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## Children's Health Insurance Programs in New Hampshire

*Access, Prevention, Care Management, Utilization, & Payments  
(State Fiscal Year 2010)*

A report prepared for the  
New Hampshire Department of Health and Human Services  
by Onpoint Health Data

June 2011



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## About the New Hampshire Comprehensive Health Care Information System

The New Hampshire Comprehensive Health Care Information System (NH CHIS) is a joint project between the New Hampshire Department of Health and Human Services (DHHS) and the New Hampshire Insurance Department. The NH CHIS was created by state statute (RSA 420-G:11-a) to make health care data “available as a resource for insurers, employers, providers, purchasers of health care, and state agencies to continuously review health care utilization, expenditures, and performance in New Hampshire and to enhance the ability of New Hampshire consumers and employers to make informed and cost-effective health care choices.” For more information about the NH CHIS, please visit [www.nhchis.org](http://www.nhchis.org) or email Andrew Chalsma, NH DHHS ([achalsma@dhhs.state.nh.us](mailto:achalsma@dhhs.state.nh.us)).

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## About the Study

This study was conducted by Onpoint Health Data, under a contract with the State of New Hampshire Department of Health and Human Services, Office of Medicaid Business and Policy, titled New Hampshire Comprehensive Health Care Information System. The views expressed are those of the authors and do not necessarily represent the views of Onpoint Health Data or the New Hampshire DHHS. For more information on the study, email the study’s primary author, Amy Kinner, Health Services Researcher, Onpoint Health Data ([akinner@onpointhealthdata.org](mailto:akinner@onpointhealthdata.org)).

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# EXECUTIVE SUMMARY

This study evaluated a variety of health care measures to compare children enrolled in New Hampshire Medicaid (excluding severely disabled children), NH CHIP (State Children's Health Insurance Program), and children enrolled in commercial health insurance plans in New Hampshire for state fiscal year (SFY) 2010. The study updates the [SFY2009 report](#) on New Hampshire children's health insurance incorporating New Hampshire Medicaid data and the Comprehensive Health Care Information System (NH CHIS) commercial health care claims database. Onpoint Health Data used New Hampshire Medicaid and NH CHIS commercial administrative eligibility and claims data from services incurred in SFY2010\* to study the following for New Hampshire children aged 0–18:

- Plan enrollment and disenrollment
- Health status
- Access to primary care practitioners
- Well-child visits
- Effectiveness of care management
- Prevalence of and utilization for mental health disorders
- Utilization and payments
- Household poverty level

NCQA (National Committee for Quality Assurance) HEDIS (Healthcare Effectiveness Data and Information Set)<sup>†</sup> quality and access to care measures were reported based on the administrative claims data submitted to the NH CHIS.

## Key Findings<sup>‡</sup>

### *Enrollment and Disenrollment*

- There appears to be an increasing trend in the percentage of children covered by both private and public insurance in New Hampshire. While the average number of children covered by CHIP remained roughly the same from SFY2009 to SFY2010, the average number of children covered by Medicaid increased by 9% and by nearly 9% in the NH CHIS commercial study data.
- For enrolled children at the start of the study period (July 2009), 46% of children in CHIP disenrolled during the year compared to 23% of children enrolled in Medicaid and 26% of those enrolled in NH CHIS commercial. Of the children who disenrolled

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\* This study was based on reports developed from the NH CHIS database as of April 2010. Due to database changes and special processing for this project, statistics reported here may not match statistics from other NH CHIS standard reports created before or after April 2010. Some measures use SFY2008 data in addition to SFY2009 data.

† HEDIS is a tool used by most health plans to measure performance with regards to effectiveness, access, use, satisfaction, and cost of care. NCQA is the independent non-profit organization that maintains the tool.

‡ Changes from prior year are noted. Where no trend is noted, no change was observed.

from Medicaid, 18 percent re-enrolled later in the year compared to 8% for CHIP and 11% for NH CHIS commercial. The CHIP disenrollment rate is consistent with the nature of CHIP, which provides temporary coverage until the family acquires other health insurance. The percentage of re-enrollment in the NH CHIS commercial population decreased significantly in the past two years — from 22% in SFY2008 to 11% in SFY2010.

#### *Health Status*

- Children's health status was evaluated by applying Clinical Risk Groups (CRG)<sup>§</sup> to the administrative claims data. A higher risk score indicated poorer health status. Among continuously enrolled members, Medicaid (0.586) had the highest average CRG risk score, while CHIP (0.502) was lower and NH CHIS commercial (0.490) was lowest. The Medicaid risk score was 17% higher than CHIP and 20% higher than NH CHIS commercial.
- The risk score among Medicaid children has been decreasing over time, indicating that children on Medicaid are healthier now on average than in prior years.
- Significant acute procedures, mental health disorders, chronic conditions (asthma), and some rare but potentially serious conditions (e.g., epilepsy, cystic fibrosis, prematurity with birth weight below 1,0000 grams) were contributors to Medicaid's higher CRG scores compared to NH CHIS commercial.

#### *Access to Primary Care Practitioner*

- For Medicaid, the rate of access to primary care practitioners ranged from a low of 88.1% (children aged 7–11 years) to a high of 97.9% (infants aged 0–11 months). CHIP rates were higher than Medicaid or CHIS commercial. Compared to national Medicaid managed care plans, NH Medicaid rates were higher in every age category.
- Trends in access to primary care practitioners over the past three years (SFY2008–SFY2010) were evaluated. For CHIP, there is no evidence of a statistically significant trend in rates, primarily due to the small sample size of the CHIP population. For Medicaid, access increased by 2.1%–2.6% for all but the youngest children. There was no significant change for children aged 0–11 months or 12–24 months because access was already approximately 98% in those age groups in SFY2008. For NH CHIS commercial, there was a statistically significant increase of 3.2%–5.0% for children of all ages between SFY2008 and SFY2010.

#### *Well-Child Visit Rates*

- The well-child visit rate for children aged 3–6 years was higher for children in NH CHIS commercial (81.7%) and CHIP (79.0%) compared to Medicaid (73.0%). These differences were statistically significant.

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<sup>§</sup> 3M® Health Systems Clinical Risk Grouping (CRG) software uses all diagnosis codes from all health care administrative claims to assign an individual to a health status group and severity level if chronically ill. Over 260 different CRG categories were assigned relative risk weights based on a common Medicaid weight table provided by 3M. A higher risk weight indicates a greater burden of disease or disability.

- For each plan type, well-child visit rates declined with age; for example, within Medicaid, 89.4% of children aged 16–35 months had a well-child visit compared to 55.7% of adolescent children aged 12–18 years.
- Between FY2009 and FY2010, well-child visit rates tended to increase for all insurance types, continuing an upward trend that also occurred between FY2008 and FY2009.

#### *Effectiveness of Care Management*

- The prevalence rate of asthma in Medicaid (9.9%) was double the NH CHIS commercial rate (4.7%) and higher than the CHIP rate (8.3%). Based on claims, almost all children with persistent asthma were on the appropriate medication: Of those identified children, 99.0% in CHIP, 94.4% in NH CHIS commercial, and 92.2% in Medicaid used appropriate controller medications. NH Medicaid rates for appropriate medication use were about the same as national HEDIS rates for Medicaid.
- Trends for the three-year period SFY2008–SFY2010 in effectiveness of care measures were evaluated. Asthma prescription management rates increased by 1% among the Medicaid population and stayed the same among the NH CHIS commercial population. The percent of NH children with appropriate testing for pharyngitis increased by more than 4% in the Medicaid population and by more than 6% in the NH CHIS commercial population over the three-year period. Rates of appropriate treatment for children with upper respiratory infection stayed about the same during the three-year period SFY2008–SFY2010 for both the Medicaid and CHIS commercial populations.

#### *Prevalence and Utilization for Mental Health Disorders\*\**

- The mental health disorder prevalence rate for children enrolled in Medicaid (23.0%) was significantly higher than the prevalence rate for NH CHIS commercial (14.1%).
- The prevalence of mental health disorders appears to have increased in the last three years (i.e., FY2008–FY2010). For example, in FY2008, 21.6% of children with Medicaid had mental health disorders; that number rose to 22.3% in FY2009 and then to 23.0% in FY2010. Similar small increases were seen among the NH CHIS commercial population.
- The most common mental health disorder in FY2010 was attention-deficit hyperactivity disorder (ADHD), which displayed a higher prevalence in Medicaid (8.9%) than in NH CHIS commercial (5.5%).
- The rate of psychotherapy visits for children with a mental health disorder was higher in Medicaid (5,070 per 1,000 members) than in CHIS commercial (4,098 per 1,000).

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\*\* In FY2010, mental health specialist visits for the CHIP population were not complete in the payer data for this report. Therefore, CHIP is not included in the mental health section of the report.



- Among children with a mental health disorder, the prevalence of children using a psychotropic medication was lower in Medicaid (55%) than NH CHIS commercial (65%).

#### *Utilization and Payments<sup>††</sup>*

- The inpatient hospitalization rate for Medicaid (24.1 per 1,000 members) was significantly higher than the CHIP rate (18.9 per 1,000 members) or the NH CHIS commercial rate (16.5 per 1,000 members).
- For five selected ambulatory care sensitive (ACS) conditions — asthma, dehydration, bacterial pneumonia, urinary tract infections, and gastroenteritis — the inpatient hospitalization rate for children enrolled in Medicaid (4.4 per 1,000 members) was more than double the NH CHIS commercial rate (1.8 per 1,000 members) and more than triple the CHIP rate (1.4 per 1,000 members).
- The outpatient emergency department (ED) rate for Medicaid (552 per 1,000 members) was significantly higher than for both CHIP (363 per 1,000 members) and NH CHIS commercial (228 per 1,000 members).
- For conditions for which an alternative setting of care might have been more appropriate (e.g., upper respiratory infection, ear infection, bronchitis), the outpatient ED use rate for children enrolled in NH Medicaid (252 per 1,000 members) was more than double that of CHIP (98 per 1,000 members) and four times that of NH CHIS commercial (62 per 1,000 members).
- The office/clinic visit rate was highest in CHIP (3,499 per 1,000 members), followed by Medicaid (3,322 per 1,000 members) and NH CHIS commercial (3,060 per 1,000 members).
- Between SFY2009 and SFY2010, Medicaid utilization rates remained stable for both outpatient ED visits and for office/clinic visits.
- After standardizing for differences in health status (CRG) and age and excluding special services specific to Medicaid and newborns/infants (aged 0–11 months), the payment rate for children per member per month (PMPM) was lower for Medicaid (\$147 PMPM) compared with NH CHIS commercial (\$174 PMPM) and CHIP (\$168 PMPM). Between SFY2009 and SFY2010, unadjusted payment rates decreased by 6% for Medicaid, increased by 3% for CHIP, and increased by 11% for NH CHIS commercial.

#### *Poverty Level for Children Enrolled in Medicaid*

- Medicaid children with continuous enrollment in the poorest households (0% FPL<sup>‡‡</sup>) had the poorest health as indicated by a higher average clinical risk (CRG) score (0.704) compared to children in households with the highest adjusted household

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<sup>††</sup> For the purposes of comparing Medicaid, CHIP, and NH CHIS commercial children, utilization and payment rates excluded newborns and infants (aged 0–11 months) and were standardized for differences in health status (CRG) and age. Services exclusive to Medicaid were also excluded.

<sup>‡‡</sup> Federal Poverty Level (FPL) is determined at enrollment by the adjusted income and not the gross income of the household. An FPL of 100% indicates that the child was living at the FPL; 0% indicates that the child was living in a household with no income after adjustments for income disregards.

income (134%–184% FPL) whose average clinical risk score was 0.531. For all Medicaid poverty level groups, health status was poorer than for CHIP and NH CHIS commercial plan types.

- Results of the analysis indicate a consistent associative pattern between poverty, poor health status, and higher utilization and payments.
- Children enrolled in Medicaid in the poorest households had a payment rate (\$181 PMPM) that was 1.5 times higher than the rate for children in households with the highest adjusted household income (\$110 PMPM).

## **Limitations**

NH CHIS commercial population contains information only on New Hampshire residents whose claims are included in the NH CHIS database, which generally includes only members whose policies were purchased in New Hampshire. Areas close to the borders of New Hampshire may be less well represented in this study than interior areas of the state.

This study is based primarily on administrative claims data. Administrative claims data is collected primarily for the purpose of making financial payments. Specific provider, diagnosis, and procedure coding typically are required as part of the financial payment processes. The use of claims data is an efficient and less-costly method to report on health care utilization and payments than other methods such as surveys or patient chart audits. While administrative claims data may under-report some diagnostic conditions or services, some studies indicate that administrative claims data may provide a more accurate rate than medical chart review.<sup>1,2,3,4,5,6</sup>

Differences in utilization and payment measures between Medicaid, CHIP, and NH CHIS commercial may be influenced by differences in the insurance plan delivery model and benefit structure. Medicaid is a fee-for-service program that covers services without copayments, covers a wide variety of services that have limited or no benefit coverage in commercial plans, and is subject to the federal requirements of the Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) provisions of Title XIX of the Social Security Act. Differences in data sources of data and payment methods also may introduce variation.



## INTRODUCTION

This report was developed to provide a detailed evaluation of access to primary care and well-child preventive visits, effectiveness of care management, mental health disorders, utilization, and payments, for the children in New Hampshire with public or private insurance.

Children who have health insurance are more likely to have a usual source of health care, access preventive and other needed health services, and have improved social and emotional development.<sup>7</sup> Among children nationally without insurance, 35% did not have a personal doctor or nurse and 26% did not access care. Nationally, the percentage of children covered by private health insurance has declined while the percentage of children covered by public insurance has increased. NH was one of seven states that experienced an increase in private insurance during the period of 1997/1998–2003/2004.<sup>8</sup> During 2008–2009, children in New Hampshire were more likely to have private (i.e., employer or individual coverage) health insurance (75%) compared to the national average (55%) (see [Table 1](#)). Compared to Maine or Vermont, New Hampshire children were more likely to have private insurance and less likely to have public insurance.<sup>9</sup>

**Table 1. Health Insurance Coverage for Children by State and Coverage Type, U.S. Census Current Population Survey, 2008–2009<sup>10</sup>**

Region	Employer	Individual	Medicaid	Other Public	Total Insured	Uninsured
Massachusetts	65%	NSD	29%	NSD	97%	3%
New Hampshire	70%	5%	20%	NSD	96%	4%
Maine	54%	5%	34%	1%	95%	5%
Vermont	52%	NSD	37%	NSD	96%	7%
United States	51%	4%	33%	1%	90%	10%

NSD ... Not sufficient data

Note: There is known underreporting in the [U.S. Census Current Population Survey](#) of Medicaid coverage, and the percent of NH children enrolled in Medicaid at any time during the year is known to be higher than shown above. The data remain unadjusted to allow for comparison of New Hampshire to the other states and the nation.

The two-year average of the 2008 and 2009 [U.S. Census Current Population Survey](#) data showed that NH had the nation's second-lowest uninsured rate for children, placing lower than only Massachusetts. During 2008–2009, 4% of NH children were without health insurance, an improvement from 2007–2008 when 5% of NH children were uninsured and 2006–2007 when 7% of NH children were uninsured.<sup>11</sup> One analysis found that in states with small declines or modest gains in employer-sponsored insurance (ESI), there was a significant decline in uninsured children.<sup>12</sup> Another national analysis showed that over the past decade, both Medicaid and the State Children's Health Insurance Program (CHIP) have helped offset the declines of ESI and have decreased significantly the numbers of low-income children who are uninsured.<sup>13</sup>

Efforts to increase the percentage of New Hampshire children with health insurance began in 1993 with the creation of the New Hampshire Healthy Kids Corporation (NHHK). Then in 1994, the New Hampshire Legislature expanded eligibility for the Medicaid program

(Title XIX of the Social Security Act) to children aged 0–18 whose family incomes were between 0% and 185% of the Federal Poverty Level (FPL). Through the Balanced Budget Act of 1997 (Title XXI of the Social Security Act), the U.S. government created CHIP and allocated about \$20 billion over five years to help states insure children whose family incomes made them ineligible for Medicaid. New Hampshire’s New Hampshire Department of Health and Human Services (DHHS) implemented the state’s CHIP program by drawing upon the experience and existing infrastructure of NHHK to administer the program. NHHK also took an increasingly important role in outreach and enrollment for both CHIP and Medicaid.

Nationally, many new CHIP enrollees have reported unmet needs, disparities in access, and sub-optimal care prior to enrollment in CHIP.<sup>14</sup> Studies have shown that CHIP improved access to and quality of care for chronic medical conditions and increased access to dental services.<sup>15,16,17,18,19,20,21</sup> Pre-pregnancy coverage for teenage mothers also improved with CHIP coverage.<sup>22</sup>

National Healthcare Effectiveness Data and Information Set (HEDIS)\* measures indicate that children enrolled in Medicaid managed care programs have lower rates of access to primary care practitioners, lower rates of well-child preventive visits, lower immunization rates, and poorer effectiveness of care measures compared with children enrolled in commercial managed care health plans.<sup>23</sup> Prior studies, including an examination of ED use in New Hampshire, indicate that children enrolled in Medicaid have higher service utilization rates compared with children enrolled in commercial insurance.<sup>24,25,26,27</sup> At least one study has indicated that, for some states, Medicaid enrollees’ access to care is similar to the commercially insured population’s access, while in other states it is higher.<sup>28</sup>

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## Overview and Purpose of Report

In January 2008, the NH DHHS released a study developed jointly by Onpoint Health Data (previously the Maine Health Information Center), the University of Southern Maine’s Muskie School of Public Service, and the NH DHHS itself, which added significant enhancements to an earlier report by Thomson Healthcare. Additional measures of quality of care, prevention, utilization, and payments were added for the report as well as comparative information on New Hampshire children covered by NH CHIS commercial health insurance plans (NH CHIS began collecting commercial claims data beginning with January 2005 paid claims). HEDIS measures were reported based on the administrative claims data submitted to NH CHIS. This enhanced 2008 report was further expanded in 2009 through additional work by Onpoint, the Muskie School of Public Service, and NH DHHS. This current report is intended to provide an update of the 2009 report with more recent data from SFY2010.

In addition to this annual reporting, NH CHIS has developed issue-specific studies for children. These include a detailed study of children in out-of-home placement (e.g., foster care) covered by NH Medicaid<sup>29</sup>, children’s health status, evaluations of ambulatory care

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\* HEDIS is a tool used by most health plans to measure performance with regards to effectiveness, access, use, satisfaction, and cost of care. The National Committee for Quality Assurance (NCQA) is the independent nonprofit organization that maintains the tool.

sensitive (ACS) services, inpatient care, and potential avoidable outpatient ED use, geographic variations, adolescents, and mental health specialist visits.

The purpose of this study was to describe and compare health care access, preventive services, care management, utilization, and medical payments for children in New Hampshire. Rates for children enrolled in NH Medicaid (Healthy Kids Gold), CHIP (Healthy Kids Silver), and NH CHIS commercial insurance plans were compared.

The scope of the study was to:

- Compare Medicaid, CHIP, and NH CHIS commercially insured children residing in New Hampshire
- Contrast rates by age of child
- Describe enrollment and compare rates of disenrollment for children
- Compare health status by plan type
- Compare rates of access to primary care practitioners for children
- Compare rates of well-child visits for children
- Compare HEDIS effectiveness of care measures for selected diseases (i.e., asthma, upper respiratory infection, and pharyngitis) for children
- Describe and compare prevalence and utilization rates of mental health disorders for children
- Describe psychotropic medication use for children with mental health disorders
- Compare rates of inpatient, emergency department, and office/clinic visit use for children
- Compare rates of payments per member per month

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## Data Sources and Methods

This study was based on administrative eligibility and claims data from New Hampshire Medicaid and the NH CHIS commercial database for SFY2010 (July 1, 2009 – June 30, 2010). For some statistical measures, a two-year window was required (July 1, 2008 – June 30, 2010). Annual and two-year trends were evaluated and are discussed in the text. The methods used in this study are described in [Appendix 1](#) at the end of the report.

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## Population Studied in the Report

The SFY2010 experience of three New Hampshire populations was studied: children covered by NH Medicaid (Healthy Kids Gold), children covered by NH's CHIP program (Healthy Kids Silver), and children covered by commercial insurance plans that reported data to the NH CHIS. Consistent with other reporting for New Hampshire Medicaid for this project, the definition of a child for this report is a covered member under the age of 19 years. CHIP does not cover infants under the age of one year. (In New Hampshire, infants

who would be in CHIP based on family FPL of 185% to 300% are covered under Medicaid.) Children with severe disabilities (e.g., Home Care for Children with Severe Disabilities program, aid to needy blind) were excluded from the Medicaid data. Children residing outside of New Hampshire were excluded from NH CHIS commercial data. NH CHIS commercial data also is limited by not including data from insurance policies written outside of New Hampshire and from self-funded plans that do not use a third-party administrator (TPA) for claims processing.

In New Hampshire, the Medicaid population is enrolled in a fee-for-service plan without assigned primary care physicians (PCPs) authorizing referrals to further care. Children in CHIP are enrolled in a Health Maintenance Organization (HMO) product, currently managed by Anthem, that includes traditional HMO elements like PCPs. The population represented in the NH CHIS commercial data is a mixture of Preferred Provider Organizations (PPOs), HMOs, Point-of-Service (POS), and Indemnity.

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## Interpretation of Results and Limitations

This is a study of children covered by three different types of health plans — Medicaid, CHIP, and NH CHIS commercial — conducted in New Hampshire. The large number of covered members studied lends credibility to the findings. However, a number of cautions about the used data and study results are provided.

This study was based on administrative eligibility and claims data. Differences in provider or insurer claims coding, data processing, or reimbursement arrangements may contribute to the variances shown in this report. Differences in benefit packages and coding by NH CHIS commercial insurer products (i.e., PPO, HMO, POS, Indemnity, or TPA) also may contribute to variances shown in this report. Because of the potential for negative bias (reduced rates) in the NH CHIS commercial insurance estimates, children enrolled in Indemnity and TPA plans (13% of children in the NH CHIS commercial data) were excluded from the reported claims-based HEDIS measures. Children enrolled in NH CHIS commercial Indemnity and TPA plans were included in all non-HEDIS sections of the report.

The NH CHIS commercial population contains information on those residents whose claims are included in the NH CHIS database, which generally includes only members whose policies were purchased in New Hampshire. Areas close to the borders of New Hampshire may be less well represented than areas in the interior. Additionally, companies that self-fund their health care and do not use a TPA to pay claims are not captured in the data set. Because of these two factors, this report underestimates the number of children covered by NH CHIS commercial insurance in New Hampshire.\*

While it may be of interest to evaluate children who migrate between the Medicaid, CHIP, and NH CHIS commercial insurance plan types during a year, there were limitations in the ability to track such changes and such tracking is beyond the scope of this report. However, NH CHIS study was completed in 2009 to track migration between plan types over a three-

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\* The statute requiring submission of data is limited to areas regulated by the NH Insurance Department.

year period, especially with regard to disenrollment and reenrollment in Medicaid and that study provides insight into patterns of enrollment and disenrollment.<sup>30</sup>

This study compared insured populations that were very different from each other. Previous NH CHIS annual reports on children were limited in the evaluation of health status. This report provides a more detailed evaluation of health status by using clinical risk groups (CRGs). Utilization and payment rates in this report, standardized for population differences in health status and age, were added in the [SFY2008](#) and [SFY2009](#) versions of the annual report on children's health insurance. These rates have been updated with SFY2010 data for this report.



# RESULTS

## Enrollment and Disenrollment

This section of the report provides information about the enrollment and disenrollment of children tracked through the Medicaid and NH CHIS databases during SFY2010. Disenrollment from health plans is common for adults and children. Since information about NH children without insurance and NH children covered by policies written out-of-state is not included in the databases, this section of the report cannot be used to measure the number of New Hampshire children with or without health insurance.

Enrollment figures for SFY2010 from the NH CHIS data are provided in [Table 2](#). For children aged 0–18 years in SFY2010, 96,035 were enrolled in Medicaid, 12,695 were enrolled in CHIP, and 175,054 were enrolled in commercial plans reporting to NH CHIS. (Note that Medicaid and NH CHIS commercial data both include newborns; CHIP, on the other hand, does not cover children under the age of one year.)

**Table 2. Child Enrollment by Plan Type, SFY2010**

*Note: Percentage in parentheses*

Measure	Medicaid, Ages 0–18	CHIP, Ages 1–18*	NH CHIS Commercial, Ages 0–18
Unique Members Covered	96,035	12,695	175,054
Member Months	939,559	95,909	1,534,283
Average Members per Month	78,297	7,992	127,857
Average Length of Enrollment	9.8	7.6	8.8
Unique Members Continuously Enrolled	63,063 (66%)	4,767 (38%)	90,431 (52%)

Notes: **Member Months** is defined as the total full or partial months during which members were enrolled, regardless of whether a member actually received services during the period; a member enrolled for an entire year would account for 12 member months. **Average Members per Month** is defined as **Member Months** divided by 12 and represents average number of members enrolled for the year. Continuous enrollment is based on NCQA HEDIS and is defined as 11 or more months of enrollment during the year, which allows for a one-month gap.

\* CHIP does not cover children under the age of one year.

