Colorado Medicaid HEDIS® 2011 Results
STATEWIDE AGGREGATE REPORT

October 2011

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

HSAG HEALTH SERVICES ADVISORY GROUP

3133 East Camelback Road, Suite 300 • Phoenix, AZ 85016

Phone 602.264.6382 • Fax 602.241.0757

HSAG HEALTH SERVICES ADVISORY GROUP

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1. Executive Summary

Introduction

During 2010, the Colorado Department of Health Care Policy and Financing (the Department) offered managed care services to Colorado Medicaid members through the fee-for-service (FFS) program, the Department-run managed care program (Primary Care Physician Program [PCPP]), one managed care organization (MCO)—Denver Health Medicaid Choice (DHMC), and one prepaid inpatient health plan (PIHP)—Rocky Mountain Health Plans (RMHP). This report refers to these entities as Colorado Medicaid health plans. As of December 2009, these programs covered 485,000 Coloradans.[1-1] Colorado's Medicaid benefits and services include but are not limited to physician visits, nurse practitioner or midwife services, early and periodic screening, diagnosis and treatment services, inpatient psychiatric services, telemedicine services, prenatal care services, lab and x-ray, inpatient and outpatient hospital services, private duty nursing services, Program of All-inclusive Care for Elderly (PACE), durable medical equipment and disposable supplies, and Home and Community-Based Services (HCBS).[1-2]

To evaluate performance levels, the Department implemented a system to provide an objective, comparative review of the Colorado Medicaid health plans' quality-of-care outcomes and performance measures. One component of the evaluation system was based on the National Committee of Quality Assurance's (NCQA's) Healthcare Effectiveness Data and Information Set (HEDIS®). The Department selected 20 performance measures of which 19 were from the standard Medicaid HEDIS reporting set to evaluate the Colorado Medicaid health plans' performance and for public reporting.[1-3]

Each health plan underwent an NCQA HEDIS Compliance Audit™ through a licensed organization. All final audit results were submitted to Health Services Advisory Group, Inc. (HSAG), which was contracted by the Department to provide external quality review (EQR) services. HSAG objectively evaluated each health plan's current performance level relative to national Medicaid percentiles.

HSAG has examined the measures along five different dimensions of care: (1) Pediatric Care, (2) Access to Care, (3) Living With Illness, (4) Preventive Screening, and (5) Use of Services. This approach to the analysis is designed to encourage consideration of the measures as a whole rather than in isolation, and to consider the strategic and tactical changes required to improve overall performance.

[1-1] Colorado Department of Health Care Policy and Financing. *2009 Annual Report*. Denver, CO: Colorado Department of Health Care Policy and Financing; 2010.

