2,997.57**	**211.70**	**14.16**	**<.0001**
Developmental/MR Disability	14%	$292.46	218.53	1.34	0.1808
Neurological Disability	6%	$391.02	283.45	1.38	0.1678
Physical Disability	17%	$173.65	208.49	0.83	0.4049
Sensory Disability	36%	**$754.70**	**206.24**	**3.66**	**0.0003**
Asthma	13%	$70.62	180.95	0.39	0.6963
Diabetes	1%	**-$1,599.13**	**695.29**	**-2.3**	**0.0215**
Injury	15%	**$1,233.83**	**167.26**	**7.38**	**<.0001**
Cancer	0%	$1,478.57	857.97	1.72	0.0849
Pneumonia	5%	$80.19	278.02	0.29	0.7730
UTI	7%	-$133.55	231.53	-0.58	0.5641
Heart Disease	3%	**$1,991.80**	**342.76**	**5.81**	**<.0001**
General Symptoms	24%	-$12.66	149.01	-0.08	0.9323
Nutritional Deficiencies	10%	$356.35	210.66	1.69	0.0908
Pregnant	1%	**-$2,183.88**	**524.66**	**-4.16**	**<.0001**
CHP	23%	**-$649.93**	**163.79**	**-3.97**	**<.0001**

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
New Enrollment in Yr	29%	**$2,170.47**	**196.90**	**11.02**	**<.0001**
Ended Enrollment in Yr	15%	**$2,379.49**	**211.58**	**11.25**	**<.0001**
Eligible Months in Yr	9.69	**$543.12**	**30.86**	**17.6**	**<.0001**
Denver County	6%	$51.14	253.49	0.2	0.8401
PCCM	69%	**-$5,209.87**	**175.68**	**-29.66**	**<.0001**

Logistic Model For Colorado Kids Other Practitioner Dollars in Year 2002 (Special Needs)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=8,214	**-1.97**	**0.21**	**86.6613**	**<.0001**		
Male	52%	0.08	0.05	2.2697	0.1319	1.08	0.98-1.21
Rural	26%	**-0.37**	**0.06**	**34.8858**	**<.0001**	**0.69**	**0.61-0.78**
Age <1	5%	**-1.54**	**0.16**	**98.2653**	**<.0001**	**0.22**	**0.16-0.29**
Age 1-4	17%	**-0.82**	**0.09**	**81.5305**	**<.0001**	**0.44**	**0.37-0.53**
Age 10-14	24%	-0.09	0.09	1.0991	0.2945	0.91	0.77-1.08
Age 15-19	34%	0.00	0.09	0.0003	0.9869	1.00	0.84-1.19
FPL 36%	73%	0.11	0.08	2.2008	0.1379	1.12	0.96-1.30
FPL 133%	17%	**-0.37**	**0.09**	**17.5315**	**<.0001**	**0.69**	**0.58-0.82**
FPL 185%	5%	**-0.25**	**0.12**	**4.692**	**0.0303**	**0.78**	**0.62-0.98**
Chronic Mental Illness	40%	**0.61**	**0.11**	**32.3371**	**<.0001**	**1.85**	**1.50-2.28**
Developmental/MR Disability	14%	**1.19**	**0.11**	**112.112**	**<.0001**	**3.30**	**2.64-4.11**
Neurological Disability	6%	**0.80**	**0.14**	**32.7486**	**<.0001**	**2.22**	**1.69-2.92**
Physical Disability	17%	**0.51**	**0.11**	**23.0646**	**<.0001**	**1.66**	**1.35-2.04**
Sensory Disability	35%	**0.70**	**0.11**	**42.2967**	**<.0001**	**2.01**	**1.63-2.48**
CHP	25%	**-2.91**	**0.09**	**1165.7289**	**<.0001**	**0.05**	**0.05-0.06**
New Enrollment in Yr	31%	**0.36**	**0.09**	**16.147**	**<.0001**	**1.44**	**1.21-1.72**
Ended Enrollment in Yr	15%	0.01	0.09	0.0108	0.9173	1.01	0.84-1.21
Eligible Months in Yr	9.53	**0.21**	**0.01**	**224.6994**	**<.0001**	**1.23**	**1.20-1.26**