Enrollment distribution by age is reported in [Table 3](#). The Medicaid plan covered 41% of infants and young children (aged 0 months – 6 years) — a higher percentage than CHIP (29%) and NH CHIS commercial (28%). Therefore, the demographic profile of children in CHIP is closer to the NH CHIS commercial population than to the Medicaid population.

**Table 3. Percent of Average Members Covered by Age Group and Plan Type, SFY2010***Note: Counts (in parentheses) are average members covered (Member Months / 12)*

<b>Age Group</b>	<b>Medicaid</b>	<b>CHIP</b>	<b>NH CHIS Commercial</b>
TOTAL — All Ages (0–18 Years)	100% (78,297)	100% (7,992)	100% (127,857)
<1 Year (0–11 Months) *	5% (3,894)	0% (0)	2% (2,773)
1–2 Years	13% (9,947)	8% (663)	8% (9,767)
3–6 Years	23% (18,052)	20% (1,617)	18% (22,731)
7–11 Years	26% (20,339)	28% (2,209)	26% (32,693)
12–18 Years	33% (26,064)	44% (3,503)	47% (59,892)

\* CHIP does not cover children under the age of one year. (In New Hampshire, infants in the federal poverty level group for CHIP are covered under Medicaid).

Compared to SFY2009, the average number of children covered during SFY2010 increased by 9% in Medicaid, remained the same in CHIP, and increased by nearly 9% in the NH CHIS commercial data.

Figures [1](#) and [2](#) and tables [4](#) and [5](#) provide population estimates for New Hampshire and the NH CHIS average enrollment membership by plan type for the Health Analysis Area (HAA) of the child’s residence. In total, the average membership of children included in this study represented 66% of all New Hampshire children. As a percentage of the total New Hampshire population of children included in this study’s data, southern areas (Derry, Exeter, Nashua, Dover, Keene) were less well represented, while interior and northern areas (North Conway, Wolfeboro, Laconia, Claremont, Woodsville, Littleton, Franklin, and Plymouth) had higher rates of representation. The lower rate in southern areas is explained, in part, by children covered by commercial policies written outside of New Hampshire and, therefore, not in the NH CHIS database. All HAAs except Colebrook had at least 1,000 children included in the study data.

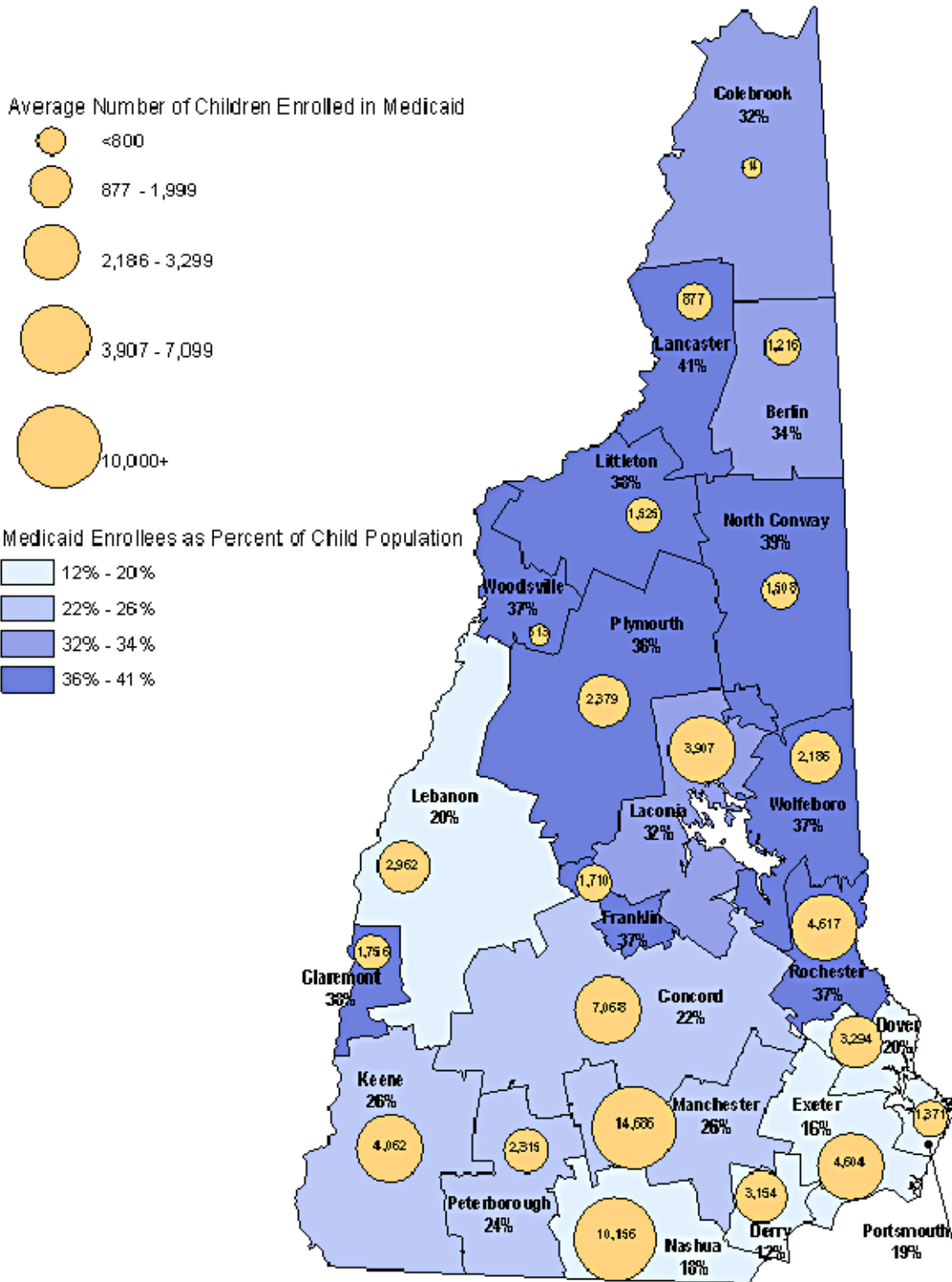
**Table 4. Child Census Estimate, Average Members by Plan Type and HAA, SFY2010**

HAA	2010 Population Estimate (All Ages)	2010 Population Estimate (Aged 0–18)	Medicaid Average Members	CHIP Average Members	NH CHIS Commercial Average Members
STATE TOTAL	1,235,784	326,380	78,297	7,992	127,857
Berlin	15,550	3,543	1,216	147	1,073
Claremont	18,919	4,656	1,756	134	1,651
Colebrook	5,661	1,297	414	42	292
Concord	120,609	31,984	7,068	898	15,224
Derry	92,697	27,013	3,154	399	8,542
Dover	66,706	16,652	3,294	318	6,425
Exeter	106,575	28,077	4,604	657	10,628
Franklin	17,292	4,671	1,710	147	1,626
Keene	62,465	15,538	4,062	341	5,614
Laconia	50,148	12,134	3,907	428	4,925
Lancaster	8,177	2,138	877	120	574
Lebanon	62,878	15,084	2,962	343	7,874
Littleton	15,938	3,986	1,525	197	1,284
Manchester	205,072	56,112	14,686	1,150	22,982
Nashua	199,107	56,351	10,156	990	21,142
North Conway	16,277	3,820	1,508	230	1,366
Peterborough	32,953	9,567	2,315	272	3,857
Plymouth	26,876	6,632	2,379	264	2,287
Portsmouth	35,210	7,150	1,371	143	3,373
Rochester	45,938	12,618	4,617	380	4,369
Wolfeboro	24,866	5,956	2,186	331	2,260
Woodsville	5,870	1,401	513	62	489

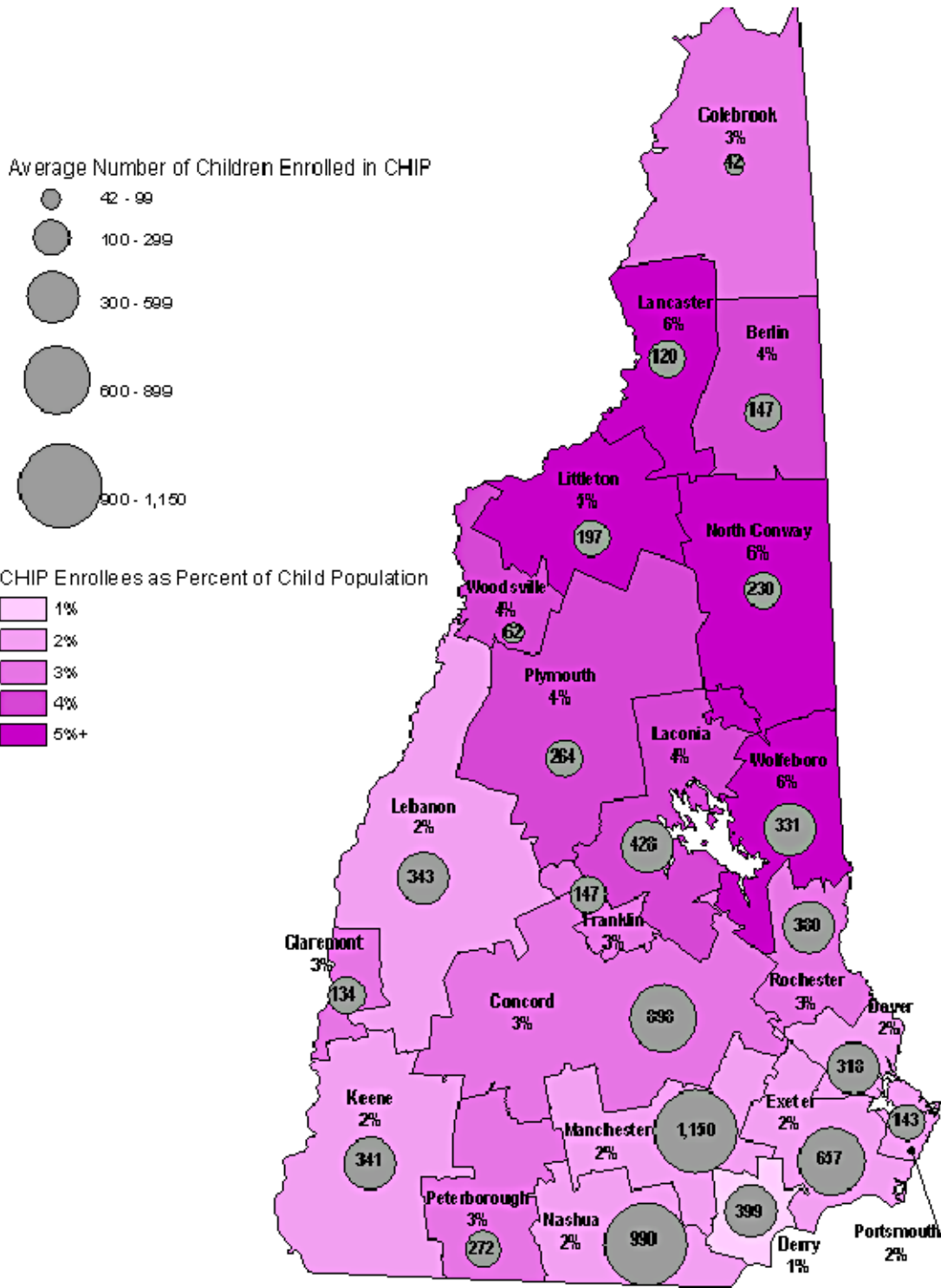
Notes: Average members = Member Months / 12. Population estimates are from Claritas. NH CHIS commercial represents membership contained in the NH CHIS database and is not a complete count of the commercially insured. No data is available on counts of uninsured.

There was significant variability in population estimates and plan enrollment by HAA. The largest number of children in New Hampshire resided in the Nashua (56,351), Manchester (56,112), and Concord (31,984) areas. The areas with the highest rates of children as a percentage of total population were Derry (29%), Peterborough (29%), and Nashua (28%).

**Figure 1. NH Medicaid Enrollees, Aged 0–18, as a Percent of Total Child Population by HAA, Average for SFY2010<sup>31</sup>**



**Figure 2. CHIP Enrollees, Aged 1–18 as a Percent of Total Child Population by HAA, Average for SFY2010<sup>32</sup>**



The areas in which children comprised a lower percentage of the total population were Portsmouth (20%), Colebrook (23%), and Berlin (23%). The percentage of the population that were children ranged from a low of 20% to a high of 29%.

New Hampshire's southern HAAs had relatively higher household income levels and a lower percentage of children enrolled in Medicaid or CHIP compared to northern and interior areas. The Derry HAA had the lowest percentage of households with income below \$30,000 (14%), the lowest percentage of children covered by Medicaid (12%), and is among the lowest percentage of children covered by CHIP (2%). Nashua, Exeter, and Peterborough also ranked lower than other HAAs on these measures. In contrast, the Berlin HAA had the highest percentage of households with income below \$30,000 (39%), the highest percentage of children covered by Medicaid (45%), and one of the higher percentages covered by CHIP (6%). Colebrook, Lancaster, Littleton, Claremont, North Conway, Laconia, Rochester, Wolfeboro, Woodsville, Keene, and Franklin also had a higher percentage of households with income below \$30,000 and a higher percentage of children enrolled in Medicaid.

**Table 5. Selected Child Demographic Statistics by Plan Type and HAA, SFY2010**

HAA	% of Households in HAA with Income <\$30,000	% of the Total HAA Population Aged 0–18	% of HAA's Total Child Population Reported in This Study	% Children in HAA Covered by Medicaid	% Children in HAA Covered by CHIP
STATE TOTAL	21%	26%	66%	24%	2%
Berlin	39%	23%	69%	34%	4%
Claremont	30%	25%	76%	38%	3%
Colebrook	35%	23%	58%	32%	3%
Concord	22%	27%	73%	22%	3%
Derry	15%	29%	45%	12%	1%
Dover	22%	25%	60%	20%	2%
Exeter	17%	26%	57%	16%	2%
Franklin	30%	27%	75%	37%	3%
Keene	26%	25%	64%	26%	2%
Laconia	24%	24%	76%	32%	4%
Lancaster	32%	26%	73%	41%	6%
Lebanon	20%	24%	74%	20%	2%
Littleton	31%	25%	75%	38%	5%
Manchester	21%	27%	69%	26%	2%
Nashua	15%	28%	57%	18%	2%
North Conway	30%	23%	81%	39%	6%
Peterborough	19%	29%	67%	24%	3%
Plymouth	28%	25%	74%	36%	4%
Portsmouth	21%	20%	68%	19%	2%
Rochester	25%	27%	74%	37%	3%
Wolfeboro	27%	24%	80%	37%	6%
Woodsville	26%	24%	76%	37%	4%

Continuity of insurance may be an important factor contributing to health care access, continuity of care, and use of preventive services. [Table 6](#) provides information about the length of enrollment for children during SFY2010 by health plan type. For this report, children were tracked through the year by their unique ID within their health plan type;

children were not cross-walked between health plan types if they changed health plan type. The distribution of length of enrollment for CHIP differs significantly from Medicaid and NH CHIS commercial. Only 33% of the children enrolled in CHIP remained on the program for the full year compared to 61% for Medicaid and 49% for NH CHIS commercial. Thirty-seven percent of the children enrolled in CHIP were enrolled for less than half a year. Regardless of plan type, these data suggest that the amount of health plan turnover for children was significant.

The similarity between the Medicaid and NH CHIS commercial turnover was not expected; it was expected that a higher percentage of children enrolled in NH CHIS commercial insurance plans would have longer lengths of enrollment than children enrolled in Medicaid. The NH CHIS commercial data used for this report were influenced by many factors. Since NH CHIS does not include policies written outside of New Hampshire, if the policy subscriber (parent/guardian) of a child changed employment or insurance to a plan written out of state, less than a full year of enrollment would be reported in the data. If the insurer failed to provide sufficient data to track a child amidst NH CHIS commercial plan changes, this would result in less than a full year of enrollment reported. Therefore, while this data is suggestive of a high degree of change in insurance status within the NH CHIS commercial population, this may be biased by limitations in the ability to track children between NH CHIS commercial plan changes.

The average length of plan enrollment was longer for children enrolled in Medicaid (9.8 months) than for children covered by NH CHIS commercial (8.8 months) or CHIP (7.6 months) during SFY2010.

**Table 6. Child Length of Enrollment by Plan Type, SFY2010**

*Note: Counts (in parentheses) are average members covered (Member Months / 12)*

Length of Enrollment during the Year	Medicaid	CHIP	NH CHIS Commercial
TOTAL	100.0% (96,035)	100.0% (12,695)	100.0% (175,054)
1–2 Months	6.4% (6,147)	15.6% (1,979)	7.4% (12,991)
3–5 Months	9.9% (9,535)	21.3% (2,704)	9.9% (17,316)
6–8 Months	10.1% (9,731)	16.0% (2,027)	26.3% (46,093)
9–11 Months	12.3% (11,838)	14.0% (1,777)	7.4% (12,958)
12 Months	61.2% (58,784)	33.1% (4,206)	49.0% (85,695)
% Children Enrolled for 12 Months with ≤ 1-Month Gap	66%	38%	52%
Average Length of Enrollment in Months	9.8	7.6	8.8

[Table 7](#) presents information based on a cohort of children who were enrolled during July 2009. For this cohort of children, their disenrollment and reenrollment in the same plan type was tracked for 12 months. For the 76,342 children enrolled in Medicaid, 23% disenrolled at some point during the 12 months. This was similar to the rate for NH CHIS commercial (26%) and lower than the rate for CHIP (46%). For the 17,558 children enrolled in Medicaid who disenrolled during the year, 3,221 (18%) would reenroll in Medicaid later in the year. For the 3,545 children in CHIP who disenrolled during the year, 289 (8%) would reenroll in CHIP later in the year. For the 30,234 NH CHIS commercial children who disenrolled during the year, 3,287 (11%) would reenroll in an NH CHIS commercial plan later in the year. Therefore, children in Medicaid were more than twice as likely to

reenroll in the same plan type compared to children in CHIP and 1.6 times as likely as those in NH CHIS commercial.

**Table 7. Child Disenrollment and Reenrollment by Plan Type, SFY2010**

Measure	Medicaid	CHIP	NH CHIS Commercial
Members with Enrollment in July 2009	76,342	7,752	115,930
Disenrolled During SFY2010	17,558	3,545	30,234
% Disenrolled	23%	46%	26%
Disenrolled and Then Reenrolled During SFY2010	3,221	289	3,287
% Reenrolled	18%	8%	11%

The CHIP disenrollment rate is consistent with the nature of CHIP, which provides temporary coverage until the family acquires other health insurance. A higher disenrollment rate for CHIP is consistent with other studies of disenrollment from CHIP.<sup>33</sup> The NH CHIS commercial rate of reenrollment likely is underreported and should be viewed with caution because, as mentioned previously, NH children covered by policies written out of state are not included in the database. The percentage of reenrollment in the NH CHIS commercial population decreased significantly in the past two years — from 22% in SFY2008 to 11% in SFY2010.

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## Health Status

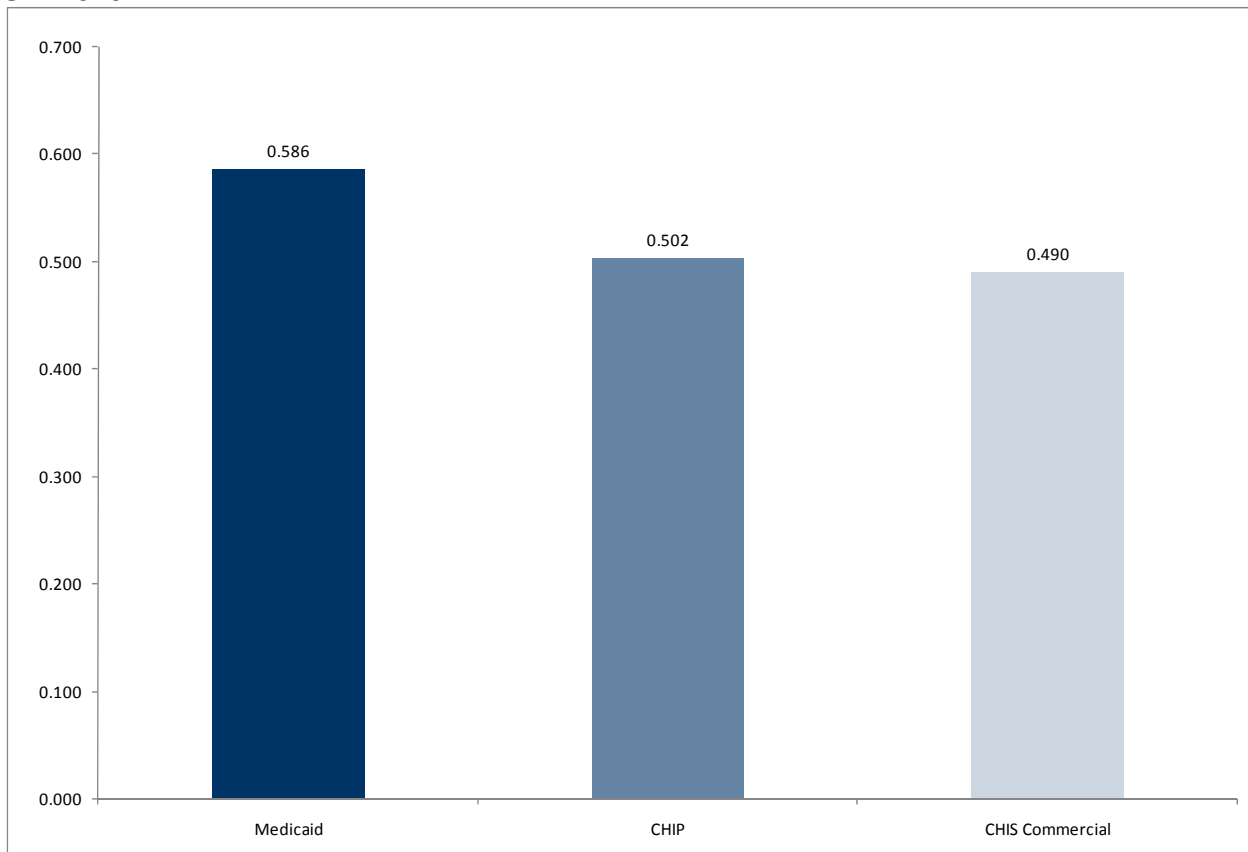
This section of the report provides information on the health status of children enrolled in NH health plans. A [previous NH CHIS report](#) on children’s health insurance programs in New Hampshire during SFY2007 contained a variety of utilization and payment measures suggesting that low-income children enrolled in Medicaid had poorer health status compared with children enrolled in CHIP or NH CHIS commercial plans.<sup>34</sup> Lack of clinical health risk adjustment was noted as a limitation in that report.

There are a number of systems available that can be used with administrative claims to assign a health status classification and relative clinical risk score for the members covered by a health plan.<sup>35</sup> These groupers were reviewed in a previous NH CHIS study<sup>36</sup> and two groupers were evaluated in detail against the NH Medicaid and NH CHIS commercial claims data: 3M’s Clinical Risk Grouping (CRG) software and Ingenix’s Episode Risk Grouping (ERG) software. The 3M CRG grouper was selected by NH CHIS for further use.<sup>37</sup> Other studies have effectively utilized CRG to evaluate the health status of children.<sup>38,39</sup>

Because CRG health status scoring is based on administrative claims incurred by a child during the year, children who are enrolled for less than a full year may be less likely to incur claims for conditions they may have. Therefore, the comparison of average CRG risk score by plan was based on children who were continuously enrolled during the year. Results are provided in [Figure 3](#) and tables [8](#) and [9](#).



**Figure 3. Average CRG Risk Score by Plan Type for Children Continuously Enrolled, SFY2010**



Among continuously enrolled members, Medicaid (0.586) had the highest average CRG risk score, while CHIP (0.502) and NH CHIS commercial (0.490) were lower. The Medicaid risk score was 17% higher than CHIP and 20% higher than NH CHIS commercial. The same relative pattern was found also for children not continuously enrolled. Based on 95% confidence intervals, the differences in health status between Medicaid and the other two plan types were statistically significant. There was no statistically significant difference between CHIP and NH CHIS commercial.

[Table 8](#) provides a summary of trends in average CRG scores by state fiscal year and plan type. The finding that health status was poorest for children enrolled in Medicaid and better for CHIP and NH CHIS commercial was consistent with each of the past four state fiscal years. This table shows that the risk score among Medicaid children has been decreasing over time, indicating that there is a lower percentage of children with chronic disease on Medicaid now than in prior years.

**Table 8. Average CRG Risk Score (95% Confidence Intervals) for Children Continuously Enrolled by State Fiscal Year (SFY) and Plan Type**

*Note: 95% confidence intervals (CI) in parentheses*

Members Continuously Enrolled	Medicaid	CHIP	NH CHIS Commercial
SFY2006	0.708 (0.698, 0.719)	0.518 (0.494, 0.542)	0.463 (0.459, 0.468)
SFY2007	0.696 (0.686, 0.706)	0.506 (0.485, 0.528)	0.479 (0.474, 0.484)
SFY2008	0.658 (0.649, 0.668)	0.495 (0.472, 0.517)	0.446 (0.442, 0.451)
SFY2009	0.621 (0.615, 0.628)	0.501 (0.480, 0.523)	0.491 (0.486, 0.495)
SFY2010	0.586 (0.582, 0.590)	0.502 (0.488, 0.517)	0.490 (0.487, 0.493)

[Table 9](#) provides the distribution of the study populations at the highest level of CRG aggregation. The proportion of enrolled children identified as Healthy was highest for NH CHIS commercial (80.1%), followed by CHIP (78.6%) and Medicaid (74.8%). One in four children enrolled in Medicaid were identified as not healthy based on CRG clinical risk groups. The “Healthy User” classification includes children who sought care for minor illnesses (e.g., sore throat, upper respiratory infection).