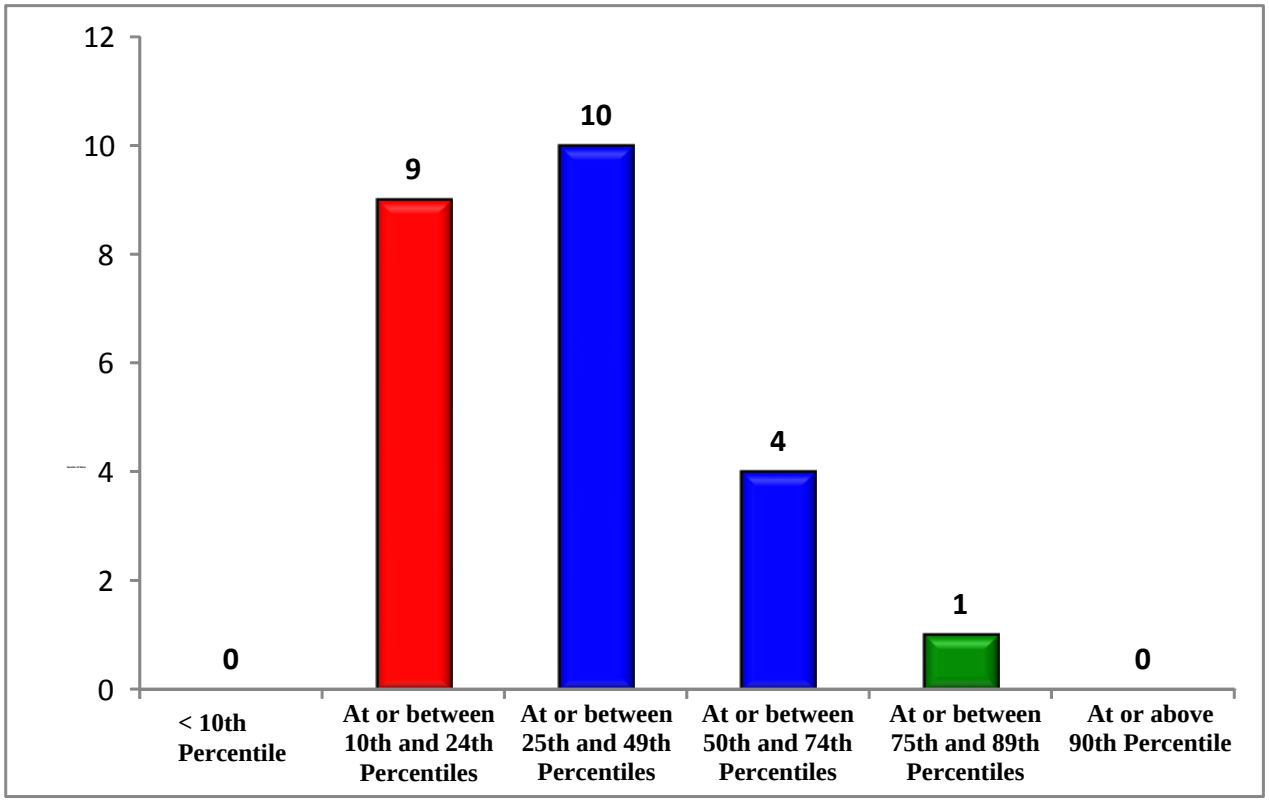
[1-2] Colorado Department of Health Care Policy and Financing. Colorado Medicaid Benefits and Services. January 2011. Available at: http://www.colorado.gov/cs/Satellite?blobcol=urldata&blobheader=application%2Fpdf&blobkey=id&blobtable=MungoBlobs&blobwhere=1251686027162&ssbinary=true. Accessed on September 6, 2011.

[1-3] The recorded BMI indicator was the only non-HEDIS performance measure required for fiscal year (FY) 2011 reporting. This report does not include any results related to this indicator.

Key Findings

Figure 1-1 shows the Colorado Medicaid program's performance compared with national HEDIS 2010 Medicaid percentiles. The columns represent the number of Colorado Medicaid weighted averages falling into each HEDIS percentile range.

Figure 1-1—Colorado Medicaid Weighted Averages



Of the 24 weighted averages[1-4] that were comparable to national percent data:

- Zero (or 0.0 percent) were below the 10th percentile
- Nine (or 37.5 percent) were at or above the 10th percentile and below the 25th percentile
- Ten (or 41.7 percent) were at or above the 25th percentile and below the 50th percentile
- Four (or 16.7 percent) were at or above the 50th percentile and below the 75th percentile
- One (or 4.2 percent) was at or above the 75th percentile and below the 90th percentile
- Zero (or 0.0 percent) were at or above the 90th percentile

Five, or 20.8 percent, of the Colorado Medicaid weighted averages were at or above the 50th percentile. None of the measures' results were below the 10th percentile, or at or above the 90th percentile.

[1-4] The measures under the Use of Services dimension were excluded from this graph since percentile rankings of these measures do not necessarily correspond to greater or lower performance.

Summary of Performance

For the Colorado Medicaid program, most performance measures can be categorized into four dimensions: Pediatric Care, Access to Care, Living With Illness, and Preventive Screening. Table 1-1 presents a summary of the health plans' performance at the dimension level. For Use of Services measures, since higher or lower rates do not necessarily denote better or poorer performance, performance summary for this dimension is not reported in Table 1-1. For plan-specific results for this dimension, refer to the findings in the Use of Services section of this report.