OLS Model For Colorado Kids Other Practitioner Dollars in Year 2002 (Special Needs)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=4,103	$157.81	83.90	1.88	0.0601
Male	53%	$16.57	20.07	0.83	0.4089
Rural	22%	-$18.87	24.70	-0.76	0.4448
Age <1	3%	**-$314.09**	**70.88**	**-4.43**	**<.0001**
Age 1-4	16%	**-$87.32**	**33.51**	**-2.61**	**0.0092**
Age 10-14	25%	**-$71.59**	**29.79**	**-2.4**	**0.0163**
Age 15-19	35%	-$43.30	30.83	-1.4	0.1603
FPL 36%	80%	$0.63	27.14	0.02	0.9814
FPL 133%	9%	**-$103.34**	**38.25**	**-2.7**	**0.0069**
FPL 185%	6%	-$6.08	40.97	-0.15	0.8821
Chronic Mental Illness	39%	$61.69	32.93	1.87	0.0611
Developmental/MR Disability	18%	**$328.24**	**32.67**	**10.05**	**<.0001**
Neurological Disability	7%	**$168.48**	**43.46**	**3.88**	**0.0001**
Physical Disability	18%	**$115.17**	**31.90**	**3.61**	**0.0003**
Sensory Disability	35%	$53.48	31.69	1.69	0.0916
Asthma	16%	-$13.28	27.56	-0.48	0.6300
Diabetes	1%	-$111.12	116.45	-0.95	0.3400
Injury	18%	-$8.45	26.24	-0.32	0.7473
Cancer	0%	-$53.50	139.69	-0.38	0.7018
Pneumonia	6%	$11.54	42.23	0.27	0.7846
UTI	8%	-$17.80	36.08	-0.49	0.6218
Heart Disease	4%	**$197.70**	**52.24**	**3.78**	**0.0002**
General Symptoms	30%	$36.52	23.29	1.57	0.1169
Nutritional Deficiencies	13%	**$268.42**	**31.45**	**8.53**	**<.0001**

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Pregnant	1%	$31.86	85.38	0.37	0.7090
CHP	5%	-$11.58	45.80	-0.25	0.8004
New Enrollment in Yr	26%	-$37.86	35.52	-1.07	0.2864
Ended Enrollment in Yr	11%	-$6.59	39.80	-0.17	0.8686
Eligible Months in Yr	10.22	**$13.52**	**6.17**	**2.19**	**0.0286**
Denver County	8%	$26.15	37.23	0.7	0.4825
PCCM	66%	-$31.68	28.53	-1.11	0.2669