Children enrolled in Medicaid were least likely to be non-users of health care services (6.7%) compared with children enrolled in CHIP (11.4%) and NH CHIS commercial (13.2%) plans.

Although Medicaid covers fewer children than the NH CHIS commercial population, Medicaid covered a much larger number of children with significant chronic diseases in multiple organ systems; Medicaid’s proportion was nearly twice as high as NH CHIS commercial.

While [Table 9](#) provides CRGs at the highest level of aggregation, CRGs also were analyzed at the most detailed level of classification (268 different categories) for SFY2009.<sup>40</sup> Medicaid and CHIP were compared to NH CHIS commercial to determine which CRGs were the primary drivers of higher CRG risk scores between these study populations. Significant acute procedures, mental health disorders, developmental disorders, asthma, and some rare but potentially serious conditions (e.g., epilepsy) were contributors to higher CRG scores for Medicaid compared with NH CHIS commercial.

**Table 9. Percent of Average Members by Major CRG Category and Plan Type, SFY2010**

Note: Counts (in parentheses) are average members covered (Member Months / 12)

Major CRG Category	Medicaid	CHIP	NH CHIS Commercial
TOTAL – All Categories	100.0% (78,297)	100.0% (7,992)	100.0% (127,857)
Healthy	74.8% (58,596)	78.6% (6,284)	80.1% (102,463)
<i>Healthy Non-User</i>	6.7% (5,275)	11.4% (913)	13.2% (16,931)
<i>Healthy User</i>	68.1% (53,322)	67.2% (5,371)	66.9% (85,532)
History of Significant Acute Disease	9.6% (7,535)	6.3% (505)	7.2% (9,224)
Single Minor Chronic Disease	6.5% (5,058)	7.1% (571)	5.9% (7,587)
Minor Chronic Disease in Multiple Organ Systems	0.4% (286)	0.4% (31)	0.3% (398)
Single Dominant or Moderate Chronic Disease	7.4% (5,822)	6.8% (541)	5.7% (7,227)
Significant Chronic Disease in Multiple Organ Systems	1.0% (746)	0.7% (52)	0.5% (682)
Dominant Chronic Disease in Three or More Organ Systems	0.0% (2)	0.0% (0)	0.0% (04)
Dominant, Metastatic, and Complicated Malignancies	0.1% (44)	0.0% (3)	0.1% (83)
Catastrophic Conditions	0.2% (126)	0.1% (7)	0.1% (142)

Notes: Rows in italics distinguish members classified by CRG as healthy with no service claims (Healthy Non-User) from members classified by CRG as healthy with service claims (Healthy User). There were 38 unassigned members in the NH CHIS commercial data.

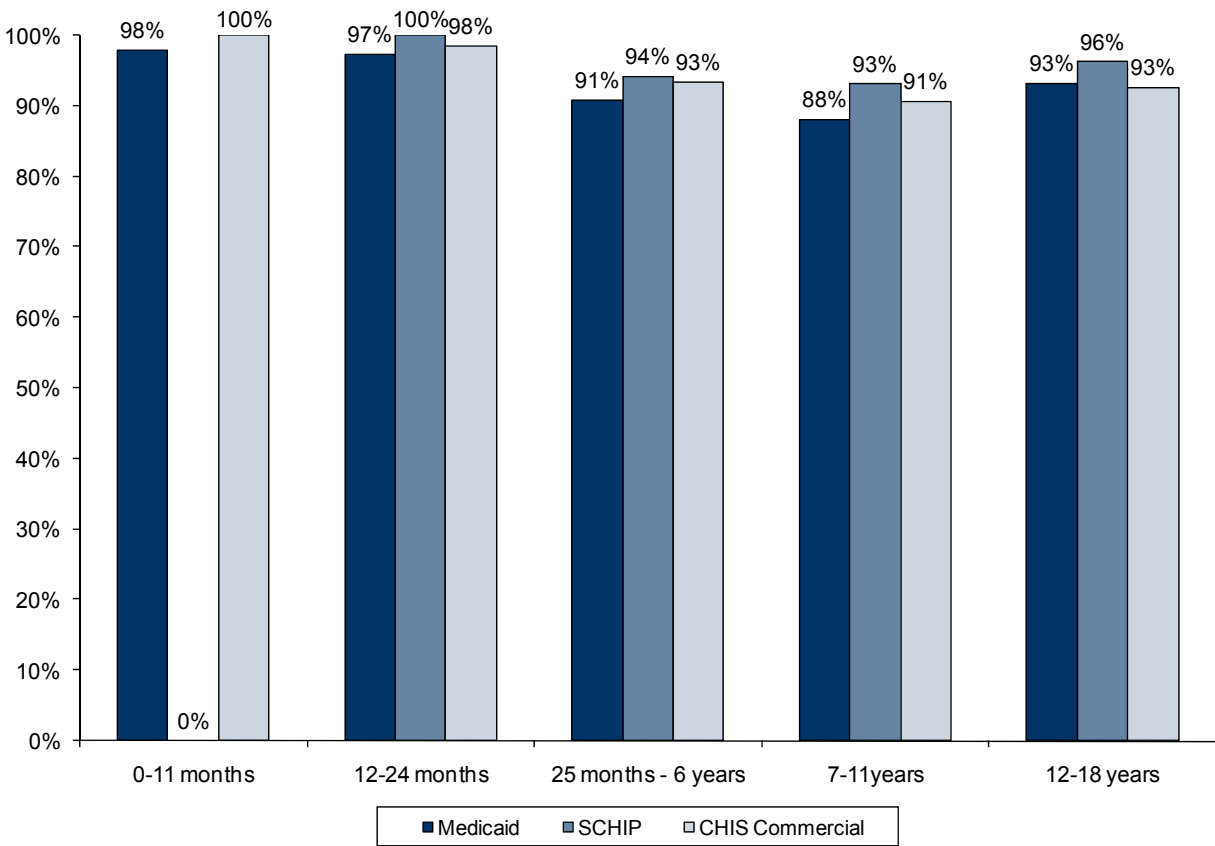
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## Access to Primary Care Practitioners

Children’s and adolescents’ access to primary care practitioners (PCPs) is an NCQA HEDIS measure. NCQA HEDIS measures evaluate the percentage of children, aged 12–24 months and 25 months – 6 years, with at least one primary care practitioner visit during the current year (one-year measure), as well as the percentage of children, aged 7–11 years and 12–19 years, with at least one visit during the current or prior year (two-year measure). For this report, a measure for infant (0–11 months) was added and the age group 12–19 years was modified to 12–18 years for consistency with the definition of children (0–18 years) used in all other NH CHIS reporting. All measures were based on children continuously enrolled during the year (zero or one-month gap in coverage during study period). The HEDIS access to primary care practitioner measure is not a measure of preventive service; the visits reported include both visits for preventive services and visits for medical illness and other problems.

Results for children’s and adolescents’ access to primary care practitioners are reported in [Figure 4](#) and [Table 10](#). The PCP access rate for children of all ages tended to be highest in CHIP, followed by NH CHIS commercial. Children insured by Medicaid had significantly lower rates of access.

**Figure 4. Percent of Children with Access to PCP During the Year by Age, SFY2010\***



\* CHIP does not cover children under the age of one year.

For Medicaid, the rate of access to primary care practitioners ranged from a low of 88.1% for children (aged 7–11 years) to a high of 97.9% for infants (0–11 months). CHIP rates were higher than Medicaid or NH CHIS commercial. Compared to national Medicaid managed care plans, NH Medicaid rates were higher in every age category (see [Table 10](#)).

**Table 10. Percent of Children with Access to PCP by Plan Type, SFY2010***Note: 95% confidence intervals (CI) in parentheses*

<b>New Hampshire Measurement Based on Administrative Claims Data</b>			
<b>Age Group</b>	<b>Medicaid</b>	<b>CHIP</b>	<b>NH CHIS Commercial</b>
0–11 Months	97.9% (96.9, 98.9)	* N/A	100.0% (99.9, 100.0)
12–24 Months	97.4% (96.9, 97.8)	100.0% (99.1, 100.0)	98.5% (98.1, 98.9)
25 Months – 6 Years	90.8% (90.3, 91.2)	94.2% (92.8, 95.7)	93.3% (93.0, 93.7)
7–11 Years	88.1% (87.6, 88.7)	93.1% (91.2, 95.1)	90.6% (90.2, 91.0)
12–18 Years	93.2% (92.8, 93.6)	96.3% (95.1, 97.4)	92.7% (92.4, 92.9)
<b>National 2009 NCQA Managed Care Plan HEDIS Reporting Year</b>			
<b>Age Group</b>	<b>Medicaid</b>		
12–24 Months	95.3%		
25 Months – 6 Years	88.3%		
7–11 Years	90.3%		
12–19 Years	87.9%		

Notes: Indemnity/TPA plans were excluded from NH CHIS commercial rates. Consistent with NCQA HEDIS reporting for ages 7–11 years and 12–18 years the measure is a 2-year measure (primary care visit within the current or prior year).

\* CHIP does not cover children under the age of one year. (In New Hampshire, infants in the federal poverty level group for CHIP are covered under Medicaid.)

Trends in access to PCPs over the past three years (SFY2008–SFY2010) were evaluated. For CHIP, there is no evidence of a statistically significant trend in rates, primarily due to the small sample size of the CHIP population. For Medicaid, access increased by 2.1%–2.6% for all but the youngest children. There was no significant change for children aged 0–11 months or 12–24 months because access already was approximately 98% in those age groups in SFY2008. For NH CHIS commercial, there was a statistically significant increase of 3.2%–5.0% for children of all ages between SFY2008 and SFY2010.

[Table 11](#) provides information on newly enrolled children and the length of time between enrollment and the first visit to a PCP. For Medicaid, CHIP, and NH CHIS commercial, infants (0–11 months) and toddlers (12–24 months) had a PCP visit in a shorter time period after enrollment compared to older children.

**Table 11. Average Number of Months from Enrollment to First PCP Visit for New Enrollees by Plan Type, SFY2010***Note: Counts of the number of children with continuous enrollment used for this measure appear in parentheses*

<b>Age Group</b>	<b>Medicaid</b>	<b>CHIP</b>	<b>NH CHIS Commercial</b>
0–11 Months	0.6 (3,170)	* N/A	0.4 (2,143)
12–24 Months	1.7 (357)	0.8 (219)	0.9 (1,437)
25 Months – 6 Years	2.1 (1,598)	1.6 (441)	1.7 (5,391)
7–11 Years	2.3 (1,267)	1.8 (395)	2.0 (5,363)
12–18 Years	2.1 (1,770)	1.6 (513)	2.0 (8,100)

Note: HEDIS “persistent” asthma algorithm requires two years of continuous enrollment and claims to select a child with “persistent” asthma.

\* CHIP does not cover children under the age of one year.

New enrollees in NH CHIS commercial and CHIP had their first PCP visit in a shorter time compared to enrollees in Medicaid. For toddlers (aged 12–24 months), new enrollees in CHIP or NH CHIS commercial accessed PCPs within a month of enrollment, while new enrollees in Medicaid accessed care within 1.7 months of enrollment. A similar pattern was found for older age groups. Overall, it appears that children enrolled in CHIP accessed PCPs in a shorter time from enrollment compared to children in either Medicaid or NH CHIS commercial plans. There has been little change in these results since SFY2006.

In summary, children in CHIP had higher rates of access to primary care practitioners than children in Medicaid or NH CHIS commercial plans. Children in CHIP also accessed a PCP sooner after enrollment compared with children in Medicaid or NH CHIS commercial plans. Compared to national HEDIS rates, New Hampshire children in all three insurance groups displayed higher rates than national rates.

The HEDIS evaluation of access to primary care practitioners is not a measure of preventive service; the measure instead determines if a child ever visited a primary care practitioner during the year. The visits used for the measure include both visits for preventive services and visits for medical illness and other problems. Measurement of any well-child preventive visit is reported in the next section.

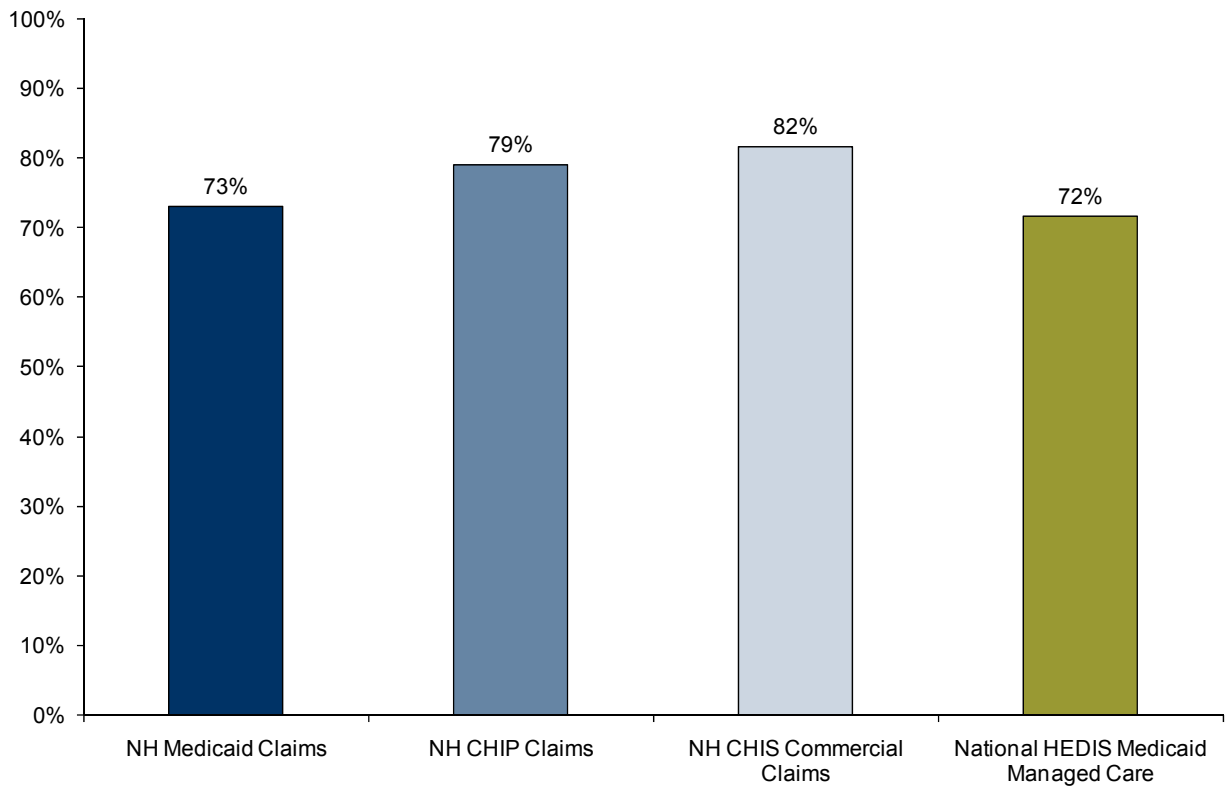
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## Well-Child Visits

The number of completed well-child visits is a NCQA HEDIS use of service measure. These HEDIS measures are based on specific codes used to identify the visit as preventive in nature and, therefore, are distinguished from the access to primary care practitioner measure reported in the previous section. NCQA HEDIS reports a one-year measure for children age 3–6 years, a one-year measure for adolescent children age 12–21 years, and the distribution of visits during the first 15 months of life. For this report, a well-child measure for children age 16–35 months and children age 7–11 years was added, and the age 12–19 years measure was modified to 12–18 years for consistency with the definition of children used in this study. All measures are based on continuous enrollment for the study period (zero or one month gap in coverage during study period).

[Figure 5](#) and [Table 12](#) provide well-child visit rates by plan type. For each plan type, well-child visit rates declined with age; for example, within Medicaid, 89.4 percent of children age 16–35 months had a well-child visit compared to 55.7 percent of adolescent children age 12–18 years. By plan type, rates of well-child visits were higher for CHIP and NH CHIS commercial compared to Medicaid for each age group. For example, the well-child visit rate for children age 3–6 years was higher for children in CHIP (79.0%) and NH CHIS commercial (81.7%) compared to Medicaid (73.0%). These differences were statistically significant.

**Figure 5. Percent of Children, Aged 3–6 Years, with a Well-Child Visit During the Year, SFY2010**



For this measure, children 3–6 years enrolled in Medicaid were higher than national Medicaid HEDIS rates. Between FY2009 and FY2010, well child visit rates tended to increase for all insurance types, continuing an upward trend that also occurred between FY2008 and FY2009.

**Table 12. Percent of Children with a Well-Child Visit to a Primary Care Practitioner by Age and Plan Type, SFY2010**

Note: 95% confidence intervals (CI) in parentheses

Measurement Based on NH CHIS Administrative Claims Data			
Age Group	Medicaid	CHIP *	NH CHIS Commercial
16–35 Months	89.4% (88.6-90.1)	95.6% (92.9-98.3)	93.5% (92.8-94.2)
3–6 Years	73.0% (72.3-73.7)	79.0% (76.3-81.7)	81.7% (81.1-82.3)
7–11 Years	60.9% (60.2-61.6)	71.2% (68.7-73.7)	68.7% (68.1-69.3)
12–18 Years	55.7% (55.1-56.4)	61.9% (59.8-64.1)	60.8% (60.3-61.3)
First 15 Months of Life, Denominator *	4,047	326	Not Reliable**
0 Visits	2% (70)	(0)	
1 Visit	2% (79)	1% (2)	
2 Visits	2% (97)	2% (7)	
3 Visits	4% (170)	2% (7)	
4 Visits	8% (310)	7% (23)	
5 Visits	13% (533)	14% (45)	
6 or More Visits	69% (2788)	74% (242)	
National 2010 NCQA Managed Care Plan HEDIS Reporting Year			
Age Group	Medicaid		
3–6 Years	71.6%		
12–21 Years	47.7%		
First 15 Months of Life			
0 Visits	2.3%		
1 Visit	2.1%		
2 Visits	3.4%		
3 Visits	5.7%		
4 Visits	10.7%		
5 Visits	16.5%		
6 or More Visits	59.4%		

Notes: The HEDIS **Well-Child Visit During the First 15 months of Life** measure tracks for visits for continuously enrolled children from 31 days to 15 months of age — up to six or more visits. The recommended Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program schedule calls for seven visits: by 1 month, 2–3 months, 4–5 months, 6–8 months, 9–11 months, 12 months, and 15 months. CHIP does not cover children under the age of one year. (In New Hampshire, infants who would be in CHIP based on Family Poverty Level (FPL) of 185% to 300% are covered under Medicaid.) For the measure, CHIP data were linked to Medicaid data in order to report on children initially covered under Medicaid up to age one, then under CHIP up to 15 months. Therefore, for this measure the CHIP column is a combination of Medicaid and CHIP for the 185%–300% FPL group. This was done so that this income group could be represented in the measure. Indemnity/TPA plans were excluded from NH CHIS commercial.

\* CHIP does not cover children under the age of one year.

\*\* Commercial rates for well-child visits during the first 15 months are not reported because of limitations in the claims data and health plans reporting this measure for NCQA HEDIS commonly use supplementary data sources not available to NH CHIS. Two large health plans with claims included in the NH commercial claims data were contacted; one indicated that supplementary data sources not available to NH CHIS were used for this measure, while the other plan did not respond to inquiries.

For this measure, a three-year trend was evaluated. While results varied by age and insurance type, rates of well-child visits tended to increase between SFY2008 and SFY2010. For children (7–11 years), the rate for Medicaid increased by 9.7%; rates for adolescents (12–18 years) increased by 9.5% and rates for children (3–6 years) increased 4.2%. For NH CHIS commercial, significant increases occurred in all age categories, with particularly high increases — 10.8% and 8.9%, respectively — among children (7–11 years) and adolescents (12–18 years). Significant rate increases — 11.5% and 7.4%, respectively —



also occurred among CHIP children (7–11 years) and adolescents (12–18 years), while rates for CHIP children (3–6 years) decreased by 4.7%.

In sum, results reported in this section indicate that children enrolled in CHIP or NH CHIS commercial had higher rates of well-child visits compared to children enrolled in Medicaid. NH Medicaid rates also were higher than national HEDIS data from Medicaid managed care plans. There was some evidence of an increase in well-child visits over a three-year period.

A significant number of children did not receive a well-child preventive visit. A NH CHIS special study on children with no preventive visit was completed in 2009 to determine what factors are associated with children who did not receive a preventive visit.<sup>41</sup> The NCQA HEDIS well-child measure is based on preventive visits occurring during a single year of time, yet some of the children —older children and adolescents — may receive a well-child preventive visit during the period after the end of the year. This study addressed whether children and adolescents received a visit during a wider time period (e.g., during a 15-month or two-year time window), finding that, when the time period used to assess well-child visits was expanded — from 12 months to 15 months (for children, aged 3–6 years) and to 24 months (for children, aged 12–18 years) — the percentage of children without a preventive well-child visit decreased. However, even with the extended time period, 21.5% of children enrolled in Medicaid did not have a well-child visit.

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## Effectiveness of Care Management Measures

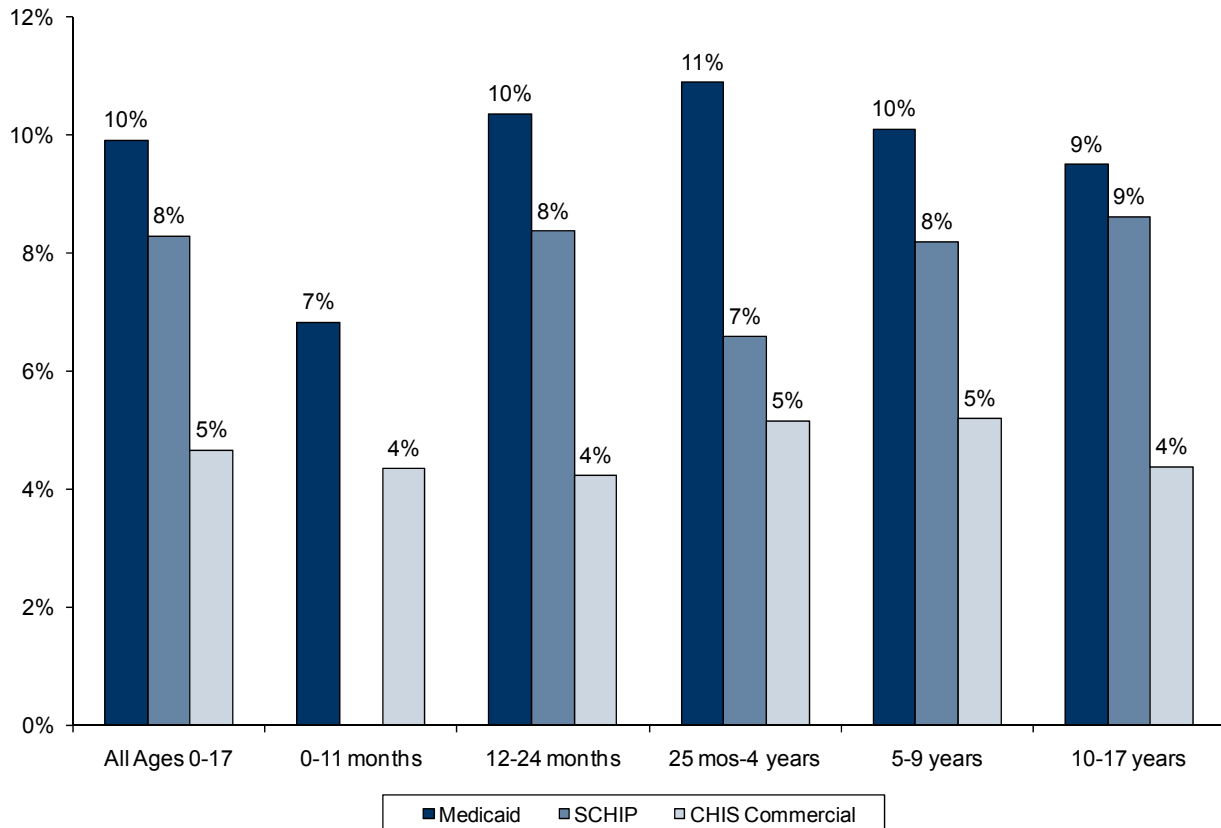
Three NCQA HEDIS effectiveness of care measures were evaluated: use of appropriate medications for children with asthma, appropriate testing for children with pharyngitis, and appropriate treatment for children with upper respiratory infection (URI). All of these measures incorporate pharmacy claims data and are based on continuous enrollment for the study period (zero- or one-month gap in coverage during study period).