Table 1-1—Performance Summary

Plan Name	Pediatric Care	Access to Care	Living With Illness	Preventive Screening
Fee-for-Service	★★★	★★	★★★	★★★
Primary Care Physician Program	★★★	★★★	★★★	★★
Denver Health Medicaid Choice	★★★★	★★	★★★	★★★★★
Rocky Mountain Health Plans	★★★★	★★★★	★★★	★★★

Of the four dimensions, plan performance was better in the Pediatric Care dimension than the other dimensions. For the Living With Illness dimension, plan performance was uniform (all Colorado Medicaid health plans attaining three stars). Individual plan performance for the Access to Care and Preventive Screening dimensions was diverse, with at least one plan reporting generally fair performance (★★) and at least one plan reporting good performance (★★★★) or better.

Table 1-2 presents the Colorado Medicaid statewide weighted averages for each measure[1-5] from HEDIS 2009 to HEDIS 2011. The figures displayed in the comparison column reflect the percentage point difference between HEDIS 2010 and HEDIS 2011 rates. Trended results for the Use of Services are reported in Table 1-3.

Table 1-2—Colorado Medicaid Statewide Weighted Averages, HEDIS 2009–2011

HEDIS Measures	2009	2010	2011	2010 to 2011 Comparison
Pediatric Care				
Childhood Immunization Status—Combination 2	71.9%	76.4%	70.1%	**-6.3**
Childhood Immunization Status—Combination 3	65.8%	71.9%	67.2%	**-4.7**
*Well-Child Visits in the First 15 Months of Life—Zero Visits**	30.1%	5.6%	2.1%	**-3.5**
Well-Child Visits in the First 15 Months of Life—Six or More Visits	31.6%	57.2%	65.9%	**+8.7**

[1-5] The Use of Services dimension measures were excluded from this trending table since higher or lower values of these measures do not necessarily correspond to greater or lower performance.

Table 1-2—Colorado Medicaid Statewide Weighted Averages, HEDIS 2009–2011				
HEDIS Measures	**2009**	**2010**	**2011**	**2010 to 2011 Comparison**
Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life	47.7%	60.6%	62.2%	**+1.6**
Adolescent Well-Care Visits	29.2%	37.1%	42.9%	**+5.8**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—BMI Assessment: Total	—	31.9%	35.5%	**+3.6**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Nutrition Counseling: Total	—	49.0%	45.7%	**-3.3**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Physical Activity Counseling: Total	—	31.4%	32.8%	**+1.4**
Access to Care				
Prenatal and Postpartum Care—Timeliness of Prenatal Care	67.1%	65.1%	75.4%	**+10.3**
Prenatal and Postpartum Care—Postpartum Care	54.2%	60.1%	55.3%	**-4.8**
Children's and Adolescents' Access to Primary Care Practitioners—Ages 12 to 24 Months	55.6%	93.2%	95.6%	**+2.4**
Children's and Adolescents' Access to Primary Care Practitioners—Ages 25 Months to 6 Years	44.6%	81.1%	83.5%	**+2.4**
Children's and Adolescents' Access to Primary Care Practitioners—Ages 7 to 11 Years	43.2%	83.0%	85.4%	**+2.4**
Children's and Adolescents' Access to Primary Care Practitioners—Ages 12 to 19 Years	43.9%	82.6%	85.5%	**+2.9**
Adults' Access to Preventive/Ambulatory Health Services—Total	75.9%	80.2%	78.8%	**-1.4**
Living With Illness				
Annual Monitoring for Patients on Persistent Medications—Total	81.8%	83.0%	84.2%	**+1.2**
Use of Imaging Studies for Low Back Pain	—	78.1%	71.6%	**-6.5**
Controlling High Blood Pressure	—	44.6%	47.8%	**+3.2**
Pharmacotherapy Management of COPD Exacerbation—Bronchodilator	—	32.0%	68.2%	**+36.2**
Pharmacotherapy Management of COPD Exacerbation—Systemic Corticosteroid	—	23.8%	55.1%	**+31.3**
Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis	—	42.5%	28.3%	**-14.2**
Preventive Screening				
Chlamydia Screening in Women—Total	—	55.4%	55.8%	**+0.4**
Adult BMI Assessment	—	33.2%	43.4%	**+10.2**