Logistic Model For Colorado Kids Drug Dollars in Year 2002 (Special Needs)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=8,214	**-1.37**	**0.23**	**35.2959**	**<.0001**		
Male	52%	**-0.21**	**0.06**	**12.3685**	**0.0004**	**0.81**	**0.72-0.91**
Rural	26%	**0.24**	**0.07**	**10.4324**	**0.0012**	**1.27**	**1.10-1.46**
Age <1	5%	0.09	0.15	0.3638	0.5464	1.10	0.82-1.47
Age 1-4	17%	**0.66**	**0.11**	**36.0824**	**<.0001**	**1.93**	**1.56-2.40**
Age 10-14	24%	0.04	0.09	0.1879	0.6647	1.04	0.87-1.24
Age 15-19	34%	**0.40**	**0.10**	**17.5175**	**<.0001**	**1.49**	**1.24-1.80**
FPL 36%	73%	0.14	0.09	2.588	0.1077	1.15	0.97-1.37
FPL 133%	17%	-0.04	0.09	0.1484	0.7001	0.96	0.80-1.16
FPL 185%	5%	-0.13	0.17	0.5823	0.4454	0.88	0.64-1.22
Chronic Mental Illness	40%	**0.96**	**0.14**	**44.8041**	**<.0001**	**2.61**	**1.97-3.45**
Developmental/MR Disability	14%	**0.33**	**0.14**	**5.5085**	**0.0189**	**1.40**	**1.06-1.85**
Neurological Disability	6%	**1.24**	**0.19**	**42.6851**	**<.0001**	**3.47**	**2.39-5.05**
Physical Disability	17%	**0.79**	**0.14**	**30.9525**	**<.0001**	**2.20**	**1.67-2.90**
Sensory Disability	35%	**0.68**	**0.14**	**22.6331**	**<.0001**	**1.96**	**1.49-2.59**
CHP	25%	**-0.44**	**0.08**	**32.0929**	**<.0001**	**0.64**	**0.55-0.75**
New Enrollment in Yr	31%	-0.17	0.09	3.5251	0.0604	0.84	0.70-1.01
Ended Enrollment in Yr	15%	-0.07	0.10	0.5233	0.4694	0.93	0.77-1.13
Eligible Months in Yr	9.53	**0.21**	**0.01**	**261.3567**	**<.0001**	**1.24**	**1.20-1.27**

OLS Model For Colorado Kids Drug Dollars in Year 2002 (Special Needs)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=6,611	**-$815.08**	**214.22**	**-3.8**	**0.0001**
Male	51%	$92.86	51.82	1.79	0.0732
Rural	27%	-$108.94	60.47	-1.8	0.0716
Age <1	4%	**-$695.51**	**159.85**	**-4.35**	**<.0001**
Age 1-4	19%	**-$371.27**	**85.74**	**-4.33**	**<.0001**
Age 10-14	24%	$94.45	80.98	1.17	0.2436
Age 15-19	34%	$98.26	82.35	1.19	0.2328
FPL 36%	73%	$116.61	67.93	1.72	0.0861
FPL 133%	16%	-$32.39	80.77	-0.4	0.6884
FPL 185%	5%	**-$378.54**	**117.25**	**-3.23**	**0.0013**
Chronic Mental Illness	39%	**$685.16**	**90.64**	**7.56**	**<.0001**
Developmental/MR Disability	14%	**$908.04**	**93.96**	**9.66**	**<.0001**
Neurological Disability	6%	**$1,418.40**	**120.44**	**11.78**	**<.0001**
Physical Disability	18%	**$426.97**	**89.58**	**4.77**	**<.0001**
Sensory Disability	36%	**$482.98**	**88.40**	**5.46**	**<.0001**
Asthma	15%	**$341.50**	**74.27**	**4.6**	**<.0001**
Diabetes	1%	**$710.75**	**287.43**	**2.47**	**0.0134**
Injury	17%	$50.91	70.98	0.72	0.4732
Cancer	0%	**$4,036.65**	**374.75**	**10.77**	**<.0001**
Pneumonia	6%	**$1,115.90**	**113.99**	**9.79**	**<.0001**
UTI	8%	$68.93	96.01	0.72	0.4728
Heart Disease	3%	**$1,447.77**	**148.60**	**9.74**	**<.0001**
General Symptoms	26%	**$279.66**	**63.14**	**4.43**	**<.0001**
Nutritional Deficiencies	11%	**$790.51**	**88.40**	**8.94**	**<.0001**
Pregnant	2%	-$134.67	213.80	-0.63	0.5288
CHP	24%	**-$239.94**	**73.00**	**-3.29**	**0.0010**

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
New Enrollment in Yr	26%	-$43.86	91.58	-0.48	0.6320
Ended Enrollment in Yr	13%	-$19.56	100.73	-0.19	0.8460
Eligible Months in Yr	10.07	**$39.31**	**15.20**	**2.59**	**0.0097**
Denver County	5%	**$260.86**	**118.53**	**2.2**	**0.0278**
PCCM	72%	$53.09	76.24	0.7	0.4863