### *Asthma*

The appropriate treatment of asthma HEDIS measure determines members with “persistent” asthma who were appropriately prescribed medication during the measurement year. Appropriate medications are those acceptable for long-term control of persistent asthma and defined by HEDIS specifications as cromolyn sodium, inhaled corticosteroids, leukotriene modifiers, methylxanthines, and nedocromil. This is consistent with national recommendations for quality asthma care.<sup>42</sup>

[Figure 6](#) and [Table 13](#) provide asthma prevalence and use of appropriate medication rates. For continuously enrolled children, the prevalence rate of asthma in Medicaid (9.9%) was more than double the NH CHIS commercial rate (4.7%) and higher than the rate for CHIP (8.3%).

**Figure 6. Prevalence of Asthma by Age and Plan Type, SFY2010\***



\* CHIP does not cover children under the age of one year.

For Medicaid, 5,880 children with continuous enrollment were identified with asthma. About one in four of these — 1,556 — met the strict HEDIS criteria for continuous enrollment and persistent asthma; 845 children in NH CHIS commercial and only 64 children in CHIP met the criteria. Children with persistent asthma are not identified to estimate prevalence of persistent asthma, but instead to provide a denominator to assess use of appropriate asthma medication. Based on claims, almost all children with persistent asthma were on the appropriate medication: Of those identified children, 99.0% in CHIP, 94.4% in NH CHIS commercial, and 92.2% in Medicaid used appropriate controller medications.

NH Medicaid rates for appropriate medication use were about the same as national HEDIS rates for Medicaid.

**Table 13. Prevalence of Asthma, Persistent Asthma, and Use of Appropriate Medications to Control Asthma among Children by Plan Type, SFY2010**

Note: Counts (in parentheses) are average members covered (Member Months / 12)

<b>Measurement Based on NH CHIS Administrative Claims Data</b>			
<b>Measure / Age Group</b>	<b>Medicaid</b>	<b>CHIP</b>	<b>NH CHIS Commercial</b>
<b>Prevalence of Asthma, Rate (Number with Asthma)</b>			
All Ages	9.9% (5,880)	8.3% (352)	4.7% (3,640)
0–11 Months	6.8% (92)	* N/A	4.4% (22)
12–24 Months	10.4% (844)	5.0% (7)	4.2% (274)
25 Months – 4 Years	10.9% (855)	17.0% (8)	5.2% (383)
5–9 Years	10.1% (1,774)	41.0% (9)	5.2% (1,085)
10–17 Years	9.5% (2,315)	0.0% (4)	4.4% (1,876)
<b>Children Identified with Persistent Asthma Using HEDIS Criteria</b>			
All Ages	1,556	64	845
0–11 Months	0	N/A	0
12–24 Months	74	1	29
25 Months – 4 Years	193	5	90
5–9 Years	551	17	291
10–17 Years	738	41	435
<b>Use of Appropriate Medications for Children with Persistent Asthma (95% CI)</b>			
All Ages	92.2% (90.9 – 93.6)	99.0% (96.7-100.0)*	94.4% (92.8-96.0)
0–11 Months	N/A	* N/A	N/A
12–24 Months	90.9% (93.8-98.0)	NSD	100.0% (98.3-100.0)
25 Months – 4 Years	93.3% (89.6-97.1)	NSD	97.8% (94.2-100.0)
5–9 Years	93.9% (91.8-96.0)	NSD	96.6% (94.3 -98.8)
10–17 Years	90.9% (88.7-93.0)	NSD	92.0% (89.3-94.6)
<b>National 2010 NCQA Managed Care Plan HEDIS Reporting Year</b>			
<b>Age Group</b>	<b>Medicaid</b>		
5–11 years	92.0%		

Note: HEDIS “persistent” asthma algorithm requires two years of continuous enrollment and claims to select a child with “persistent” asthma. NSD = Not reported due to insufficient data.

\* CHIP does not cover children under the age of one year.

### Pharyngitis

The appropriate testing for children with pharyngitis HEDIS measure determines the percentage of continuously enrolled children (2–18 years) diagnosed with pharyngitis and dispensed an antibiotic who also received a streptococcus (strep) test. Results from NH CHIS data are provided in [Table 14](#). Based on NH CHIS claims data, the rate of appropriate strep testing for children with pharyngitis was similar across plan types: Medicaid (79.8%), CHIP (78.2%), and NH CHIS commercial (84.0%).

Compared to national HEDIS data for this measure, Medicaid, CHIP, and NH CHIS commercial were higher than the national Medicaid rates.

**Table 14. Percent of Continuously Enrolled Children with Appropriate Testing for Pharyngitis by Plan Type, SFY2010**

Note: 95% confidence intervals (CI) in parentheses

Measurement Based on NH CHIS Administrative Claims Data			
Age Group	Medicaid	CHIP	NH CHIS Commercial
2–18 Years (Denominator)	2,280	179	2,125
2–18 Years	79.8% (78.1, 81.5)	78.2% (71.9, 84.5)	84.0% (82.4, 85.5)
National 2010 NCQA Managed Care Plan HEDIS Reporting Year			
Age Group	Medicaid		
2–18 Years	62.3%		

Note: Indemnity/TPA plans were not included in NH CHIS commercial.

*Upper Respiratory Infection*

HEDIS’s measure of appropriate treatment for children with upper respiratory infection (URI) evaluates the percentage of continuously enrolled children (3 months – 18 years) who were diagnosed with URI and were *not* dispensed an antibiotic prescription. Results are provided in [Table 15](#). Based on claims data, differences in the rates of appropriate medication (antibiotic not dispensed) for Medicaid (90.6%), CHIP (89.7%), and NH CHIS commercial (89.6%) were not statistically significant.

Medicaid, CHIP, and NH CHIS commercial were all higher than the national Medicaid rates for this measure.

**Table 15. Percent of Children with Upper Respiratory Infection (URI) Not Dispensed an Antibiotic, SFY2010**

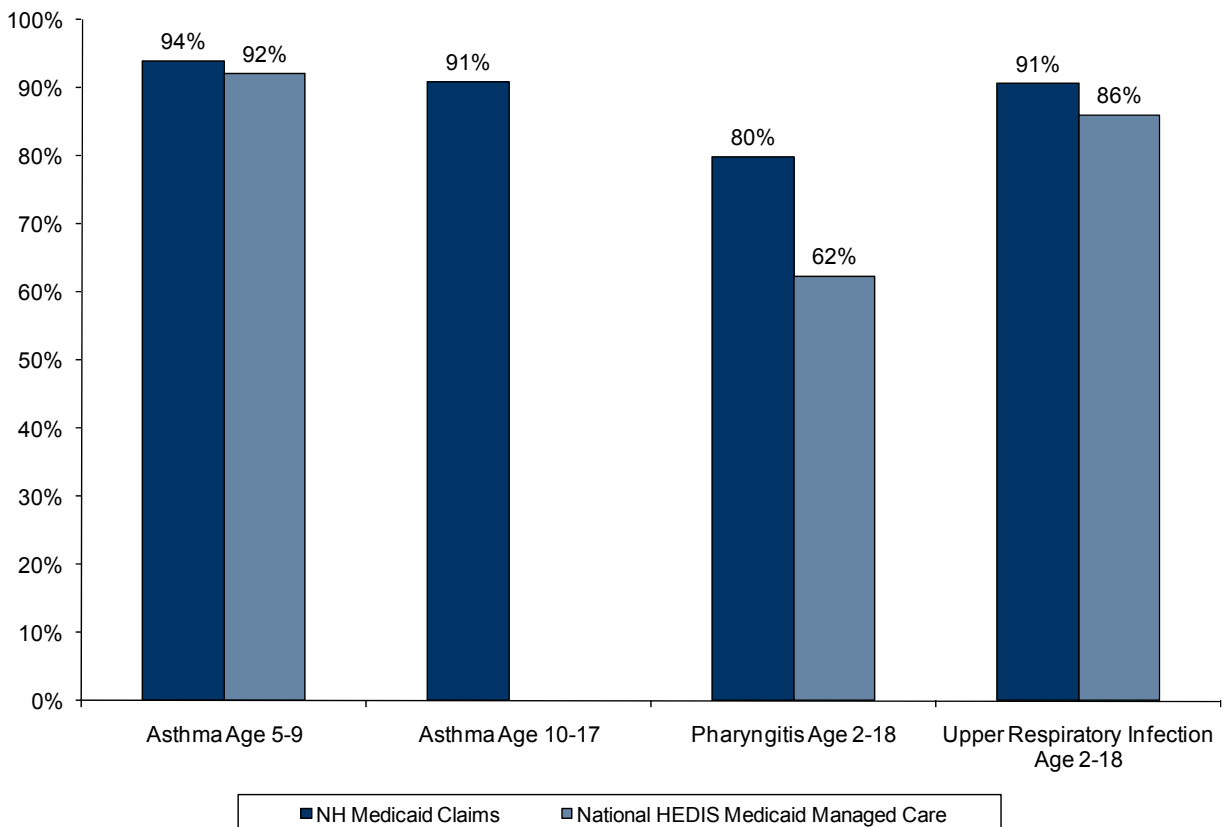
Note: 95% confidence intervals (CI) in parentheses

Measurement Based on NH CHIS Administrative Claims Data			
Age Group	Medicaid	CHIP	NH CHIS Commercial
2–18 Years (Denominator)	6,168	310	3,879
2–18 Years	90.6% (89.8, 91.3)	89.7% (86.1, 93.2)	89.6% (88.6, 90.1)
National 2010 NCQA Managed Care Plan HEDIS Reporting Year			
Age Group	Medicaid		
2–18 Years	86.0%		

Note: Indemnity/TPA plans were not included in NH CHIS commercial.

[Figure 7](#) summarizes the medication care measures for NH Medicaid claims compared to national HEDIS Medicaid managed care rates. For pharyngitis and URIs, the NH Medicaid claims-based rates were higher than the HEDIS national Medicaid average. For asthma, the rates were similar.

**Figure 7. Comparison of Appropriate Medication for Children Enrolled in Medicaid. SFY2010 New Hampshire Medicaid Claims and NCQA 2009 National HEDIS Rates**



The three-year period of SFY2008–SFY2010 also was evaluated for trends in several effectiveness of care measures:

- **Asthma** — The prevalence of asthma did not change significantly from SFY2008–SFY2010. Asthma prescription management rates increased by 1% among the Medicaid population and stayed the same among the NH CHIS commercial population.
- **Pharyngitis** — The percent of NH children with appropriate testing for pharyngitis in the Medicaid population increased by more than 4% and NH CHIS commercial increased by more than 6%.
- **Upper Respiratory Infection** — The percent of NH children with URI stayed about the same from SFY2008–SFY2010 for both the Medicaid and NH CHIS commercial populations.

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## Prevalence and Utilization for Mental Health Disorders

Determination of mental health disorder was based on the diagnostic information contained in the administrative medical claims data. (Diagnostic codes and groupings are identified in

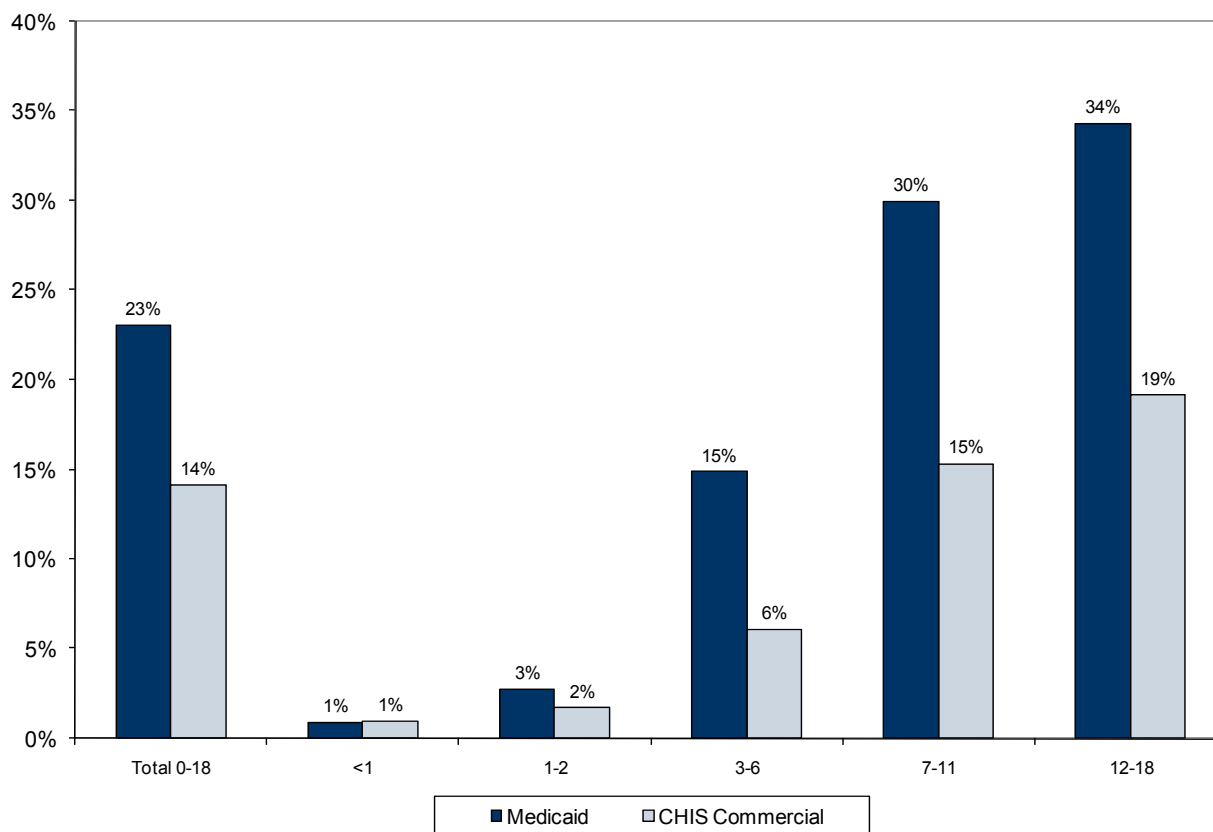
[Appendix 1](#) and were derived from a report prepared for the national Substance Abuse and Mental Health Services Administration [SAMHSA]). Nationally, about 20% of children are estimated to have mental health disorders with at least mild functional impairment.<sup>43</sup>

In FY2010, mental health specialist visits for the CHIP population were not complete in the payer data for this report. Therefore, CHIP is not included in the mental health section of the report.

*Prevalence*

[Figure 8](#) and [Table 16](#) summarize the prevalence of mental health disorders by age group and plan type. Among SFY2010 enrollees (aged 0–18 years), the mental health disorder prevalence rate for Medicaid (23.0%) was higher than the prevalence rate for NH CHIS commercial (14.1%).

**Figure 8. Prevalence of Mental Health Disorders by Age and Plan Type, SFY2010**



The prevalence of mental health disorders increased with age; highest prevalence rates were among teens (12–18 years) in each plan type. For children covered by Medicaid in the 3–6 years, 7–11 years, and 12–18 years age groups, the prevalence rate of mental health disorders was significantly higher than the prevalence rate for children covered by NH CHIS commercial.

**Table 16. Prevalence of a Mental Health Disorder by Plan Type and Age Group, SFY2010**

*Note: Counts (in parentheses) are average members covered (Member Months / 12)*

<b>Age Group</b>	<b>Medicaid</b>	<b>NH CHIS Commercial</b>
TOTAL – All Ages (0–18 Years)	23.0% (18,017)	14.1% (17,917)
<1 Year (0–11 Months)	0.9% (34)	0.9% (25)
1–2 Years	2.7% (271)	1.7% (162)
3–6 Years	14.8% (2,680)	6.1% (1,367)
7–11 Years	30.0% (6,093)	15.3% (4,968)
12–18 Years	34.3% (8,939)	19.1% (11,395)

[Table 17](#) provides detailed prevalence rates for serious and other mental health disorder diagnoses by plan type. Among children enrolled in Medicaid, 3,255 had an identified serious mental health disorder. These included 907 children with major depression and 1,535 children with bipolar and other affective psychoses. The prevalence rate of serious mental health disorders in children enrolled in Medicaid (4.2%) was higher than NH CHIS commercial (2.9%).

The most common mental health disorder diagnosed for all plan types was Attention Deficit Hyperactivity Disorder (ADHD) Hyperkinetic. The prevalence rate of ADHD Hyperkinetic for children enrolled in Medicaid (8.9%) was higher than for children enrolled in NH CHIS commercial (5.5%).

Stress and adjustment disorders also were common in these children. The prevalence rate for stress and adjustment disorders in Medicaid (7.6%) was more than twice the prevalence rate in NH CHIS commercial children (3.6%). Stress and adjustment disorders include post-traumatic stress disorder. A recent study indicates that children in foster care are five times more likely to have post-traumatic stress disorder than other children.<sup>44</sup>

Disturbance of conduct and disturbance of emotions were more than three times as prevalent in the children enrolled in Medicaid than in children in NH CHIS commercial.\*

These comparative results are consistent with a previous study that showed that the prevalence of parental-reported severe emotional or behavioral difficulties are higher in children covered by Medicaid compared to children covered by private insurance (9.1% vs. 3.9%).<sup>45</sup> Mental health disorders are particularly common for low-income children.<sup>46</sup>

The prevalence of mental health disorders appears to have increased in the last two years (between FY2008 and FY2010). For example, in FY2008, 21.6% of children with Medicaid had mental health disorders; that figure climbed to 22.3% in FY2009 and climbed again to 23.0% in FY2010. Similar small increases were seen among the NH CHIS commercial population.

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\* Diagnosis codes utilized to define mental illness categories are provided in [Appendix 1](#). Examples of disturbance of conduct disorders include anger reactions, unsocialized aggressive disorder, tantrums, stealing, pyromania, and disruptive behaviors. Examples of disturbance of emotions include overanxious disorder, shyness, introversion, relationship and sibling jealousy, oppositional defiant disorder, and identity disorders.

**Table 17. Prevalence of Mental Health Disorders by Plan Type and Diagnostic Category, SFY2010**

*Note: Counts (in parentheses) are average members covered (Member Months / 12)*

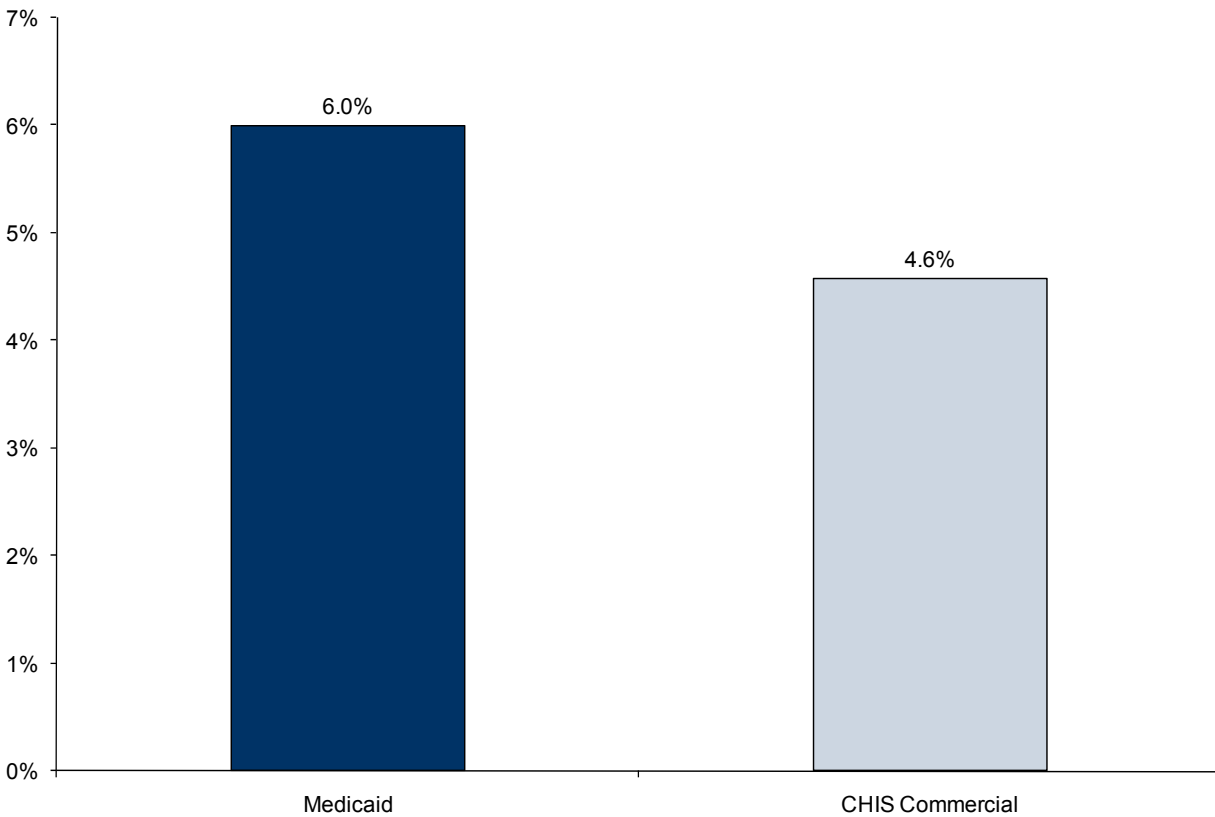
<b>Mental Health Disorder</b>	<b>Medicaid</b>	<b>NH CHIS Commercial</b>
Any Mental Health Disorder	23.0% (18,017)	16.0% (20,337)
Any Serious Mental Health Disorder	4.2% (3,255)	2.9% (3,667)
Schizophrenic Disorders	0.1% (51)	0.0% (34)
Major Depression	1.2% (907)	1.1% (1,416)
Bipolar & Other Affective Psychoses	2.0% (1,535)	1.0% (1,282)
Other Psychoses	1.5% (1,184)	1.1% (1,452)
Any Other Mental Health Disorder	21.6% (16,943)	13.1% (16,670)
Stress & Adjustment	7.6% (5,947)	3.6% (4,523)
Personality Disorder	0.2% (157)	0.1% (120)
Disturbance of Conduct	2.9% (2,258)	0.9% (1,162)
Disturbance of Emotions	2.6% (2,010)	0.8% (1,077)
ADHD Hyperkinetic	8.9% (6,946)	5.5% (6,957)
Neurotic Disorder	5.0% (3,901)	4.2% (5,302)
Depression NEC	2.6% (2,060)	1.6% (2,066)
Other Mental Health Disorders	1.7% (1,296)	1.4% (1,722)

Note: Categories are not mutually exclusive. The same child may be reported in more than one diagnostic group if the child had claims with different mental health disorder diagnoses during the year. Numbers will not add to total.

The prevalence of comorbid substance abuse among children with a mental health disorder is provided in [Figure 9](#).<sup>47</sup> The prevalence of comorbid substance abuse problems for children with a mental health disorder was higher in Medicaid (6.0%) than NH CHIS commercial (4.6%). It should be noted that administrative claims data may underreport the actual prevalence of substance abuse problems.



**Figure 9. Prevalence of Substance Abuse Among Adolescent Children, Aged 12–18 Years, with a Mental Health Disorder by Plan Type, SFY2010**



Note: Administrative claims data may underreport the actual prevalence of substance abuse problems. Substance abuse problems were identified based on SAMHSA ICD-9-CM diagnosis code list. Tobacco abuse was excluded.

### *Utilization Rates*

[Table 18](#) and figures [10](#) and [11](#) provide summary mental health service utilization rates by plan type for children with mental health disorders. Among children with mental health disorders, inpatient day rates for a mental health disorder were higher in Medicaid (284 per 1,000 members) compared with NH CHIS commercial (243 per 1,000 members). Among children with mental health disorders, outpatient ED use rates for a mental health disorder were higher in Medicaid (197 per 1,000 members) compared with NH CHIS commercial (121 per 1,000 members).

For this report, mental health specialist visits were analyzed and stratified into three distinct categories. This reflects the fact that Medicaid covers some mental health specialist services (e.g., community mental health support, case management, crisis intervention) that are more common in Medicaid (i.e., either not covered or rare in the other plans). Medicaid children incurred 83,709 psychotherapy visits; 16,436 diagnostic evaluation, medication management, and testing services; and 54,425 community mental health support, case management, and crisis intervention services.

The rate of psychotherapy visits for children with a mental health disorder was higher in Medicaid (5,070 per 1,000 members) than in NH CHIS commercial (4,098 per 1,000). Rates of mental health office visits to non-specialists (i.e., primary care practitioners) were higher in Medicaid (1,613 per 1,000 members) compared with NH CHIS commercial (1,157 per 1,000). Psychotherapy rates in Medicaid (5,070 per 1,000 members) were about the same as SFY2009 rates (5,084 per 1,000) but lower than SFY2008 rates (5,875 per 1,000 members).