Note: Rates shaded in green with a green font indicate a statistically significant improvement from the prior year.
Rates shaded in red with a red font indicate a statistically significant decrease from the prior year.
* Lower rates are better for this measure.

Seventeen of 24 measures demonstrated an improvement from last year's results, with eleven measures showing statistically significant improvement. Four measures (*Prenatal and Postpartum Care—Timeliness of Prenatal Care*, *Pharmacotherapy Management of COPD Exacerbation—Bronchodilator*, *Pharmacotherapy Management of COPD Exacerbation—Systemic Corticosteroid*, and *Adult BMI Assessment*) increased by more than 10 percentage points.

Three measures had a significant decline from last year, of which one measure (*Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis*) decreased 14.2 percentage points. These rates suggest opportunities for improvement for these measures.

Table 1-3 presents the trended results for the Use of Services dimension measures.

Table 1-3—Colorado Medicaid Statewide Weighted Averages, HEDIS 2009–2011

HEDIS Measures	2009	2010	2011	2010 to 2011 Comparison
Use of Services*				
Inpatient Utilization: General Hospital/Acute Care-Total Inpatient—Discharges Per 1,000 MM: Total	11.3	13.1	11.9	**-1.2**
Inpatient Utilization: General Hospital/Acute Care-Total Inpatient—Average Length of Stay: Total	3.9	4.1	4.4	**+0.3**
Inpatient Utilization: General Hospital/Acute Care-Medicine—Discharges Per 1,000 MM: Total	4.0	5.7	5.3	**-0.4**
Inpatient Utilization: General Hospital/Acute Care-Medicine—Average Length of Stay: Total	4.3	3.9	4.2	**+0.3**
Inpatient Utilization: General Hospital/Acute Care-Surgery—Discharges Per 1,000 MM: Total	1.6	2.2	2.2	**0.0**
Inpatient Utilization: General Hospital/Acute Care-Surgery—Average Length of Stay: Total	7.6	8.2	8.6	**+0.4**
Inpatient Utilization: General Hospital/Acute Care-Maternity—Discharges Per 1,000 MM: Total	11.6	10.7	8.6	**-2.1**
Inpatient Utilization: General Hospital/Acute Care-Maternity—Average Length of Stay: Total	2.5	2.5	2.5	**0.0**
Ambulatory Care—Outpatient Visits Per 1,000 MM: Total	358.1	383.6	351.4	**-32.2**
Ambulatory Care—Emergency Department Visits Per 1,000 MM: Total	58.8	69.8	63.0	**-6.8**
Frequency of Selected Procedures—Bariatric Weight Loss Surgery Procedures Per 1,000 MM: Ages 0–19 Years	—	—	0.0	—
Frequency of Selected Procedures—Bariatric Weight Loss Surgery Procedures Per 1,000 MM: Ages 20–44 Years	—	—	0.1	—
Frequency of Selected Procedures—Bariatric Weight Loss Surgery Procedures Per 1,000 MM: Ages 45–64 Years	—	—	0.1	—
Frequency of Selected Procedures—Tonsillectomy Procedures Per 1,000 MM: Ages 0–9 Years	0.7	0.8	0.8	**0.0**
Frequency of Selected Procedures—Tonsillectomy Procedures Per 1,000 MM: Ages 10–19 Years	0.4	0.6	0.6	**0.0**