Logistic Model For Colorado Kids Other Dollars in Year 2002 (Special Needs)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value	Odds	Confidence Limits
Intercept	N=8,214	**-1.05**	**0.26**	**16.8249**	**<.0001**		
Male	52%	-0.07	0.06	1.0876	0.2970	0.94	0.83-1.06
Rural	26%	-0.13	0.07	3.0928	0.0786	0.88	0.76-1.02
Age <1	5%	0.15	0.17	0.7219	0.3955	1.16	0.82-1.63
Age 1-4	17%	**-0.37**	**0.11**	**12.3137**	**0.0004**	**0.69**	**0.56-0.85**
Age 10-14	24%	0.13	0.10	1.7136	0.1905	1.14	0.94-1.40
Age 15-19	34%	0.18	0.10	2.9966	0.0834	1.19	0.98-1.46
FPL 36%	73%	0.10	0.09	1.1787	0.2776	1.10	0.93-1.31
FPL 133%	17%	0.07	0.10	0.5022	0.4785	1.07	0.89-1.29
FPL 185%	5%	-0.16	0.17	0.8131	0.3672	0.86	0.61-1.20
Chronic Mental Illness	40%	**0.68**	**0.17**	**15.7116**	**<.0001**	**1.98**	**1.41-2.78**
Developmental/MR Disability	14%	**1.27**	**0.19**	**46.6176**	**<.0001**	**3.56**	**2.48-5.13**
Neurological Disability	6%	**1.61**	**0.24**	**46.1872**	**<.0001**	**5.01**	**3.15-7.97**
Physical Disability	17%	**1.09**	**0.18**	**37.6661**	**<.0001**	**2.96**	**2.09-4.19**
Sensory Disability	35%	**0.57**	**0.17**	**10.9329**	**0.0009**	**1.76**	**1.26-2.47**
CHP	25%	**-0.91**	**0.08**	**133.0782**	**<.0001**	**0.40**	**0.34-0.47**
New Enrollment in Yr	31%	0.12	0.10	1.592	0.2070	1.13	0.93-1.37
Ended Enrollment in Yr	15%	-0.04	0.10	0.1806	0.6709	0.96	0.79-1.16
Eligible Months in Yr	9.53	**0.23**	**0.01**	**264.4677**	**<.0001**	**1.26**	**1.22-1.29**

OLS Model For Colorado Kids Other Dollars in Year 2002 (Special Needs)

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
Intercept	N=6,822	**-$3,063.89**	**714.70**	**-4.29**	**<.0001**
Male	52%	**$499.61**	**175.94**	**2.84**	**0.0045**
Rural	26%	-$109.59	208.57	-0.53	0.5993
Age <1	5%	**-$2,485.43**	**511.34**	**-4.86**	**<.0001**
Age 1-4	17%	**-$1,068.26**	**297.35**	**-3.59**	**0.0003**
Age 10-14	24%	$183.30	269.57	0.68	0.4966
Age 15-19	34%	**$1,586.45**	**277.09**	**5.73**	**<.0001**
FPL 36%	73%	**$803.71**	**233.76**	**3.44**	**0.0006**
FPL 133%	16%	$96.69	277.57	0.35	0.7276
FPL 185%	5%	**-$1,094.40**	**400.79**	**-2.73**	**0.0063**
Chronic Mental Illness	38%	**$809.74**	**306.01**	**2.65**	**0.0082**
Developmental/MR Disability	15%	**$5,249.44**	**311.97**	**16.83**	**<.0001**
Neurological Disability	6%	**$2,958.72**	**406.17**	**7.28**	**<.0001**
Physical Disability	18%	**$1,595.17**	**299.87**	**5.32**	**<.0001**
Sensory Disability	35%	**$1,658.32**	**298.83**	**5.55**	**<.0001**
Asthma	14%	$247.13	260.32	0.95	0.3425
Diabetes	1%	-$1,265.10	999.36	-1.27	0.2056
Injury	17%	**-$562.11**	**240.15**	**-2.34**	**0.0193**
Cancer	1%	**$4,721.40**	**1182.81**	**3.99**	**<.0001**
Pneumonia	6%	**$2,783.39**	**395.54**	**7.04**	**<.0001**
UTI	8%	**$1,027.40**	**327.06**	**3.14**	**0.0017**
Heart Disease	4%	**$3,698.80**	**485.59**	**7.62**	**<.0001**
General Symptoms	26%	**$983.78**	**213.91**	**4.6**	**<.0001**
Nutritional Deficiencies	11%	**$1,306.14**	**300.12**	**4.35**	**<.0001**
Pregnant	1%	-$827.70	732.88	-1.13	0.2588
CHP	22%	-$414.94	254.10	-1.63	0.1025