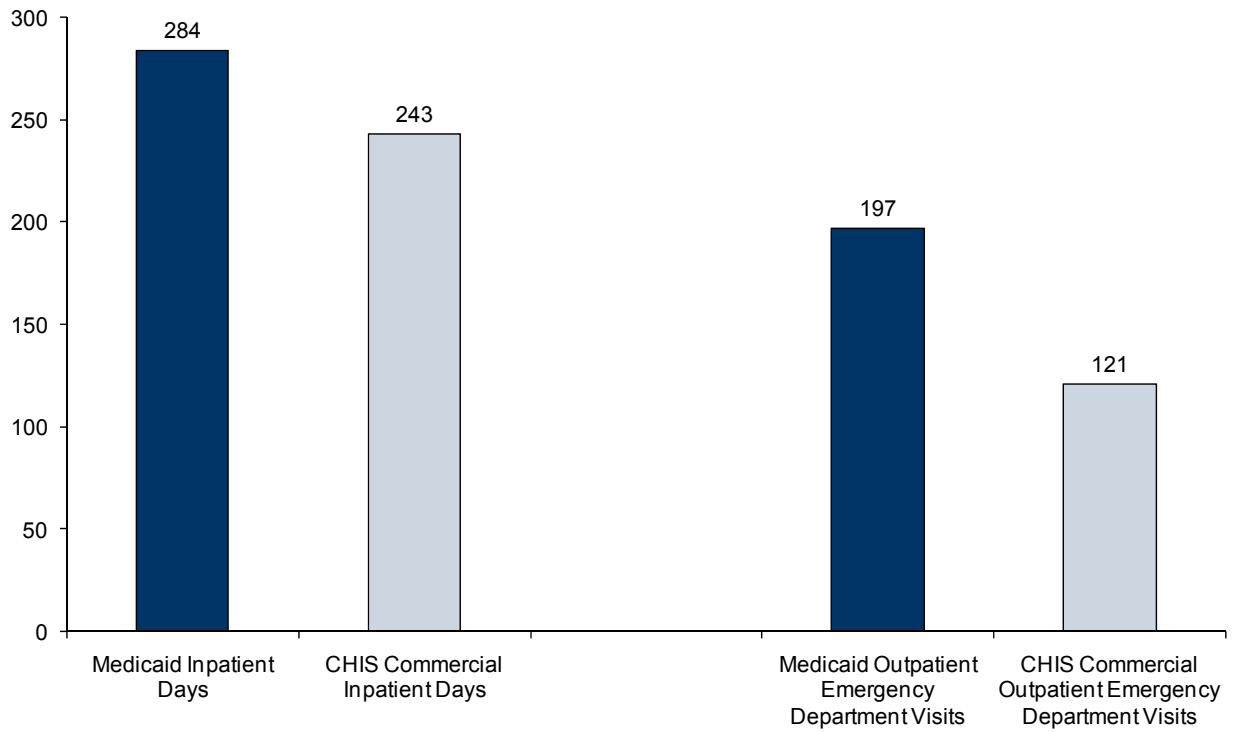
**Table 18. Utilization for Children with Any Mental Health Disorder by Plan Type, SFY2010**

*Note: Counts (in parentheses) are average members covered (Member Months / 12)*

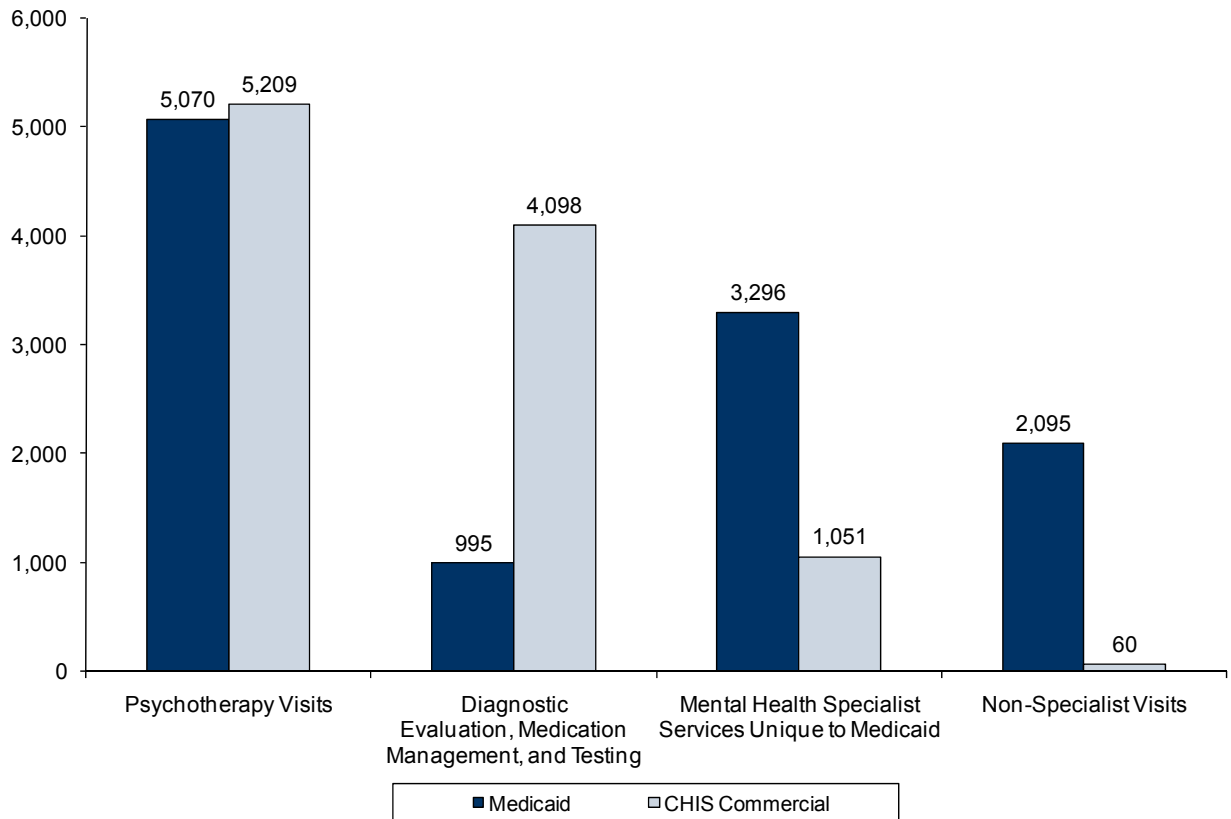
<b>Mental Health Measure</b>	<b>Medicaid</b>	<b>NH CHIS Commercial</b>
Members with Mental Health Disorder	18,017	17,917
Average Members (Member Months / 12)	16,512	14,822
<b>Utilization Rates Per 1,000 Members (Number of Visits)</b>		
Members With Mental Health Disorder Admission	32 (531)	28 (408)
Mental Health Disorder Inpatient Days	284 (4,694)	243 (3,599)
Mental Health Disorder Outpatient ED Visits	197 (3,256)	121 (1,794)
Mental Health Disorder Office Visits to Non-Mental Health Specialists	1,613 (26,633)	1,157 (17,150)
Mental Health Disorder Specialist Services	9,361 (154,570)	5,209 (77,206)
Psychotherapy*	5,070 (83,709)	4,098 (60,743)
Diagnostic Evaluation, Medication Management, and Testing	995 (16,436)	1,051 (15,573)
Mental Specialist Services Unique to Medicaid	3,296 (54,425)	60(890)

\* The NH Medicaid benefit limit for psychotherapy is 12 visits per year for Advanced Registered Nurse Practitioners (ARNPs) and other non-physician providers.

**Figure 10. Inpatient Days for Mental Health Disorders and Outpatient ED Mental Health Disorder Visits per 1,000 for Members with a Mental Health Disorder by Plan Type, SFY2010**



**Figure 11. Mental Health Specialist and Non-Specialist Office/Clinic Visit Rates per 1,000 Members with a Mental Health Disorder by Plan Type, SFY2010**



Children enrolled in Medicaid were more likely to have a serious mental disorder than children in NH CHIS commercial — a prevalence that may correlate to higher utilization rates for Medicaid. [Table 19](#) provides a summary of utilization by plan type for only those children with a serious mental disorder during SFY2010. Use of mental health disorder specialist services among the Medicaid population appears to have decreased since SFY2009.

**Table 19. Utilization for Children with a Serious Mental Health Disorder by Plan Type, SFY2010**

Note: Counts (in parentheses) are average members covered (Member Months / 12)

	Medicaid	NH CHIS Commercial
Members with Mental Health Disorder	3,255	3,667
Average Members (Member Months / 12)	2,959	2,962
<b>Utilization Rates Per 1,000 (Number of Visits)</b>		
Members With Mental Health Disorder Admission	132 (390)	105 (312)
Mental Health Disorder Inpatient Days	1,323 (3,914)	986 (2,922)
Mental Health Disorder Outpatient ED Visits	526 (1,558)	310 (917)
Mental Health Disorder Office Visits (Non-Specialist)*	2,278 (6,742)	1,241 (3,677)
Mental Health Disorder Specialist Services		
Psychotherapy	5,859 (17,339)	243 (720)
Diagnostic Evaluation, Medication Management, and Testing	1,826 (5,402)	2,093 (6,200)
Mental Specialist Services Primarily Assoc. with Medicaid	132 (390)	105 (312)

\* The NH Medicaid benefit limit for psychotherapy is 12 visits per year for Advanced Registered Nurse Practitioners (ARNPs) and other non-physician providers.

### Psychotropic Medication Utilization

For all children enrolled in Medicaid, pharmacy claims data were available. Not all children enrolled in NH CHIS commercial have pharmacy claims data linked (some children may not have pharmacy coverage as a benefit and some children may be in plans where the pharmacy claims data cannot be linked). For the evaluation of use of psychotropic medication, the NH CHIS commercial population was limited to children with a mental health disorder who had pharmacy data linked.

[Table 20](#) summarizes the prevalence of psychotropic medication use by plan and age for children with a mental health disorder. Among 18,017 Medicaid members (16,512 average members) with a mental health disorder, 9,116 had any psychotropic medication use, a prevalence rate of 55%, which was lower than the rate of 65% for NH CHIS commercial.

For each plan type, use of psychotropic medication for mental health disorder increased with age. For children with mental health disorders covered by Medicaid, the highest rate of any psychotropic medication was among teens age 12-18 (67%).

**Table 20. Prevalence of Any Use of Psychotropic Medication for Children with a Mental Health Disorder by Age and Plan Type, SFY2010**

Note: Counts (in parentheses) are average members covered (Member Months / 12)

Age Group	Medicaid	NH CHIS Commercial
TOTAL – All Ages (0–18 Years)	55% (9,116)	65% (6,268)
<1 Year (0–11 Months) *	9% (2)	10% (1)
1–2 Years	10% (26)	4% (4)
3–6 Years	25% (615)	19% (146)
7–11 Years	55% (3,122)	60% (1,603)
12–18 Years	67% (5,351)	75% (4,514)

[Table 21](#) summarizes the prevalence of any use of psychotropic medications among children with a mental health disorder by medication type. Among 16,512 children enrolled in Medicaid with a mental health disorder, 21% used an antidepressant and 34% used a stimulant during the year.

Among children with a mental health disorder using psychotropic medication, NH CHIS commercial children averaged more use (337 days per year) compared to Medicaid (299 days per year).

**Table 21. Prevalence of Any Use of Psychotropic Medication for Children with a Mental Health Disorder by Drug Type and Plan Type, SFY2010**

*Note: Counts (in parentheses) are average members covered (Member Months / 12)*

<b>Psychotropic Drug Category</b>	<b>Medicaid</b>	<b>NH CHIS Commercial</b>
TOTAL – All Types	55% (9,116)	65% (6,268)
Antidepressants	21% (3,481)	28% (2,717)
Tranquilizers	11% (1,840)	8% (763)
Stimulants	34% (5,564)	38% (3,665)
Anxiolytics	6% (1,040)	8% (758)
Other CNS Agents	8% (1,250)	7% (704)
Average days supplied per member using per year	299	337

Note: NH CHIS commercial is based on subset of children for which pharmacy data could be linked. Classification of drug types is based on the National Drug Code (NDC) on claims grouped into therapeutic classes using Red Book®.

Note: Categories are not mutually exclusive. The same child may be reported in more than one drug category if the child had claims for different psychotropic drugs during the year. Numbers will not add to total.

Trends in prevalence and utilization rates also were evaluated. There were no significant changes in the prevalence rates of mental health disorders for NH Medicaid or NH CHIS commercial between SFY2009 and SFY2010. However, primarily due to rising membership, Medicaid covered 331 more children with serious mental health disorders and 1,546 more children with any mental health disorder in SFY2010 compared to SFY2009 (based on the administrative claims diagnoses).

### *Mental Health Disorder Summary*

Children enrolled in Medicaid with a mental health disorder diagnosis had higher utilization rates of mental health services compared with NH CHIS commercial. Three factors that might have contributed to this difference are described below.

1. Co-occurring mental health disorders were not evaluated for these children. It is possible that children enrolled in Medicaid with mental health disorders had a greater need for specialist visits because they were more likely to have multiple mental health disorders or because their disorders were more severe.
2. Each year, more than 800,000 children in the United States spend time in foster care as a result of abuse and neglect. States disburse about \$10 billion a year in federal and state funds to meet the needs of these children.<sup>48</sup> Foster care children enrolled in Medicaid utilize mental health services at higher rates than other

children in Medicaid.<sup>49</sup> An NH CHIS study of Medicaid children in out-of-home placement (residential and foster care home) was recently completed. Results indicated that 90% of adolescent children in residential placement and 82% in foster home care had a mental health disorder compared with 28% of other low-income children enrolled in NH Medicaid.<sup>50</sup>

- NH CHIS commercial includes members enrolled in managed care plans and behavioral carve-out plans that may limit specialist visits more than the Medicaid plan that is subject to Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program requirements under federal law (Title XIX of the Social Security Act), which can override state Medicaid program benefit limitations. These factors may contribute to the differences in psychotherapy and other utilization measures reported here.

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## Utilization and Payments

Inpatient hospitalizations, outpatient ED visits, office/clinic visits, and payments per member per month (PMPM) were evaluated by age and plan type.

### *Inpatient hospitalization*

Inpatient hospitalization rates are summarized in [Figure 12](#) and [Table 22](#). Medicaid rates were consistently higher than NH CHIS commercial rates, including the overall rate — 88.3 per 1,000 members for Medicaid compared to 24.2 per 1,000 members for NH CHIS commercial. The overall rate is influenced by the high-use rate for newborns and infants (0–11 months) who are not covered in CHIP and, in the case of infants, may not be fully available in commercial data due to bundling of the baby’s claim with the mother’s claims.

Excluding newborns and infants (0–11 months) and standardizing for differences in health status (CRG) and age, the inpatient hospitalization rate for Medicaid (24.1 per 1,000 members) was significantly higher than the CHIP rate (18.9 per 1,000 members) and the NH CHIS commercial rate (16.5 per 1,000 members). These adjusted rates did not change significantly between SFY2009 and SFY2010.

**Table 22. Inpatient Hospitalization Rates Per 1,000 Members by Age and Plan, SFY2010**

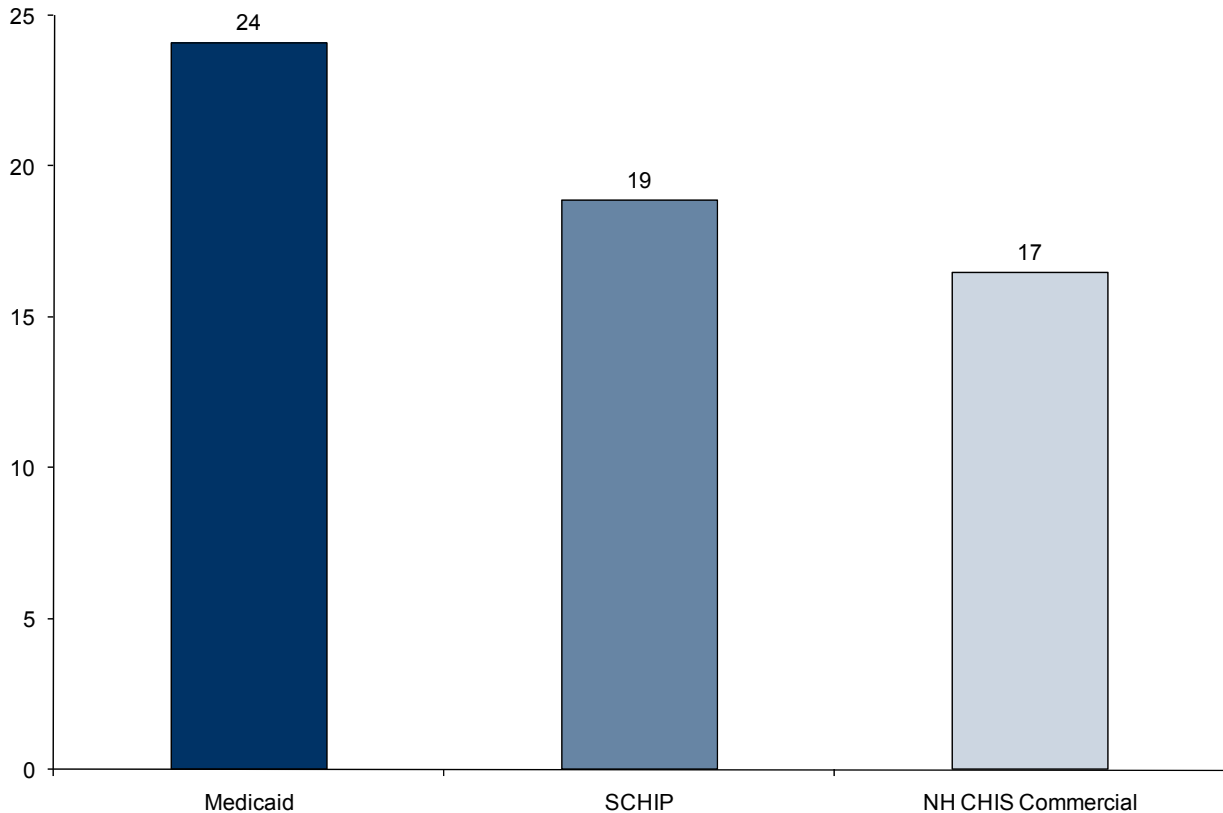
*Note: Counts (in parentheses) are average members covered (Member Months / 12)*

Age Group	Medicaid	CHIP	NH CHIS Commercial
TOTAL – All Ages (0–18 Years)	88.3 (6,911)	* N/A	24.2 (3,096)
TOTAL – Excluding Age <1 Year (0–11 Months)	27.0 (2,007)	11.3 (90)	15.3 (1,918)
<1 Year (0–11 Months)	1,259.2 (4,904)	* N/A	424.4 (1,178)
1–2 Years	36.3 (361)	31.7 (21)	21.2 (207)
3–6 Years	16.8 (303)	7.4 (12)	12.9 (294)
7–11 Years	14.1 (286)	7.7 (17)	8.6 (280)
12–18 Years	40.6 (1,057)	11.4 (40)	19.0 (1,137)
Inpatient Rate Standardized for CRG Risk Group and Age, Excluding Age 0-11 Months (95% CI)	24.1 (23.0, 25.2)	18.9 (15.6, 22.7)	16.5 (15.7, 17.3)

Note: NH CHIS commercial rate for (0–11 months) may be underreported due to commercial plans’ practice of bundling newborns’ claim with mothers’ claims.

\* CHIP does not cover children under the age of one year.

**Figure 12. Inpatient Standardized Utilization Rates per 1,000 Members, Aged 1–18 Years, SFY2010**



Note: Infants younger than one year are not included. The inpatient rate is standardized for population in health status (based on CRG) and age.

Previous studies have identified certain hospitalizations as potentially preventable or avoidable; these are sometimes referred to as Ambulatory Care Sensitive (ACS) conditions.<sup>51,52</sup> Future hospital utilization might be reduced by providing access to timely and effective outpatient care to prevent the onset of an illness or condition, by controlling acute episodic conditions, or by managing a chronic disease.

For five selected ACS conditions — asthma, dehydration, bacterial pneumonia, urinary tract infections, and gastroenteritis — the inpatient hospitalization rate for children enrolled in Medicaid (4.4 per 1,000 members) was more than double the NH CHIS commercial rate (1.8 per 1,000 members) and more than triple the CHIP rate (1.4 per 1,000 members). Detailed rates for these inpatient ACS conditions are provided in [Table 23](#).

The rate of inpatient ACS hospitalizations for Medicaid increased by 6% between SFY2007 and SFY2008, decreased by 4% between SFY2008 and SFY2009, and decreased by another 3% between 2009 and 2010. The decreases in the last two years negated the increase



between SFY2007 and SFY2008, although the numbers are too small for these trends to be statistically significant. NH CHIS commercial rates increased 2% between SFY2007 and SFY2008, increased 6% between SFY2008 and SFY2009, and decreased 5% between SFY2009 and SFY2010. Overall, there was a about a 2% increase between SFY2007 and SFY2010. CHIP trends cannot be evaluated due to small numbers.

**Table 23. Rates of Inpatient Hospitalizations for Select ACS Conditions Per 1,000 Members by Plan Type, SFY2010**

*Note: Counts (in parentheses) are average members covered (Member Months / 12)*

ACS Condition	Medicaid	CHIP	NH CHIS Commercial
TOTAL	4.4 (342)	1.4 (11)	1.8 (224)
Asthma	0.6 (44)	0.6 (5)	0.5 (67)
Dehydration	0.2 (12)	0.4 (3)	0.3 (39)
Bacterial Pneumonia	1.9 (152)	0.3 (2)	0.6 (73)
Urinary Tract Infection	0.5 (37)	0.0 (0)	0.1 (8)
Gastroenteritis	1.2 (97)	0.1 (1)	0.3 (37)

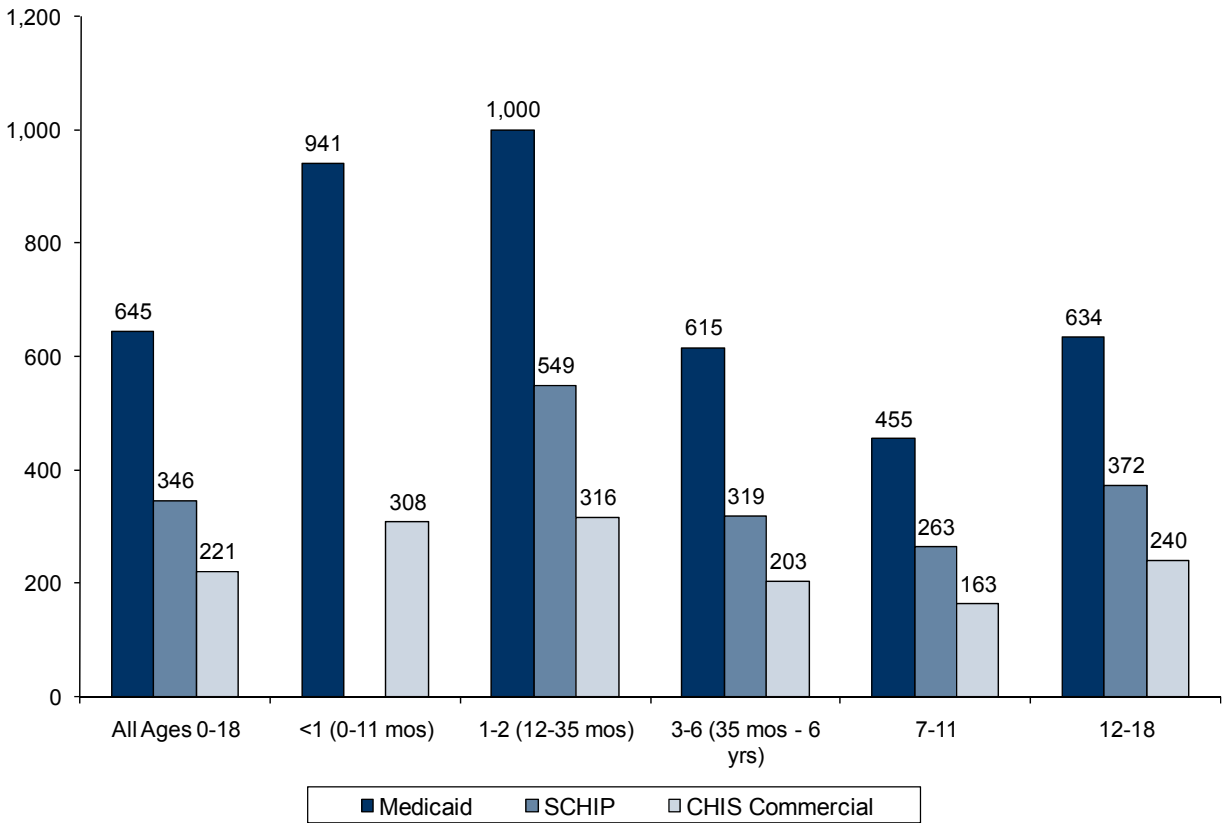
Because ACS hospitalizations may be preventable or avoidable, the payment (plan payments and member responsibility) was determined from the claims data. The 342 Medicaid hospitalizations totaled \$1,0121,118 (average \$2,986); the 11 CHIP hospitalizations totaled \$49,836 (average \$4,531); and the 224 commercial hospitalizations totaled \$1,626,550 (average \$7,261). The lower average payment for Medicaid per ACS hospitalization is a reflection of the Medicaid program's much lower payment rates. The CHIP payment rate may be affected by variability due to the low number of hospitalizations.

#### *Emergency Department and Office/Clinic Visits*

Hospital outpatient ED visit rates and outpatient office/clinic visit rates are summarized in figures [13](#) and [14](#) and [Table 24](#). Rates of outpatient ED visits and office/clinic visits declined with the age of child through age 7–11 years and then increased again for children aged 12–18 years; this was true for Medicaid, CHIP, and NH CHIS commercial plan types.