Table 1-3—Colorado Medicaid Statewide Weighted Averages, HEDIS 2009–2011				
HEDIS Measures	**2009**	**2010**	**2011**	**2010 to 2011 Comparison**
Use of Services*				
Frequency of Selected Procedures—Abdominal Hysterectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.3	0.4	0.3	**-0.1**
Frequency of Selected Procedures—Abdominal Hysterectomy Procedures Per 1,000 MM: Ages 45–64 Years	0.4	0.5	0.4	**-0.1**
Frequency of Selected Procedures—Vaginal Hysterectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.4	0.4	0.4	**0.0**
Frequency of Selected Procedures—Vaginal Hysterectomy Procedures Per 1,000 MM: Ages 45–64 Years	0.4	0.3	0.3	**0.0**
Frequency of Selected Procedures—Open Cholecystectomy Procedures Per 1,000 MM: Females-Ages 15–44 Years	0.0	0.0	0.0	**0.0**
Frequency of Selected Procedures—Open Cholecystectomy Procedures Per 1,000 MM: Females-Ages 45–64 Years	0.1	0.1	0.1	**0.0**
Frequency of Selected Procedures—Open Cholecystectomy Procedures Per 1,000 MM: Males-Ages 30–64 Years	0.2	0.1	0.1	**0.0**
Frequency of Selected Procedures—Closed Cholecystectomy Procedures Per 1,000 MM: Females-Ages 15–44 Years	1.2	1.2	1.1	**-0.1**
Frequency of Selected Procedures—Closed Cholecystectomy Procedures Per 1,000 MM: Females-Ages 45-64 Years	1.0	0.9	0.7	**-0.2**
Frequency of Selected Procedures—Closed Cholecystectomy Procedures Per 1,000 MM: Males-Ages 30–64 Years	0.5	0.4	0.4	**0.0**
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Females-Ages 20–44 Years	0.3	0.4	0.2	**-0.2**
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Females-Ages 45–64 Years	0.9	1.0	0.7	**-0.3**
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Males-Ages 20–44 Years	0.6	0.6	0.4	**-0.2**
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Males-Ages 45–64 Years	0.9	1.1	0.6	**-0.5**
Frequency of Selected Procedures—Mastectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.1	0.0	0.0	**0.0**
Frequency of Selected Procedures—Mastectomy Procedures Per 1,000 MM: Ages 45–64 Years	0.3	0.6	0.5	**-0.1**
Frequency of Selected Procedures—Lumpectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.1	0.2	0.1	**-0.1**
Frequency of Selected Procedures—Lumpectomy Procedures Per 1,000 MM: Ages 45-64 Years	0.6	0.8	0.7	**-0.1**
Antibiotic Utilization—Average Number of Prescriptions PMPY for Antibiotics: Total	0.8	0.9	0.9	**0.0**
Antibiotic Utilization—Average Days Supplied per Antibiotic Prescription: Total	9.8	9.7	9.7	**0.0**

Table 1-3—Colorado Medicaid Statewide Weighted Averages, HEDIS 2009–2011				
HEDIS Measures	**2009**	**2010**	**2011**	**2010 to 2011 Comparison**
Use of Services*				
Antibiotic Utilization—Average Number of Prescriptions PMPY for Antibiotics of Concern: Total	0.3	0.3	0.3	**0.0**
Antibiotic Utilization—Percentage of Antibiotics of Concern of All Antibiotic Prescriptions: Total	38.3%	37.5%	37.0%	**-0.5**

*For measures in the Use of Services dimension (except *Antibiotic Utilization—Percentage of Antibiotics of Concern of All Antibiotic Prescriptions: Total)* , statistical tests across years were not performed due to lack of variances reported in the Interactive Data Submission System (IDSS) file; differences in rates were reported without statistical test results.