Variable	Percent	Parameter Estimate	Standard Error	T-Value	P-Value
New Enrollment in Yr	28%	-$295.94	307.36	-0.96	0.3356
Ended Enrollment in Yr	13%	-$388.34	335.85	-1.16	0.2476
Eligible Months in Yr	9.95	$44.69	51.11	0.87	0.3819
Denver County	6%	**$1,059.16**	**370.05**	**2.86**	**0.0042**
PCCM	70%	$263.89	260.51	1.01	0.3111

Appendix C – JEN Associates, Inc. list of disability related conditions for all populations

Disability Category	Conditions
Neurological	Disorders of the autonomic nervous system
	Multiple sclerosis
	Demyelinating diseases of central nervous system
	Paralytic syndromes
	Epilepsy
Developmental	Spina bifida
	Mental retardation
	Cerebral palsy
	Muscular dystrophies
Physical	Congenital anomalies
	Diffuse diseases of connective tissue
	Intervertebral disc disorders
	Congenital Musculoskeletal deformities
	Congenital anomalies of limbs
	Disorders of back
	Acquired deformities of limbs
CMI/Substance Abuse	Schizophrenia
	Affective psychoses
	Neurotic disorders
	Personality disorders
	Alcohol dependence syndrome
	Abuse of drugs
	Adjustment reaction
	Depressive disorder
	Disturbance of conduct
Medical	Hodgkin's disease/Leukemia/Selected Cancers
	Hereditary hemolytic anemia
	HIV/AIDS

Appendix D Notes

[1] The encounter treatment records were linked with program eligibility records to create person-level summary analytic records which included monthly detail on program status, service payments by category, acute care episodes, and annual detail on observed diagnoses related to disability and chronic disease. Study records with claim and enrollment periods linked to data quality problems were edited or completely omitted from the final study data scope. Service data for children enrolled in Medicaid HMOs was not available and therefore beneficiary enrollment periods with an indication of a HMO status were not included in the analyses. Beneficiary enrollment period associated with CHP+ plans that discontinued operation during the study period were not included in the analysis. Additionally data incompleteness issues were found with data from two CHP+ plans whose data were not included in the analyses. Additionally, because CHP+ plan data sources are simple treatment and enrollment records, accounting transactions not directly related to the costs of care are not included in any of the analyses The one payment type that is added to the claim and encounter level data is CHP+ and Medicaid program monthly capitated payments to physicians for selected beneficiaries managed under Primary Care Physician (PCP and PCCM) arrangements.

[2] Children may be flagged with more than one condition.

[3] Variables in a multivariate model that are represented on a nominal scale (0 or 1) are called dummy variables. If the dummy variable is based on a multinomial scale, for example age represented by 5 age categories, then each age category is represented as a dummy variable. One of the age dummy variables must be excluded from the model because each of the age dummy variables cannot be interpreted by itself but rather in conjunction with all other dummy variables designed to represent age.

[4] Disease variables should not be used in the first stage logistic model because they are highly correlated with the dependent variable constructed from health care expenditures.