Children enrolled in Medicaid incurred 50,488 outpatient ED visits. Excluding newborns and infants (0–11 months) and standardizing for differences in health status (CRG) and age, the outpatient ED rate for Medicaid (552 per 1,000) was significantly higher than CHIP (363 per 1,000) or NH CHIS commercial (228 per 1,000). The Medicaid rate did not change and NH CHIS commercial decreased by 2% compared to SFY2009. Numbers were too small to evaluate trends for CHIP.

**Figure 13. Outpatient ED Visit Rates per 1,000 Members by Age, SFY2010**



\* CHIP does not cover children under the age of one year.

Rates of office/clinic visits were higher in Medicaid (4,015 per 1,000) compared to CHIP (3,444 per 1,000) and NH CHIS commercial (3,231 per 1,000). Excluding newborns and infants (age 0–11 months) and standardized for differences in health status (CRG) and age, the office/clinic visit rate was highest in Medicaid (3,322 per 1,000) and CHIP (3,499 per 1,000) and lower in NH CHIS commercial (3,060 per 1,000). Compared with SFY2009, Medicaid rates increased by 1%, CHIP increased by 2%, and NH CHIS commercial rates increased by (7%).

The ratio of outpatient emergency department visits to office/clinic visits may be an indicator of patterns of care. A high ratio of outpatient emergency department visits to office/clinic visits may indicate that the usual source of care for some children is more likely to be the hospital emergency department instead of a health care provider’s office. For SFY2010, the ratio of outpatient emergency department visits to office/clinic visits (total, unadjusted) was highest for children in Medicaid (0.16) followed by CHIP (0.10) and NH CHIS commercial (0.07).

Between SFY2009 and SFY2010, Medicaid utilization rates appear to have remained the same for both outpatient ED visit rates standardized for CRG risk group and for office/clinic visits.

**Table 24. Outpatient ED and Office/Clinic Visit Rates per 1,000 Members by Age and Plan Type, SFY2010**

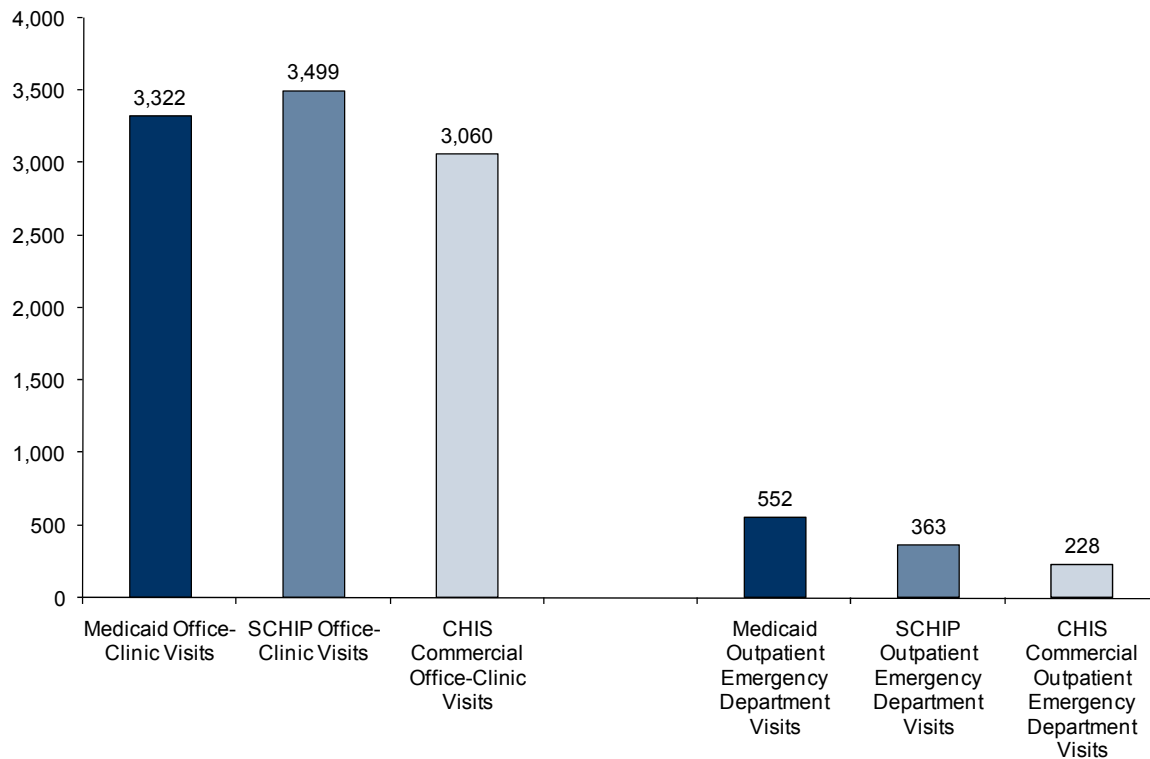
Note: Counts (in parentheses) are average members covered (Member Months / 12). Note that rows for standardized rates instead display 95% confidence intervals (CI) in parentheses

Age Group	Medicaid	CHIP	NH CHIS Commercial
<b>Outpatient Emergency Department Visits</b>			
TOTAL	645 (50,488)	346 (2,766)	221 (28,295)
<1 Year (0–11 Months) *	941 (3,664)	* N/A	308 (854)
1–2 Years	1,000 (9,948)	549 (364)	316 (3,086)
3–6 Years	615 (11,110)	319 (516)	203 (4,615)
7–11 Years	455 (9,254)	263 (582)	163 (5,343)
12–18 Years	634 (16,512)	372 (1,304)	240 (14,397)
Outpatient Emergency Department Rate Standardized for CRG Risk Group and Age, Excluding Age 0–11 Months (95% CI)	552 (550, 558)	363 (349, 377)	228 (225, 231)
<b>Office/Clinic Visits</b>			
TOTAL	4,015 (314,335)	3,444 (27,525)	3,231 (413,101)
<1 Year (0–11 Months) *	10,382 (40,432)	NA	10,065 (27,938)
1–2 Years	6,176 (61,432)	5,866 (3,887)	6,204 (60,601)
3–6 Years	3,478 (62,786)	3,499 (5,660)	3,242 (73,701)
7–11 Years	3,024 (61,504)	3,041 (6,719)	2,615 (85,485)
12–18 Years	3,383 (88,181)	3,214 (11,259)	2,761 (165,376)
Office/Clinic rate Standardized for CRG Risk Group and Age, Excluding Age 0–11 Months (95% CI)	3,322 (3309, 3335)	3,499 (3457, 3541)	3,060 (3049, 3070)

Note: Emergency department visits resulting in inpatient hospitalization are excluded.

\* CHIP does not cover children under the age of one year.

**Figure 14. Office/Clinic and Outpatient ED Standardized Visit Rates per 1,000 Members, SFY2010**



Notes: Infants under 1 are not included. Inpatient rate is standardized for population in health status (based on CRG) and age.

In a prior study, the NH CHIS project identified emergency department visit diagnostic groups (e.g., upper respiratory infections, ear infections, bronchitis) for which an alternative setting of care might have been more appropriate.<sup>53</sup>

The resulting outpatient ED visit rates for these conditions are summarized in [Table 25](#). Children enrolled in Medicaid incurred 19,721 of these visits during SFY2010. For conditions for which an alternative setting of care might have been more appropriate (e.g., upper respiratory infection, ear infection, bronchitis), the outpatient ED use rate for children enrolled in NH Medicaid (252 per 1,000 members) was higher than CHIP (98 per 1,000 members) and NH CHIS commercial (62 per 1,000 members). Outpatient ED use rates for several of these conditions were five or more times greater among children enrolled in Medicaid compared to children enrolled in NH CHIS commercial rates; CHIP rates for several of these conditions were two or more times greater than NH CHIS commercial. SFY2007, SFY2008, SFY2009, and SFY2010 rates were similar, and the same variation between plan types was found.

For these selected conditions, the ratio of ED to office/clinic visits for Medicaid (0.17) and CHIP (0.10) were higher than for NH CHIS commercial (0.07); this pattern was found for virtually every specific diagnostic category. These ratios are similar to SFY2006, SFY2007, SFY2008, and SFY2009. This indicates that children enrolled in NH Medicaid — and to a lesser extent CHIP — were more likely than children enrolled in NH CHIS commercial to

receive treatment in the hospital emergency department for conditions that might have been treated more appropriately in a physician's office or clinic.

**Table 25. Outpatient ED Visit Rates per 1,000 Members for Selected Conditions, SFY2010**

Note: Counts (in parentheses) are average members covered (Member Months / 12)

Selected Diagnostic Group	Medicaid	CHIP	NH CHIS Commercial
TOTAL SELECTED CONDITIONS	252 (19,721)	98 (782)	62 (7,900)
Asthma	13 (995)	6 (45)	4 (506)
Dehydration	3 (218)	2 (12)	1 (178)
Bacterial Pneumonia	9 (742)	1 (10)	2 (299)
Urinary Tract Infection	9 (730)	3 (23)	3 (371)
Gastroenteritis	6 (448)	3 (21)	2 (216)
Sore throat (Strep)	10 (773)	5 (42)	2 (313)
Viral Infection (unspecified)	18 (1,400)	6 (44)	3 (392)
Anxiety (unspecified or generalized)	1 (112)	2 (13)	1 (98)
Conjunctivitis (acute or unspecified)	7 (575)	2 (16)	1 (166)
External and middle ear infections (acute or unspecified)	52 (4,075)	20 (157)	10 (1,271)
Upper respiratory infections (acute or unspecified)	59 (4,642)	17 (132)	10 (1,319)
Bronchitis (acute or unspecified) or cough	19 (1,470)	7 (52)	4 (480)
Dermatitis and rash	17 (1,305)	6 (46)	3 (346)
Joint pain	4 (326)	2 (19)	2 (300)
Lower and unspecified back pain	2 (193)	2 (15)	1 (123)
Muscle and soft tissue limb pain	3 (256)	2 (15)	2 (192)
Fatigue	1 (51)	0 (1)	0 (20)
Headache	5 (358)	3 (25)	2 (292)
Abdominal pain	20 (1,534)	13 (107)	10 (1,223)

Note: Emergency department visits resulting in inpatient hospitalization were excluded.

Because an alternative setting of care (office/clinic) to the emergency department often is more appropriate for these selected conditions, the payment (i.e., plan payments and member responsibility) was determined from the claims data and summarized in [Table 26](#).

**Table 26. Outpatient ED and Office/Clinic Visit Payments for Selected Conditions, SFY2010**

Measure	Medicaid	CHIP	NH CHIS Commercial
Outpatient Emergency Department			
Total Outpatient ED Visits	19,721	782	7,900
Total Payments	\$2,261,827	\$192,997	\$3,439,397
Average Payment per Visit	\$115	\$247	\$435
Office/Clinic			
Total Office/Clinic Visits	100,363	8,566	134,665
Total Payments	\$5,992,430	\$935,785	\$15,635,627
Average Payment per Visit	\$60	\$109	\$116

Notes: Emergency department visits resulting in inpatient hospitalization were excluded. Payments include plan payments, prepaid amounts on capitated claims, and member responsibilities (i.e., coinsurance, deductible, copayments). All payments were based on the information on submitted administrative claims. If Medicaid had reimbursed at the higher rate paid by NH CHIS commercial plans for these selected conditions, Medicaid would have paid \$12 million more than it did during SFY2010.

Children enrolled in Medicaid incurred nearly \$2.3 million for outpatient ED visits for these selected conditions. The lower average payment for Medicaid per visit — \$115 compared to \$247 for CHIP and \$435 for NH CHIS commercial — is a reflection of the significantly lower payment rates of the Medicaid program. For Medicaid, CHIP, and NH CHIS commercial, the average payment per visit for an outpatient ED visit was significantly higher than the cost of an office/clinic visit for these conditions. For Medicaid, the average payment per outpatient ED visit (\$115) was higher than the average payment per office/clinic visit (\$60) for these conditions.

#### *Payments Per Member Per Month*

Total payment rates per member per month (PMPM) by age group and plan type were evaluated. Results are provided in [Figure 15](#) and [Table 27](#). Payments include both plan paid, prepaid amounts on capitated claims, and member responsibility (i.e., coinsurance, deductible, and copayments).\*

As discussed in the mental health section, mental health specialist visits for CHIP in FY2010 were not complete in the payer data. To address this, total payments for CHIP were adjusted by estimating payments for mental health specialist visit payments using first six months FY2010 data. The adjustment represents less than 4% of total payments for CHIP children.

For children included in this study, NH Medicaid incurred \$222.8 million in payments, CHIP incurred \$12.9 million in plan payments and \$765,000 in member responsibility, and NH CHIS commercial incurred \$246.0 million in plan payments and \$36.9 million in member responsibility.\*\* Not all children enrolled in NH CHIS commercial plans had pharmacy claims data linked; the evaluation of payments per member per month included only children with both medical and pharmacy claims linked. Payment differences are influenced by Medicaid's lower reimbursement rate per service compared with CHIP and NH CHIS commercial plans.

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\* Payments are based on the information submitted on administrative claims. Children enrolled in Medicaid identified as severely disabled, mentally disabled, or physically disabled by eligibility classification were excluded entirely from this study. Exclusion of this special population — approximately 1,800 children — increased the validity of comparisons to CHIP and NH CHIS commercial. The average monthly cost for these disabled children is approximately nine times higher than the cost for the low-income children enrolled in Medicaid included in this report. Children in disabled eligibility categories account for approximately 2.5% of children enrolled in Medicaid and nearly 20% of total Medicaid payments for children.

\*\* The payments reported are based on administrative claims data. Retroactive payment settlements with providers not reflected in claims data were not available for this report. CHIP and CHIS commercial include some prepaid amounts on capitated claims. When the health plan data is submitted to the NH CHIS, the health plans were told to populate the prepaid dollar amount field with what the plan would have been liable for if the rendered service had been paid under a fee-for-service schedule instead of a capitated service. Thus the amount usually represents the plan's allowed amount and does not have member liability payments taken out of the value. This amount does not represent what was actually paid to the provider as a capitation payment for the members covered under the policy, although in total the prepaid dollar amounts should represent a total that is slightly higher than the total of the capitated payments plus any member payments. Prepaid dollar amounts are typically below 1%.

**Table 27. Payment Rates PMPM by Plan Type, SFY2010**

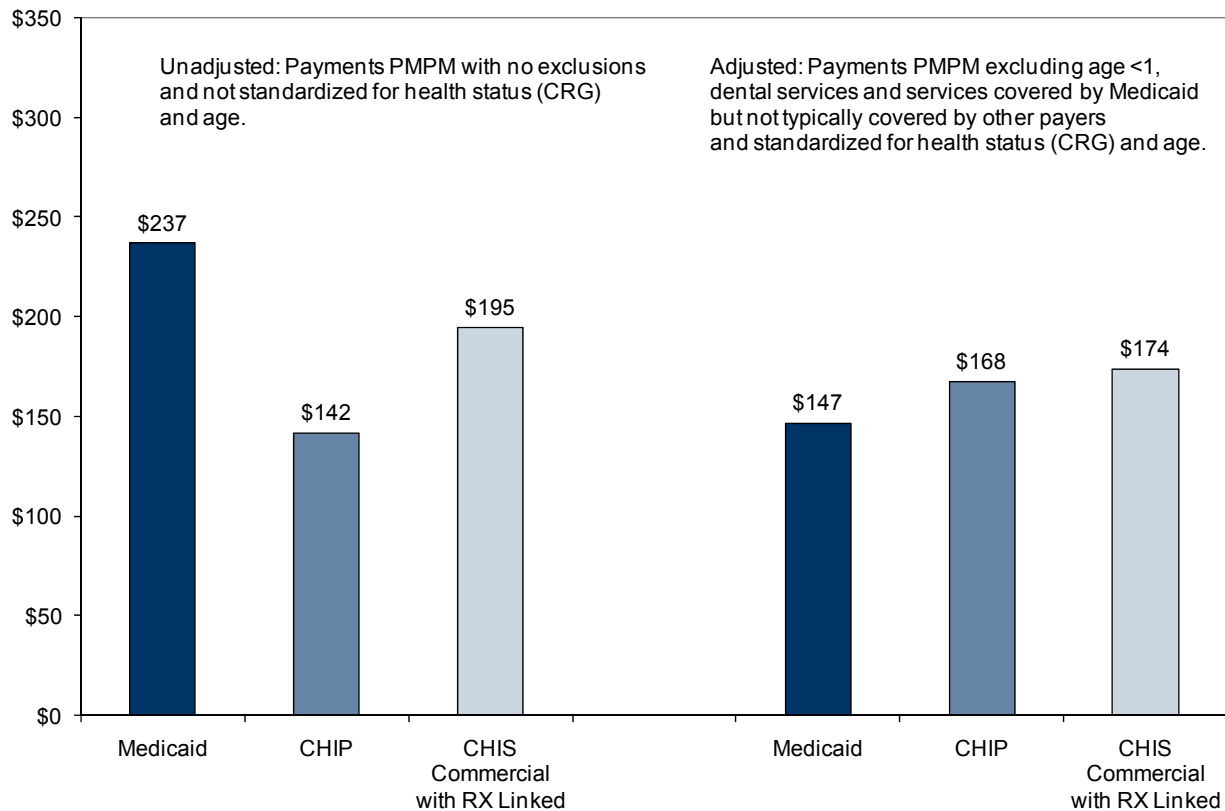
	Medicaid	CHIP	NH CHIS Commercial with RX Linked
Member Months	939,559	95,909	1,534,283
Total Paid (Millions)	\$222.8	\$13.6	\$282.9
Total Paid PMPM	\$237	\$142	\$195
Paid After Exclusions (Millions)***	\$144.9	\$13.6	\$282.9
Paid PMPM After Exclusion of Infants (0–11 Months) and Standardized for Age and CRG Risk Group	\$147	\$168	\$174

\*\*\* Excludes dental claims and services provided by Medicaid for non-medical institutions, school-based special education services, services for the developmentally disabled, and services provided through NH Division of Children, Youth, and Families (DCYF).

During SFY2010 the payment rate for Medicaid (\$237 PMPM) was higher than CHIP (\$142 PMPM) and NH CHIS commercial (\$195 PMPM), before any standardization or adjustment to make the PMPMs more comparable. These differences in rates are impacted by several factors. CHIP does not cover infants younger than one year of age, the health status (based on CRG) of children enrolled in Medicaid is poorer than children enrolled in CHIP or NH CHIS commercial, and Medicaid pays for services (e.g., private non-medical institutions, school-based special education, services for the developmentally disabled, and services through the NH Division of Children, Youth, and Families) typically not covered by commercial plans. Not all children in NH CHIS commercial plans had dental coverage and dental claims were not available for children in CHIP at the time of this study. In total, these services represent \$77.9 million (35%) of the \$222.8 million Medicaid payments for children.

Excluding special services specific to Medicaid, newborns and infants (0–11 months) and standardizing for differences in health status (CRG) and age, the payment rate for children per member per month (PMPM) was lower for Medicaid (\$147 PMPM) when compared with CHIP (\$168) and with NH CHIS commercial (\$174 PMPM). Unadjusted Medicaid payment rates decreased by 6% between SFY2009 and SFY2010, CHIP rates increased by 3%, and NH CHIS commercial rates increased by 11% during this time period.

**Figure 15. Unadjusted and Adjusted Payment Rates PMPM by Plan Type, SFY2010**



[Table 28](#) provides age-specific payment rates by plan. Medicaid rates are shown with and without exclusions. Excluding newborn infants, payment rates are highest for adolescents (12–18 years) in Medicaid. Rates are highest among members ages 1-2 for the CHIP and NH CHIS commercial populations. A NH CHIS special study on payment rates PMPM indicated that the higher rate for older children was driven by mental health disorders that are more prevalent in older children. After exclusions, the payment rate PMPM for Medicaid children was lower than for NH CHIS commercial for children aged 1–2 years, 3–6 years, and 12–18 years. The two groups had similar payment rates for children aged 7–11 years. CHIP payment rates were higher than Medicaid for children aged 1–2 years, but lower for the other age groups.

Unadjusted payment rates for Medicaid population reflect higher utilization in the Medicaid population, higher prevalence of disease in the Medicaid population, and the Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program requirements under federal law (Title XIX of the Social Security Act) that can override state Medicaid program benefit limitations.



**Table 28. Payment Rates PMPM by Age and Plan Type, SFY2010**

Age Group	Medicaid	Medicaid After Exclusions**	CHIP	NH CHIS Commercial
TOTAL – Excluding Age <1 Year (0–11 Months)	\$227	\$132	\$142	\$183
<1 Year (0–11 Months)	\$430	\$410	* N/A	\$702
1–2 Years	\$171	\$113	\$197	\$228
3–6 Years	\$153	\$100	\$106	\$158
7–11 Years	\$209	\$143	\$119	\$139
12–18 Years	\$313	\$178	\$163	\$195

\* CHIP does not cover children under the age of one.

\*\* Excludes dental claims and services provided by Medicaid for non-medical institutions, school-based special education services, services for the developmental disabled, and services provided through NH Division of Children, Youth, and Families (DCYF).

A four-year trend analysis of payments PMPM indicated that Medicaid payments PMPM remained relatively similar throughout the four years, increasing by a modest 4% between SFY2007 and SFY2008, not changing between SFY2008 and SFY2009, and decreasing by 6% between SFY2009 and SFY2010. NH CHIS commercial, on the other hand, consistently increased during the same time period with increases of 11% between SFY2007 and SFY2008, 16% between SFY2008 and SFY2009, and 11% between SFY2009 and SFY2010. CHIP trends (-1%, +9%, and +3%) may be impacted by small numbers.

To summarize the results from the utilization and payment section of this report, children enrolled in NH Medicaid use the hospital for inpatient services and outpatient ED services at higher rates even after adjusting for health status and age differences. In contrast, after adjusting for health status and age, children enrolled in Medicaid are not more likely to have office/clinic visits. Overall, children enrolled in Medicaid incur monthly claim expenses significantly higher than children enrolled in NH CHIS commercial or CHIP. When adjusted for health status, age, and special services provided by Medicaid, the payment rate is lower for Medicaid.

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### Poverty Level for Children Enrolled in Medicaid

Medicaid enrollment files include information on household income level as a percentage of the Federal Poverty Level (FPL).<sup>\*</sup> CHIP children are covered at 185% to 300% of FPL. NH CHIS commercial files do not contain information about household income level. The relative health status (based on CRG risk scores) of children enrolled in Medicaid is provided in [Figure 16](#).

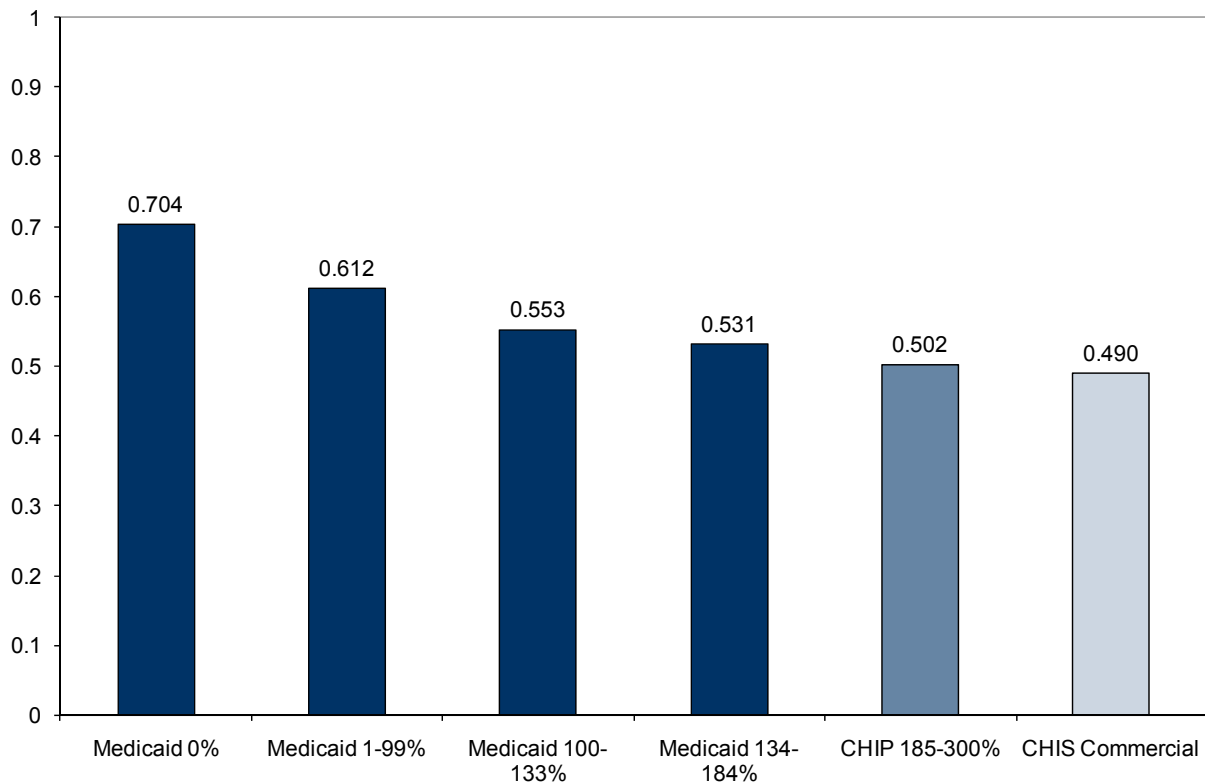
Results indicate that Medicaid children with continuous enrollment in the poorest households (0% FPL) had the poorest health as indicated by a higher average clinical risk (CRG) score (0.704) compared with children in households with the highest adjusted household income (134%–184% FPL), whose CRG score was 0.531. For all Medicaid poverty level groups, health status was poorer than for their corollaries in CHIP or NH

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\* Federal Poverty Level (FPL) is determined at enrollment by the adjusted income and not the gross income of the household. An FPL of 100% indicates that the child was living at the FPL; 0% indicates that the child was living in a household with no income after adjustments for income disregards.