Recommendations

The Department and the health plans should focus on low-performing areas for quality improvement. The dimension for which the health plans demonstrated the lowest level of performance was Access to Care, with two of the health plans rating with fair performance. Methods that can be used to improve Access to Care include the following:

- **Coordination of Care**—Plans that coordinate care and validate practice guidelines between internists, family practitioners and obstetricians can positively affect maternal health. Incorporating alternative types of providers such as nurses and midwives have been associated with increased member satisfaction. Interventions that incorporate member tools for well-child visits and immunization schedules as part of the prenatal visit increase the corresponding HEDIS rates. Additionally, providing members with schedules of future screening requirements for breast and cervical cancer positively affect members' compliance with the clinical guidelines.
- **Reduce Waiting Time for Appointments**—A study of children's nonurgent visits conducted on two urban emergency departments found that long office waiting times was a commonly cited reason that parents chose the emergency department for care. Practices can reduce delays for appointments by improving office efficiency and scheduling practices. Implementation requires some adjustment for practice staff because the system conflicts with long-held physician and staff views that waiting is acceptable for patients who do not have urgent problems.
- **Patient Reminder Systems**—Practice scheduling systems are the point of entry to primary care health services for adults and thus directly determine access to care at the practice level. Patient reminder systems are simple, effective scheduling interventions that can improve outcomes for adults. Patient reminder systems include mailed, electronically mailed, or telephoned messages to members sent before prescheduled appointments. Available reminder system studies show that these systems help to reduce patient no-show rates in a variety of settings and reminder types.

The two measures, *Imaging Studies for Low Back Pain* and *Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis*, within the Living With Illness dimension demonstrated low performance. Methods that can be used to improve these two measures include the following:

- **Delayed Prescribing Practices**—Delayed prescribing includes the delay in prescribing antibiotics unless a patient has continuing, severe symptoms for a specified time after an initial visit with a provider. Delayed prescribing practices rationalize antibiotic use and reduce overall use of antibiotics, change consulting patterns, and allow for the adequate control of symptoms. Studies recommend delaying prescribing antibiotics for 48 to 72 hours. In one study, delaying the prescribing of antibiotics for 48 hours resulted in 62 percent of patients not using antibiotics.[1-6]
- **Provide Alternative Therapy**—In managing patients' expectations, for those patients who do not improve with self-care options, clinicians should consider recommending nonpharmacologic therapy with proven benefits. For example, patients with chronic or subacute low back pain may benefit from intensive interdisciplinary rehabilitation, exercise therapy, acupuncture, massage therapy, spinal manipulation, yoga, cognitive-behavioral therapy, or progressive relaxation.

Any health plan can improve its HEDIS measure performance by conducting a barrier analysis to identify any hindrances and implement targeted interventions. Additionally, health plans can improve their data completeness by monitoring providers and help those providers to improve completeness of claims and encounter data, which will reduce the burden of medical record review. Health plans should consider alternative sources of supplemental data that can be made available to them, which would be another method to improve data completeness.

The Department should also continue its efforts to obtain complete medical service data from federally qualified health centers (FQHCs) and/or rural health clinics (RHCs). Contractual payment arrangements for FQHCs and RHCs reimburse for only one specific revenue code per claim submission. Other services provided during a given outpatient visit not being consistently submitted may result in underreporting of services provided by these entities.

Limitations and Considerations

The following potential limitations should be considered when reviewing the reported rates and weighted averages for the Colorado Medicaid health plans:

- Independent audits were conducted for the Colorado Medicaid plans by multiple licensed organizations (LOs). Any issues identified, along with the impact on the reported rates, were captured from the final audit reports (FARs). HSAG was not always able to determine the reasoning behind the auditor's findings and subsequent resolution. Each health plan should consider requiring that the independent auditors include organizational strengths, improvements made as a result of prior recommendations, and opportunities for improvement in the FARs.
- In general, health plans can choose to report some measures using the hybrid methodology as allowed by NCQA. However, the Department has identified an acceptable methodology for each selected measure. Health plans that were required to report rates using the administrative

[1-6] Little P. "Delayed Prescribing—A Sensible Approach to the Management of Acute Otitis Media" *JAMA*. 2006; 296(10): 1290–1291.

method in lieu of using medical record data to augment claims and encounter data typically display lower performance. In addition, for hybrid measures there are no benchmarks for administrative only rates, meaning that a plan that reports only an administrative rate may appear to have low performance when compared to national benchmarks. Comparing administrative only rates against national percentiles should be done with caution.