CHIS commercial plan types. The CRG score for children in all Medicaid income groups decreased by a range of 1%–4% between SFY2009 and SFY2010, indicating a slight improvement in health status. CRG scores for CHIP and NH CHIS commercial did not change significantly.

**Figure 16. Health Status (Average CRG Risk Score) by Child’s Household Poverty Level (Children with Continuous Enrollment Only), SFY2010**



Utilization and payment rates were evaluated by the poverty level for children enrolled in Medicaid and the results are provided in [Table 29](#). Results indicate that children enrolled in Medicaid in the poorest households (0% FPL) had a rate of inpatient hospitalization (33 per 1,000 members) that was almost significantly higher than the rate (23 per 1,000 members) for children in households with the highest adjusted household income (134%–184% FPL).

Medicaid children in the poorest households (0% FPL) had a rate of outpatient ED visits that was significantly higher than the rate of those in households with the highest adjusted household income (134%–184% FPL) — 719 per 1,000 members for the poorest compared to 515 per 1,000 members for the wealthiest. Prevalence of frequent ED users (four or more visits during the year) decreased as household income level increased.

In contrast, office/clinic visit rates increased slightly as household income increased. Children enrolled in Medicaid in the poorest households had a rate of office/clinic visits

(3,645 per 1,000 members) that was lower than the rate for children in households with the highest adjusted household income (3,742 per 1,000 members). While the relative difference in rate was not large, it did reach statistical significance.

Payments excluded dental and special services provided only by Medicaid. Results indicated that payment rates PMPM declined as household income increased. Children enrolled in Medicaid in the poorest households had a payment rate (\$181 PMPM) that was 1.5 times the rate for children in households with the highest adjusted household income (\$120 PMPM). When stratified by poverty level, no significant changes in payment rates were observed between SFY2009 and SFY2010.

**Table 29. Medicaid Utilization and Payments Comparison by Poverty Level, SFY2010**

*Note: 95% confidence intervals (CI) in parentheses*

Measure	Poverty Level			
	0% FPL	1%–99% FPL	100%–133% FPL	134%–184% FPL
Inpatient Hospitalization Rate per 1,000	33 (29, 36)	29 (27, 31)	23 (21, 26)	23 (21, 26)
Outpatient ED Visits per 1,000	719 (702, 736)	698 (688, 708)	616 (603, 629)	515 (506, 525)
Prevalence of Frequent ED Users (4 or More Visits)	3.7% (3.3, 4.1)	3.5% (3.3, 3.7)	2.8% (2.6, 3.1)	1.9% (1.7, 2.0)
Office/Clinic Visits per 1,000	3,645 (3607, 3683)	3,649 (3626, 3671)	3,663 (3582, 3654)	3,742 (3717, 3767)
Payments PMPM After Exclusions*	\$181	\$151	\$126	\$120

Notes: Infants and newborns under one year of age are excluded. All rates are standardized for age and health risk based on CRG groups. Numbers in parenthesis are 95% confidence intervals.

\* Excludes dental claims and services provided by Medicaid for non-medical institutions, school-based special education services, services for the developmental disabled, and services provided through NH Division of Children, Youth, and Families (DCYF).

Results of the analysis indicate a consistent pattern of association between poverty, poor health status, and higher utilization and payments.

## DISCUSSION AND NEXT STEPS

This study shows that there appears to be an increasing trend in the percentage of children covered by public insurance in New Hampshire and a declining trend in those covered by private insurance. Compared to SFY2009, the average number of children covered during SFY2010 increased by 9% in Medicaid, remained the same in CHIP, and increased by nearly 9% in the NH CHIS commercial study data.

This is consistent with national trends in insurance coverage from the U.S. Census Current Population Survey.<sup>54</sup> Nationally, the number of people of all ages with private insurance have been decreasing in recent years (from 67.5% in CY2007 to 66.7% in CY2008), while the number of people covered by government health insurance increased from 83.0 million to 87.4 million over the same period. Economic factors, including the continuing rise of health premiums, likely have contributed to the shift in coverage from private to public insurers.

Through the use of administrative eligibility and claims data, this study evaluated a wide variety of health care measures — enrollment and disenrollment, health status, access to primary care, well-child visits, effectiveness of care management, prevalence and utilization for mental health disorders, utilization and payments — for New Hampshire children with Medicaid, CHIP, and NH CHIS commercial insurance during SFY2010. This study is part of an annual series initiated in SFY2006 that examines NH children's health insurance and incorporates NH Medicaid data and the NH Comprehensive Health Care Information System (NH CHIS) commercial health care claims database. HEDIS quality and access to care measures were reported based on the administrative claims data submitted to NH CHIS. There appear to be few studies that use these methods to directly compare children enrolled in Medicaid or CHIP with children enrolled in commercial plans or that compare these three plan types based on administrative claims data.

A new and broader definition of child health was recently proposed in an Institute of Medicine (IOM) report:

*Children's health should be defined as the extent to which individual children or groups of children are able or enabled to (a) develop and realize their potential, (b) satisfy their needs, and (c) develop the capabilities to allow them to interact successfully with their biological, physical, and social environments.<sup>55</sup>*

Income level and poverty status are primary distinguishing factors determining enrollment in Medicaid, CHIP, and commercial plans. A recent study from the National Health Interview Survey (NHIS) indicated that low-income children are more likely than other children to have virtually every measured chronic or acute condition and are more likely to be limited by these conditions, with mental health conditions particularly common and limiting.<sup>56</sup> The results from this NH CHIS report data confirm this relationship in New Hampshire. Children enrolled in Medicaid had poorer health compared with children enrolled in CHIP or NH CHIS commercial plans based on the CRG analysis. Prevalence of mental health disorders in children enrolled in Medicaid was nearly double the rate in NH CHIS commercial.

After adjusting for health status and age differences, hospital inpatient utilization and outpatient emergency department visits were significantly higher in Medicaid than in CHIP and NH CHIS commercial. Within Medicaid, children in poorer households had higher utilization rates of hospital services and higher payment rates after adjusting for health status and age.

A published study, which used national U.S. Census Current Population Survey data, found that one-third of all uninsured children in 2006 had been enrolled in Medicaid or CHIP during the previous year. Among those who were uninsured but eligible for public coverage in 2006, at least 42% had been enrolled in Medicaid or CHIP during the previous year; both of these measures of disenrollment have increased since 2000.<sup>57</sup> Although no data is available through NH CHIS to evaluate children without insurance, an examination of NH CHIS enrollment data also indicates that lack of retention in a single health insurance plan could be a potential problem for children in New Hampshire with regard to continuity of care.

The results from the NH CHIS enrollment data also suggest that children in New Hampshire have potential problems with continuity of insurance coverage. Nearly one in four children who were enrolled at the start of the study in Medicaid or NH CHIS commercial disenrolled from the plan during the year. Eighteen percent of the children who disenrolled from Medicaid re-enrolled later in the year. Nearly half of the children enrolled in CHIP at the start of the study disenrolled during the year. Discontinuity in plan enrollment may have impacted access to care and well-child visits or use of preventive services.

Study results indicate that not all children in New Hampshire had well-child visits consistent with guidelines for preventive care. Rates of well-child visits were higher in CHIP and NH CHIS commercial compared to Medicaid. It is notable that well-child visits have increased significantly among the Medicaid and NH CHIS commercial, and those increases are statistically significant. These findings are consistent with a national increase in well-child visits. Additionally, there also appears to be a slight rise in the rates of mental health disorders in the Medicaid and NH CHIS commercial populations.

Rates of access to primary care were high for all groups, with the highest rates found among younger children. New Hampshire children enrolled in CHIP accessed a primary care practitioner in a shorter time after enrollment compared to children in Medicaid or NH CHIS commercial. This supports the finding of other previous studies that indicate that children enrolling in CHIP may have prior unmet health care needs.<sup>58</sup>

NH Medicaid rates for appropriate medication use were similar to the national HEDIS Medicaid rates for asthma. HEDIS rates of appropriate medication management for pharyngitis, and upper respiratory infection for NH Medicaid were higher than NCQA HEDIS national averages. However, rates indicated that compliance with recommended effective care was not reported for a significant percentage of children. Some children with persistent asthma were not using recommended long-term controller medications.

This study also tracked a variety of utilization measures. The outpatient ED use rates for conditions for which an alternative setting is more appropriate (e.g., upper respiratory

infection, ear infection, bronchitis), indicated that children enrolled in Medicaid were substantially more likely to use the emergency department for care compared to children enrolled in NH CHIS commercial. This suggests that a higher percentage of children enrolled in Medicaid might be using the emergency room as a “usual” source of care. One positive trend: Medicaid utilization rates for outpatient ED visits did not increase between SFY2009 and SFY2010.

Payment rates for children enrolled in Medicaid were significantly higher than for children enrolled in CHIP or NH CHIS commercial. These differences are influenced by the services that Medicaid covers that are not typically covered in CHIP or commercial plans and by the relatively poor health status of children enrolled in Medicaid. After adjusting for these factors, payments per member per month (PMPM) were lower in Medicaid compared with CHIP or NH CHIS commercial. NH Medicaid had lower reimbursement rates per service compared with commercial plans. This report did not consider or report on the differences in the insurance plan delivery model and benefit structures; NH Medicaid has no copayments and covers a greater array of services compared to NH CHIS commercial plans. These differences have been noted in other studies.<sup>59</sup> Most children in NH CHIS commercial, and all children in CHIP, were enrolled in managed care or preferred provider plans while NH Medicaid was fee-for-service.

This study found that while NH children enrolled in CHIP had a similar rate of disease based on CRG as NH children enrolled in commercial insurance, they utilized services at a greater rate than children in commercial insurance. However NH children enrolled in CHIP had rates of access to primary care practitioners and rates of well-child visits that were similar to children enrolled in NH commercial plans. These findings suggest that children enrolled in CHIP may have unmet needs for preventive and other health care services that are met soon after enrollment in CHIP.



# APPENDICES





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## Appendix 1: Children’s Health Insurance Programs in New Hampshire — Study Methods

This study was based on administrative eligibility and claims data from New Hampshire Medicaid and the NH CHIS commercial databases for SFY2009 (July 2008–June 2009) and SFY2008 (July 2007–June 2008) based on date of service. The study focused on SFY2007 results; FY2007 data were used for selected HEDIS measures that required two years of data and for evaluation of trends.

**1. Data acquisition and preparation.** Medicaid, CHIP, and NH CHIS commercial data were used in this study. Complete Medicaid, CHIP, and NH CHIS commercial data was available for the SFY under study.

**2. Data limitations and exclusions.** The NH CHIS commercial population contains information on those residents whose claims are included in the NH Comprehensive Health Care Information System database that generally includes only members whose policies were purchased in New Hampshire. Areas close to the borders of New Hampshire may be less well represented than areas in the interior.

Federal poverty level data was available for children enrolled in Medicaid and CHIP but was not available in the NH CHIS commercial data.

Severely disabled (AID 2B,2C,2D,2K), physical disabled (AID 30,31,32,70,71,72,83,84) and mentally disabled (AID 50,51,52,82,83) eligibility groups were excluded from all reports in this study. This group of approximately 1,365 children represents less than 2% of all children covered by Medicaid. They were excluded because their access to preventive services, utilization of services, and payment profiles would be dramatically different from other children enrolled in Medicaid, CHIP, or NH CHIS commercial plans. Therefore, by excluding these children, the potential for bias in the comparison of rates by plan type was reduced.

Prior experience indicates that commercial Indemnity or Third Party Administrator (TPA) plans often have very different benefit structures and claims processing methods compared to HMO, Point-of-Service, or Preferred Provider Plans. Higher deductibles may lead to claims not being submitted by the subscriber. There is some evidence that some Indemnity or TPA processing systems allow claims to be processed without standard CPT or other coding required for HEDIS measures used in this study. Prior studies by Onpoint Health Data have revealed substantially lower rates of preventive service and other measures for Indemnity/TPA plan members. Because of potential for negative bias (reduced rates) in the NH CHIS commercial insurance estimates, children enrolled in Indemnity and TPA plans (13% of NH CHIS commercial children) were excluded from the claims-based HEDIS measures reported. Children enrolled in NH CHIS commercial Indemnity and TPA plans were included in all non-HEDIS sections of the reporting. A second value to excluding Indemnity or TPA plans from this study is that NCQA HEDIS measures reported nationally do not include Indemnity or TPA plan data.

**3. Member Assignment.** Because members may change age, location of residence, eligibility grouping, or poverty level status during the year, each member was assigned to one and only one category for the fiscal year. Their eligibility group, Health Analysis Area, and poverty level on the last day of the last month enrolled and their age on the first day of the last month enrolled were used. This methodology is consistent with other NH CHIS reporting.

**4. Age groups and gender.** Consistent with other NH CHIS reporting a child was defined by age 0–18 years. The cutoff at age 18 is requested by New Hampshire DHHS and corresponds to the definition of child for Medicaid eligibility purposes. Age groups used for reporting were <1 (0-11 months), 1-2 (12-35 months), 3-6 (36 months-6 years), 7-11 years, and 12-18 years. For some HEDIS measures, age groups were modified to correspond to the NCQA HEDIS definitions. Gender was not evaluated in this project.

**5. NH Medicaid Health Service Areas.** Aggregation of zip codes based on New Hampshire Medicaid Health Service Area (HSA) for NH Medicaid enrollees was utilized (Appendix D). Health Service Areas are relevant to how health care is delivered in NH compared to counties.

**6. Denominator for Population-Based Rates.** This study was based on rates of use per member population covered. Not all members are covered for a full year. Therefore, a person covered for a full 12 months might be twice as likely to have preventive and other medical services during the year compared with a person covered for only 6 months. Standard methods to adjust denominators for differences in exposure time were used. Thus, average members (cumulative member months divided by 12) was utilized as denominator for rates in this study. Other measures in this study are based on HEDIS methods that include a subset of children continuously covered during the period; it is not necessary to use member month person-time as a denominator for these measures.

**7. Children’s’ and Adolescents’ Access to Primary Care Practitioners HEDIS measure.** The HEDIS access to primary care practitioners is not a measure of preventive service; the visits reported include both visits for preventive service and visits for medical illness and other problems. The coding used to identify the percent of members who had a visit with a primary care practitioner was modified from exact HEDIS specifications after review of claims data to ensure that primary care visits in hospital-clinic and rural health clinic settings were included.

CPT codes:

99201, 99202, 99203, 99204, 99205, 99211, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99341, 99342, 99343, 99344, 99345, 99346, 99347, 99348, 99349, 99350, 99381, 99382, 99383, 99384, 99385, 99391, 99392, 99393, 99394, 99395, 99401, 99402, 99403, 99404, 99411, 99412, 99420, 99429, 99499, 99432

Diagnosis codes:

V202, V700, V703, V705, V706, V708, V709

CPT/HCPCS codes:

T1015, 99354, 99355, 99432

UB revenue codes:

0510–0529, 0770, 0771, 0779, 0983

Onpoint provider specialty codes:

0101 Hospital / General  
0105 Hospital / Ancillary  
0201 Hospital / Outpatient  
1002 Misc Facility / Urgent Care Center  
1009 Misc Facility / Misc Facility Use  
1101 Clinic Facilities / Services  
1201 Rural Health Centers  
3001 Primary Care - Family / General Practice  
3101 Primary Care - Internal Medicine  
3201 Primary Care - Pediatrics  
5201 Licensed Nurses (includes NP)  
4601 Physicians Assistants

Excludes inpatient hospital claims and emergency department services claims; requires 11+ months' enrollment and enrollment in the final month of the measurement year (SFY2010).

**8. Well-Child Visits in the First 15 Months of Life HEDIS measure.** The HEDIS well-child visit measures specific primary care practitioner visits identified as well-care visits. Unlike the access to primary care practitioner measure, that includes both visits for preventive services and for medical illness, this measure is designed to more strictly identify preventive care visits. CPT and diagnosis codes used are identical to HEDIS specifications and the CPT codes are age group specific. For this study provider specialty codes include primary care well-care visits that might occur in the hospital-clinic and rural health clinic settings.

CPT codes:

99381, 99382, 99391, 99392, 99432 (well-child visit during first 15 months of life)  
99382, 99383, 99392, 99393 (well-child visit age 25 months to 6 years)  
99383, 99384, 99385, 99393, 99394, 99395 (adolescent well care visits)

Diagnosis codes:

V202, V700, V703, V705, V706, V708, V709

Onpoint provider specialty codes:

0101 Hospital / General  
0105 Hospital / Ancillary  
0201 Hospital / Outpatient  
1002 Misc Facility / Urgent Care Center  
1009 Misc Facility / Misc Facility Use  
1101 Clinic Facilities / Services

1201 Rural Health Centers  
3001 Primary Care - Family / General Practice  
3101 Primary Care - Internal Medicine  
3201 Primary Care - Pediatrics  
5201 Licensed Nurses (includes NP)  
4601 Physicians Assistants  
3906 Obstetrics / Gynecology (HEDIS specifications include OB/GYN only for the adolescent well-child measure)

Excludes inpatient hospital claims and emergency department services claims; requires all of the following: enrollment 31 days prior to birth and 455 days after birth (as well as a well-child visit during the first 15 months of life); also requires 11+ months' enrollment and enrollment in the final month of the measurement year (SFY2010) for other age groups

**9. Effectiveness of Care Measures.** Three NCQA HEDIS effectiveness of care measures were evaluated: use of appropriate controller medications for asthma, appropriate antibiotic use (not dispensed) for upper respiratory infections, and appropriate strep testing for children with pharyngitis and antibiotic use. NCQA HEDIS specifications were followed for this reporting. The details of these specifications are complex and beyond the scope of inclusion in this appendix; readers are referred to HEDIS 2007, Technical Specifications, Volume 2. National Committee for Quality Assurance. 2006. <http://www.ncqa.org>.

**10. Emergency Department Visit Definition.** This study focused on outpatient hospital emergency department visits. Emergency department visits were selected based on UB revenue codes 0450-0459, 981 or CPT codes 99281-99285. Visits resulting in inpatient hospitalization were excluded by using Medicaid category of service codes 1,3,103. This definition includes revenue code 0456 hospital urgent care center visits that are sometimes excluded from other studies.

**11. Office/Clinic Visit Definition.** Office or clinic visits were identified were selected based on selected CPT codes: 99201, 99202, 99203, 99204, 99205, 99211, 99212, 99213, 99214, 99215, 99354, 99355, 99381, 99382, 99383, 99384, 99385, 99386, 99387, 99391, 99392, 99393, 99394, 99395, 99396, 99397, 99401, 99402, 99403, 99404, 99411, 99412, 99420, 99429, 99432, T1015, 99241, 99242, 99243, 99244, and 99245, or UB revenue codes 510-519, 520-529, and 983.

This definition was based on codes found in NCQA HEDIS specifications plus additional codes for NH rural health centers, federally qualified health centers (FQHCs), and hospital facility based primary care clinics.

**12. Mental Health Disorder ICD-9-CM Diagnosis Coding.** The diagnostic groupings used to report mental health disorders in children in this report is based on definitions used in other NH CHIS mental health disorder reports and were derived from a report prepared for the Substance Abuse and Mental Health Services Administration. (Defining Mental Health and/or Substance Abuse (MH/SA) Claimants. Report prepared for the Substance Abuse and

Mental Health Services Administration. October, 2003. RTI International and The Medstat Group.

[http://www.nri-inc.org/OSA/Download/Appendix%20 a Defining MH-SA Claimants.pdf](http://www.nri-inc.org/OSA/Download/Appendix%20a%20Defining%20MH-SA%20Claimants.pdf)

#### *Serious Mental Health Disorders*

- 01 SCHIZOPHRENIC DISORDERS 295
- 02 MAJOR DEPRESSION 296.2, 296.3
- 03 BIPOLAR & OTHER AFFECTIVE PSYCHOSES
  - Manic Disorders 296.0, 296.1
  - Bipolar Affective Disorders 296.4-296.7
  - Other and unspecified manic-depressive disorders 296.8
  - Other and unspecified affective psychoses 296.9
- 04 OTHER PSYCHOSES
  - Transient organic psychotic conditions 293
  - Other organic psychotic conditions, chronic 294
  - Paranoid states or delusional disorders 297
  - Other non-organic psychoses 298
  - Psychoses with origin specific to childhood 299

#### *Other Mental Health Disorders*

- 05 STRESS & ADJUSTMENT
  - Acute reaction to stress 308
  - Adjustment reaction 309
- 06 PERSONALITY DISORDER 301
- 07 DISTURBANCE OF CONDUCT 312
- 08 DISTURBANCE OF EMOTIONS 313
- 09 ADHD Hyperkinetic 314
- 10 NEUROTIC DISORDERS 300
- 11 DEPRESSION NEC 311
- 12 OTHER MENTAL HEALTH DISORDERS
  - Sexual deviations and disorders 302
  - Physiological malfunction arising from mental factors 306
  - Special symptoms or syndromes, not elsewhere specified 307
  - Specific non-psychotic mental health disorders due to organic brain damaged 310
  - Psychotic factors associated with diseases specified elsewhere 316

### **13. Coexisting Substance Abuse**

For this study substance abuse was evaluated as a coexisting (e.g., comorbid) condition. ICD-9-CM codes to identify children with substance abuse problems from the claims data were based on the Substance Abuse and Mental Health Services Administration. (Defining Mental Health and/or Substance Abuse (MH/SA) Claimants. Report prepared for the Substance Abuse and Mental Health Services Administration. October, 2003. RTI International and The Medstat Group.

[http://www.mhsapayments.org/Defining MH-SA Claimants 2003-10.pdf](http://www.mhsapayments.org/Defining%20MH-SA%20Claimants%202003-10.pdf)

Alcoholic psychoses 291

Alcohol dependence 303,305.0, Drug psychoses 292, Drug dependence/nondependent abuse 304,305.2-305.9, Pellagra 265.2, Alcoholic polyneuropathy 357.5, Polyneuropathy due to drugs 357.6, Alcoholic cardiomyopathy 425.5, Alcoholic gastritis 535.3, Chronic liver disease and cirrhosis with mention of alcohol 571.0 – 571.3, Drug dependence in pregnancy 648.3, Suspected damage to fetus from drugs 655.5,

Noxious influences affecting fetus via placenta or breast milk 760.7, Drug withdrawal syndrome in newborn 779.5, Excessive blood level of alcohol 790.3, Drug poisoning by adrenal cortical steroids 962.0,

Drug poisoning by opiates and related narcotics 965.0, Drug poisoning by sedatives and hypnotics 967,

Drug poisoning by other central nervous system depressants and anesthetics 968, Drug poisoning by psychotropic agents 969, Drug poisoning by central nervous system stimulants 970, Drug poisoning by dietetics 977.0, Drug poisoning by alcohol deterrents 977.3, Toxic effect of alcohol 980

Tobacco abuse disorder (ICD-9-CM 305.1) was not included as substance abuse in this study.

#### **14. Mental Health Specialist Services.**

Mental health specialists are defined based on the provider specialties assigned in the administrative claims data.

- Mental health center 1301
- General mental health 1302
- Psychiatry 3401
- Psychologist 5101
- Psychiatric nurses 5202
- Social workers 5301
- Misc. general mental health specialists 5502

Mental health specialist services were further subset into three subcategories based on CPT and HCPCS coding:

- Psychotherapy (billed to all three plan types using CPT 90804-90857),
- Diagnostic evaluation (e.g., CPT 90801), medication management (e.g., CPT 90862), and testing (e.g., CPT 96101), and other mental service CPT codes billed to all three plan types, and
- Mental specialist services unique to Medicaid (e.g., community mental health support H0036, case management T1016, and crises intervention services H2011), and other HCPCS codes primarily billed to Medicaid only. The NH Medicaid benefit limit for psychotherapy is 12 visits per year for ARNPs and other non-physician providers.

## 15. Psychotropic Medication Use Classification.

Administrative pharmacy claims contain the National Drug Code (NDC), an 11-digit code that identifies the manufacturer, product, strength, dosage form, formulation, and package sizes for medications. There are approximately 200,000 different NDC codes.

Maine Health Information Center uses REDBOOK™ to aggregate NDC codes into meaningful therapeutic categories to develop reporting and analysis. The following categories derived from REDBOOK™ were used for the study of psychotropic medications in this study.

- 2410 CNS-Antidepressants (e.g., Zoloft / sertraline)
- 2610 CNS-Antipsychotics-Tranquilizers (e.g., Risperdol / risperidone)
- 2810 CNS-Stimulants (e.g., Adderall XR / amphetamine)
- 3010 CNS-Anxiolytics, sedatives, hypnotics (e.g., Ativan / lorazepam)
- 3210 CNS-Other (e.g., Strattera / atomoxetine)

The pharmacy claims do not contain diagnosis or indication information. To some extent the indication of the medication can be inferred by the type of medication. However, many medications have multiple indications and disorders may be treated by medications that are found in different Red Book® drug categories. For example, Zoloft may be used to treat depression or obsessive compulsive disorder. Stimulants such as Adderall XR are used to treat ADHD, but Strattera is a non-stimulant used to treat ADHD.

**16. Payments.** This study includes a report comparing payments per member per month by plan type. Payments were identified from the claims data. Both plan payments and member responsibilities reported on claims were included. NH Medicaid, CHIP or NH CHIS commercial payers may make retroactive payment settlements with hospitals. This study is based only on the payments reflected in the administrative claim files and could not adjust for any retroactive payment settlements.

Medicaid covers services that are typically not covered by private insurance or CHIP. In addition to reporting total Medicaid payments, Medicaid payments after exclusion of services typically not covered by private insurance or CHIP were evaluated. In addition dental claims were excluded because coverage is incomplete in members with private insurance and dental claims data was not available for CHIP at the time of the study. The exclusions included dental (COS 45), private non-medical institutions (COS 78), clinic services (COS 25) determined to be school-based services primarily special education, day habilitation (COS 60) are day services for the developmentally disabled, and home- and community-based care for the developmentally impaired (COS 65) are waiver services, crisis intervention (COS 72), intensive home and community services (COS 73), child health support services (COS 74), home-based therapy (COS 76), and placement services (COS 77) are all special services provided through the Division for Children, Youth, and Families (DCYF), and ICF services for the mentally retarded (COS 102) are institutional services for the mentally retarded. Exclusion of these services increased the validity of payment comparisons between Medicaid, CHIP and NH CHIS commercial plan types.



## 17. Special diagnosis codes for utilization reporting of Ambulatory Care Sensitive conditions.

Five groups selected for inpatient ambulatory care sensitive conditions for children

- \*Asthma (any): 493xx
- \*Dehydration: 276.50, 276.51, 276.52, 276.5
- \*Bacterial Pneumonia: 481, 482.2, 482.30, 482.31, 482.32, 482.39, 482.9, 483.0, 483.1, 483.8, 485, 486
- \*Urinary Tract Infection: 590.10, 590.11, 590.2, 590.3, 590.80, 590.81, 590.9, 595.0, 595.9 599.0
- \*\*Gastroenteritis: 558.9

Additional codes selected for outpatient emergency department and office/clinic visit reporting

- \*\*\*Sore throat (Strep): 034.0
- \*\*\*Viral Infection (unspecified): 079.99
- \*\*\*Anxiety (unspecified or generalized): 300.00, 300.02
- \*\*\*Conjunctivitis (acute or unspecified): 372.00, 372.30
- \*\*\*External and middle ear infections (acute or unspecified): 380.10, 381.00, 381.01, 381.4, 382.00, 382.9
- \*\*\*Upper respiratory infections (acute or unspecified): 461.9, 473.9, 462, 465.9
- \*\*\*Bronchitis (acute or unspecified) or cough: 466.0, 786.2, 490
- \*\*\*Dermatitis and rash: 691.0, 691.8, 692.6, 692.9, 782.1
- \*\*\*Joint pain: 719.40, 719.41, 719.42, 719.43, 719.44, 719.45, 719.46, 719.47, 719.48, 719.49
- \*\*\*Lower and unspecified back pain: 724.2, 724.5
- \*\*\*Muscle and soft tissue limb pain: 729.1, 729.5
- \*\*\*Fatigue: 780.79
- \*\*\*Headache: 784.0
- \*\*\*Abdominal pain: 789.00, 789.01, 89.02, 789.03, 789.04, 789.05, 789.06, 789.07, 789.09

\* Source: AHRQ quality indicators, prevention quality indicators, technical specifications. Version 3.1 (March 12, 2007). AHRQ. Downloaded May 2, 2007.  
[http://www.qualityindicators.ahrq.gov/downloads/pqi/pqi\\_technical\\_specs\\_v31.pdf](http://www.qualityindicators.ahrq.gov/downloads/pqi/pqi_technical_specs_v31.pdf)

\*\* Source: Billings J, Zeitel L, Lukomnik J, Carey TS, Blank AE, Newman L. Impact of socioeconomic status on hospital use in New York City. Health Affairs. 1993; (Spring): 162–173.

[http://www.umanitoba.ca/centres/mchp/concept/dict/ACS\\_conditions.html](http://www.umanitoba.ca/centres/mchp/concept/dict/ACS_conditions.html)

\*\*\* Source: 2005 emergency department use in New Hampshire: A comparison of the Medicaid and NH CHIS commercially insured populations. NH CHIS report. March 2007.

## 18. Health Status. Clinical Risk Groups (CRG)

In order to compare the overall burden of disease the 3M Health Systems Clinical Risk Grouper (CRG) was applied to the administrative claims data.<sup>60</sup> The CRG system was designed for relative risk assessment. The CRG software uses all ICD-9-CM diagnosis codes from all health care encounters and assigns to a diagnostic category (acute or chronic) and a body system. Each individual is grouped to a defined health status group then to a CRG category and severity level if chronically ill. Over 260 CRG categories are further grouped into higher levels of risk grouping resulting in nine major categories of risk. Each CRG is assigned a relative risk weight based on a common Medicaid weight table provided by 3M. .

**Table A-1. Example of CRG Assignments for a Person with Both Diabetes and Asthma**

CRG Assignment	CRG Code	CRG Description
CRG	61425	Diabetes and Asthma Level – 5
ACRG1	614205	Pair – Diabetes and Other Moderate Chronic Disease Level-5
ACRG2	6255	Pair – One Dominant Chronic Disease and Moderate Chronic Disease or a Minor Chronic Disease
ACRG3	64	Significant Chronic Disease in Multiple Organ Systems Level– 4
Core Health Status Group	6	Disease in Chronic Multiple Organ Systems

\* CRG assigned members to a “healthy” CRG category which includes both members with no encounters and members with encounters for preventive service and minor conditions. All members are assigned a relative risk weight. Members classified as healthy are assigned a very low risk weight.

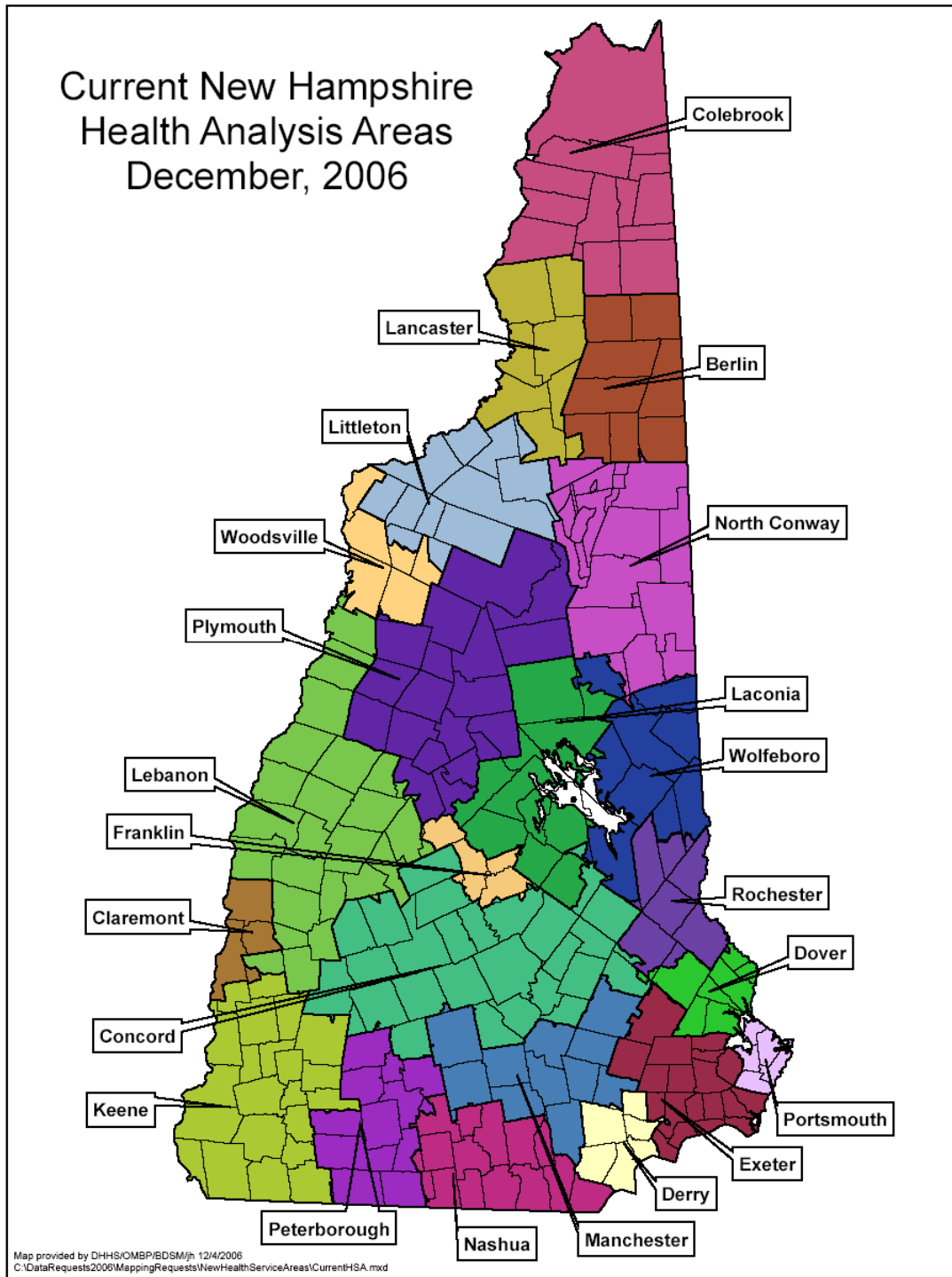
## Appendix 2: NH Medicaid Eligibility Groupings

Source: New Hampshire Comprehensive Health Information System Special Project: Defining Medicaid Eligibility Groups. Institute for Health Policy, Muskie School of Public Service, University of Southern Maine.

Aid Category w Code	Medicaid Benefits	Collapsed Groupings
10 OAA/CATEGORICALLY NEEDY	Yes	Elderly
11 OAA/MONEY PAYMENT/CATEGORICALLY NEEDY	Yes	Elderly
12 OAA/MEDICALLY NEEDY	Yes	Elderly
20 AFDC/CATEGORICALLY NEEDY	Yes	Low Income Adult/Child*
21 AFDC/MONEY PAYMENT/CATEGORICALLY NEEDY	Yes	Low Income Adult/Child
22 AFDC/MEDICALLY NEEDY	Yes	Low Income Adult/Child
24 AFDC/REG POV LVL/CAT NEEDY 185%FPL	Yes	Low Income Adult/Child
27 HEALTHY KIDS GOLD - EXPANDED ELIGIBILITY	Yes	Low Income Child
28 AFDC/POVLEV PREG WOMAN/CHILD/CAT/NEEDY170% FPL	Yes	Low Income Adult/Child
2B AFDC/HOME CARE-CHILD/SEVERE DISAB/MEDI NEEDY	Yes	Severely Disabled Child
2C AFDC/CHILD WITH SEVERE DISABILITIES/CAT NEEDY	Yes	Severely Disabled Child
2D AFDC/CHILD WITH SEVERE DISABILITIES/MEDI NEEDY	Yes	Severely Disabled Child
2E AFDC/EXTENDED MA/FIRST 6 MONTH PERIOD/CAT NEEDY	Yes	Low Income Adult/Child
2F AFDC/EXT MA/SCND 6 MNTH PER/CAT NEEDY	Yes	Low Income Adult/Child
2H AFDC/POV LVL PREG WMN/CHILD/CAT NDY/REF170% FPL	Yes	Low Income Adult/Child
2K AFDC/HOME CARE-CHILD SEV DIS/CAT. NDY FOR INSTI	Yes	Severely Disabled Child
2U AFDC/AFDC-UP/MONEY PAYMENT/CATEGORICALLY NDY	Yes	Low Income Adult/Child
2V AFDC/AFDC-UP/CATEGORICALLY NEEDY/MA	Yes	Low Income Adult/Child
2W AFDC/AFDC-UP/MEDICALLY NEEDY	Yes	Low Income Adult/Child
2X ADFC/POV LVL PREG WOMEN/POV LVL CHLD CAT NEEDY	Yes	Low Income Adult/Child
30 ANB/CATEGORICALLY NEEDY	Yes	Disabled Physical
31 ANB/MONEY PAYMENT/CATEGORICALLY NEEDY	Yes	Disabled Physical
32 ANB/MEDICALLY NEEDY	Yes	Disabled Physical
40 IV-E-OR-MA /ADOPT SUB-CAT NEEDY	Yes	Low Income Child
41 AFDC/FC OR MONEY PAYMENT/CATEGORICALLY NDY	Yes	Low Income Child
42 AFDC/FC OR MEDICALLY NEEDY	Yes	Low Income Child
50 APTD/MENTAL/CATEGORICALLY NEEDY	Yes	Disabled Mental
51 APTD/MENTAL/MONEY PAYMENT/CATEGORICALLY NEEDY	Yes	Disabled Mental
52 APTD/MENTAL/MEDICALLY NEEDY	Yes	Disabled Mental
61 HEALTHY KIDS SILVER	No	Omitted
66 QUALIFIED MEDICARE BENEFICIARY - SLMB120	No	Omitted
67 QUALIFIED MEDICARE BENEFICIARY - SLMB135	No	Omitted
68 QUALIFIED MEDICARE BENEFICIARY - ODWI	No	Omitted
69 QMB	No	Omitted
70 APTD/PHYSICAL/CATEGORICALLY NEEDY	Yes	Disabled Physical
71 APTD/PHYSICAL/MONEY PAYMENT	Yes	Disabled Physical
72 APTD-PHYSICAL/MEDICALLY NEEDY	Yes	Disabled Physical
80 MEAD WITH ANB/APTD APPROVAL - BLIND	Yes	Disabled Physical
81 MEAD WITH ANB/APTD APPROVAL - PHYSICAL	Yes	Disabled Physical
82 MEAD WITH ANB/APTD APPROVAL - MENTAL	Yes	Disabled Mental
83 MEAD ONLY APPROVAL - BLIND	Yes	Disabled Physical
84 MEAD ONLY APPROVAL - PHYSICAL	Yes	Disabled Physical
85 MEAD ONLY APPROVAL - MENTAL	Yes	Disabled Mental
86 BREAST AND CERVICAL CANCER PROGRAM	Yes	Low Income Adult/Child

\* Age at beginning of the last month of reporting period is used to designate member as Child ≤18 or Adult >18.

### Appendix 3: Health Analysis Area Definitions



New Hampshire			New Hampshire		
Health Service Area	Zip Code	Zip Name	Health Service Area	Zip Code	Zip Name
Berlin	00169	Success	Franklin	03276	Tilton
Berlin	03570	Berlin	Franklin	03298	Tilton
Berlin	03581	Gorham	Franklin	03299	Tilton
Berlin	03588	Milan	Keene	03431	Keene
Berlin	03593	Randolph	Keene	03435	Keene
Claremont	03603	Charlestown	Keene	03441	Ashuelot
Claremont	03743	Claremont	Keene	03443	Chesterfield
Colebrook	00170	Second College Grant	Keene	03445	Sullivan
Colebrook	00186	Erving's Location	Keene	03446	Swanzy
Colebrook	00187	Dix Grant	Keene	03447	Fitzwilliam
Colebrook	03576	Colebrook	Keene	03448	Gilsum
Colebrook	03579	Errol	Keene	03450	Harrisville
Colebrook	03592	Pittsburg	Keene	03451	Hinsdale
Colebrook	03597	West Stewartstown	Keene	03455	Marlborough
Concord	03046	Dunbarton	Keene	03456	Marlow
Concord	03216	Andover	Keene	03457	Nelson
Concord	03218	Barnstead	Keene	03462	Spofford
Concord	03221	Bradford	Keene	03464	Stoddard
Concord	03224	Canterbury	Keene	03465	Troy
Concord	03225	Center Barnstead	Keene	03466	West Chesterfield
Concord	03229	Contoocook	Keene	03467	Westmoreland
Concord	03234	Epsom	Keene	03469	West Swanzy
Concord	03242	Henniker	Keene	03470	Winchester
Concord	03244	Hillsboro	Keene	03602	Alstead
Concord	03252	Lochmere	Keene	03604	Drewsville
Concord	03255	Newbury	Keene	03607	South Acworth
Concord	03258	Chichester	Keene	03608	Walpole
Concord	03261	Northwood	Keene	03609	North Walpole
Concord	03263	Pittsfield	Laconia	03220	Belmont
Concord	03268	Salisbury	Laconia	03226	Center Harbor
Concord	03272	South Newbury	Laconia	03227	Center Sandwich
Concord	03275	Suncook	Laconia	03237	Gilmanton
Concord	03278	Warner	Laconia	03246	Laconia
Concord	03280	Washington	Laconia	03247	Laconia
Concord	03301	Concord	Laconia	03249	Gilford
Concord	03302	Concord	Laconia	03253	Meredith
Concord	03303	Concord	Laconia	03254	Moultonborough
Concord	03304	Bow	Laconia	03256	New Hampton
Concord	03305	Concord	Laconia	03259	North Sandwich
Concord	03307	Loudon	Laconia	03269	Sanbornton
Concord	03837	Gilmanton Iron Works	Laconia	03289	Winnisquam
Derry	03038	Derry	Laconia	03883	South Tamworth
Derry	03041	East Derry	Lancaster	00185	Kilkenny
Derry	03073	North Salem	Lancaster	03582	Groveton
Derry	03079	Salem	Lancaster	03583	Jefferson
Derry	03087	Windham	Lancaster	03584	Lancaster
Derry	03811	Atkinson	Lancaster	03587	Meadows
Derry	03826	East Hampstead	Lancaster	03590	North Stratford
Derry	03841	Hampstead	Lebanon	03230	Danbury
Derry	03873	Sandown	Lebanon	03231	East Andover
Dover	03805	Rollinsford	Lebanon	03233	Elkins
Dover	03820	Dover	Lebanon	03240	Grafton
Dover	03821	Dover	Lebanon	03257	New London
Dover	03822	Dover	Lebanon	03260	North Sutton
Dover	03823	Madbury	Lebanon	03273	South Sutton
Dover	03824	Durham	Lebanon	03284	Springfield
Dover	03825	Barrington	Lebanon	03287	Wilmot
Dover	03869	Rollinsford	Lebanon	03601	Acworth
Dover	03878	Somersworth	Lebanon	03605	Lempster
Exeter	03042	Epping	Lebanon	03741	Canaan
Exeter	03044	Fremont	Lebanon	03745	Cornish
Exeter	03077	Raymond	Lebanon	03746	Cornish Flat
Exeter	03290	Nottingham	Lebanon	03748	Enfield
Exeter	03291	West Nottingham	Lebanon	03749	Enfield Center
Exeter	03819	Danville	Lebanon	03750	Etna
Exeter	03827	East Kingston	Lebanon	03751	Georges Mills
Exeter	03833	Exeter	Lebanon	03752	Goshen
Exeter	03842	Hampton	Lebanon	03753	Grantham
Exeter	03844	Hampton Falls	Lebanon	03754	Guild
Exeter	03848	Kingston	Lebanon	03755	Hanover
Exeter	03856	Newfields	Lebanon	03756	Lebanon
Exeter	03857	Newmarket	Lebanon	03765	Haverhill
Exeter	03858	Newton	Lebanon	03766	Lebanon
Exeter	03859	Newton Junction	Lebanon	03768	Lyme
Exeter	03865	Plaistow	Lebanon	03769	Lyme Center
Exeter	03874	Seabrook	Lebanon	03770	Meriden
Exeter	03885	Stratham	Lebanon	03773	Newport
Franklin	03235	Franklin	Lebanon	03777	Orford
Franklin	03243	Hill	Lebanon	03779	Piermont

New Hampshire			New Hampshire		
Health Service Area	Zip Code	Zip Name	Health Service Area	Zip Code	Zip Name
Lebanon	03781	Plainfield	Peterborough	03440	Antrim
Lebanon	03782	Sunapee	Peterborough	03442	Bennington
Lebanon	03784	West Lebanon	Peterborough	03444	Dublin
Littleton	03561	Littleton	Peterborough	03449	Hancock
Littleton	03574	Bethlehem	Peterborough	03452	Jaffrey
Littleton	03580	Franconia	Peterborough	03458	Peterborough
Littleton	03585	Lisbon	Peterborough	03461	Rindge
Littleton	03586	Sugar Hill	Peterborough	03468	West Peterborough
Littleton	03595	Twin Mountain	Plymouth	03215	Waterville Valley
Littleton	03598	Whitefield	Plymouth	03217	Ashland
Manchester	03032	Auburn	Plymouth	03222	Bristol
Manchester	03034	Candia	Plymouth	03223	Campton
Manchester	03036	Chester	Plymouth	03232	East Hebron
Manchester	03037	Deerfield	Plymouth	03241	Hebron
Manchester	03040	East Candia	Plymouth	03245	Holderness
Manchester	03045	Goffstown	Plymouth	03251	Lincoln
Manchester	03053	Londonderry	Plymouth	03262	North Woodstock
Manchester	03070	New Boston	Plymouth	03264	Plymouth
Manchester	03101	Manchester	Plymouth	03266	Rumney
Manchester	03102	Manchester	Plymouth	03274	Stinson Lake
Manchester	03103	Manchester	Plymouth	03279	Warren
Manchester	03104	Manchester	Plymouth	03282	Wentworth
Manchester	03105	Manchester	Plymouth	03293	Woodstock
Manchester	03106	Hooksett	Portsmouth	03801	Portsmouth
Manchester	03107	Manchester	Portsmouth	03802	Portsmouth
Manchester	03108	Manchester	Portsmouth	03803	Portsmouth
Manchester	03109	Manchester	Portsmouth	03804	Portsmouth
Manchester	03110	Bedford	Portsmouth	03840	Greenland
Manchester	03111	Manchester	Portsmouth	03843	Hampton
Manchester	03281	Weare	Portsmouth	03854	New Castle
Nashua	03031	Amherst	Portsmouth	03862	North Hampton
Nashua	03033	Brookline	Portsmouth	03870	Rye
Nashua	03048	Greenville	Portsmouth	03871	Rye Beach
Nashua	03049	Hollis	Rochester	03815	Center Strafford
Nashua	03051	Hudson	Rochester	03835	Farmington
Nashua	03052	Litchfield	Rochester	03839	Rochester
Nashua	03054	Merrimack	Rochester	03851	Milton
Nashua	03055	Milford	Rochester	03852	Milton Mills
Nashua	03057	Mont Vernon	Rochester	03855	New Durham
Nashua	03060	Nashua	Rochester	03866	Rochester
Nashua	03061	Nashua	Rochester	03867	Rochester
Nashua	03062	Nashua	Rochester	03868	Rochester
Nashua	03063	Nashua	Rochester	03884	Strafford
Nashua	03064	Nashua	Rochester	03887	Union
Nashua	03076	Pelham	Wolfeboro	03809	Alton
Nashua	03082	Lyndeborough	Wolfeboro	03810	Alton Bay
Nashua	03086	Wilton	Wolfeboro	03814	Center Ossipee
North Conway	00168	Beans Purchase	Wolfeboro	03816	Center Tuftonboro
North Conway	00172	Hadleys Purchase	Wolfeboro	03830	East Wakefield
North Conway	00173	Cutts Grant	Wolfeboro	03836	Freedom
North Conway	00174	Beans Grant	Wolfeboro	03850	Melvin Village
North Conway	00176	Sargents Purchase	Wolfeboro	03853	Mirror Lake
North Conway	00177	Pinkham Grant	Wolfeboro	03864	Ossipee
North Conway	00179	Chandlers Purchase	Wolfeboro	03872	Sanbornville
		Thompson/Meserves	Wolfeboro	03882	Effingham
North Conway	00180	Purchase	Wolfeboro	03886	Tamworth
North Conway	00181	Low and Burbanks Grant	Wolfeboro	03894	Wolfeboro
North Conway	00182	Crawfords Purchase	Wolfeboro	03896	Wolfeboro Falls
North Conway	00183	Greens Grant	Wolfeboro	03897	Wonalancet
North Conway	00184	Martins Location	Woodsville	03238	Glenciff
North Conway	03575	Bretton Woods	Woodsville	03740	Bath
North Conway	03589	Mount Washington	Woodsville	03771	Monroe
North Conway	03812	Bartlett	Woodsville	03774	North Haverhill
North Conway	03813	Center Conway	Woodsville	03780	Pike
North Conway	03817	Chocorua	Woodsville	03785	Woodsville
North Conway	03818	Conway			
North Conway	03832	Eaton Center			
North Conway	03838	Glen			
North Conway	03845	Intervale			
North Conway	03846	Jackson			
North Conway	03847	Kearsarge			
North Conway	03849	Madison			
North Conway	03860	North Conway			
North Conway	03875	Silver Lake			
North Conway	03890	West Ossipee			
Peterborough	03043	Francestown			
Peterborough	03047	Greenfield			
Peterborough	03071	New Ipswich			
Peterborough	03084	Temple			



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