- Some of the measures presented in this report may not have adequate trending information because (1) the health plans did not report the measure in the past, or (2) significant changes were made to the measures' specifications.

Summary of Colorado Medicaid HEDIS 2011 Measures

HEDIS includes a standard set of measures that can be reported by health plans nationwide. The Department selected 19 HEDIS measures from the standard Medicaid set as the Colorado Medicaid measures, shown in Table 2-1. These measures represent a total of 43 distinct rates.

Table 2-1—Colorado Medicaid HEDIS 2011 Measures

Standard HEDIS 2011 Measures	2011 Colorado Medicaid Measures	Administrative or Hybrid
1. *Childhood Immunization Status*	1. *Childhood Immunization Status—Combination 2* 2. *Childhood Immunization Status—Combination 3*	*Hybrid*
2. *Well-Child Visits in the First 15 Months of Life*	3. *Well-Child Visits in the First 15 Months of Life—Zero Visits* 4. *Well-Child Visits in the First 15 Months of Life—Six or More Visits*	*Hybrid*
3. *Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life*	5. *Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life*	*Hybrid*
4. *Adolescent Well-Care Visits*	6. *Adolescent Well-Care Visits*	*Hybrid*
5. *Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents*	7. *Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—BMI Assessment: Total* 8. *Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Nutrition Counseling: Total* 9. *Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Physical Activity Counseling: Total*	*Hybrid*
6. *Prenatal and Postpartum Care*	10. *Prenatal and Postpartum Care—Timeliness of Prenatal Care* 11. *Prenatal and Postpartum Care—Postpartum Care*	*Hybrid*
7. *Children's and Adolescents' Access to Primary Care Practitioners*	12. *Children's and Adolescents' Access to Primary Care Practitioners—Ages 12 to 24 Months* 13. *Children's and Adolescents' Access to Primary Care Practitioners—Ages 25 Months to 6 Years* 14. *Children's and Adolescents' Access to Primary Care Practitioners—Ages 7 to 11Years* 15. *Children's and Adolescents' Access to Primary Care Practitioners—Ages 12 to 19 Years*	*Administrative*
8. *Adults' Access to Preventive/Ambulatory Health Services*	16. *Adults' Access to Preventive/Ambulatory Health Services—Total*	*Administrative*
9. *Annual Monitoring for Patients on Persistent Medications*	17. *Annual Monitoring for Patients on Persistent Medications—Total*	*Administrative*
10. *Use of Imaging Studies for Low Back Pain*	18. *Use of Imaging Studies for Low Back Pain*	*Administrative*
11. *Controlling High Blood Pressure*	19. *Controlling High Blood Pressure*	*Hybrid*

Table 2-1—Colorado Medicaid HEDIS 2011 Measures		
Standard HEDIS 2011 Measures	**2011 Colorado Medicaid Measures**	**Administrative or Hybrid**
12. *Pharmacotherapy Management of COPD Exacerbation*	20. *Pharmacotherapy Management of COPD Exacerbation—Bronchodilator* 21. *Pharmacotherapy Management of COPD Exacerbation—Systemic Corticosteroid*	*Administrative*
13 *Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis*	22. *Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis*	*Administrative*
14. *Chlamydia Screening in Women*	23. *Chlamydia Screening in Women—Total*	*Administrative*
15. *Adult BMI Assessment*	24. *Adult BMI Assessment*	*Hybrid*
16. *Inpatient Utilization—General Hospital/Acute Care*	25. *General Hospital/Acute Care—Total Inpatient* 26. *General Hospital/Acute Care—Medicine* 27. *General Hospital/Acute Care—Surgery* 28. *General Hospital/Acute Care—Maternity*	*Administrative*
17. *Ambulatory Care*	29. *Ambulatory Care—Outpatient Visits* 30. *Ambulatory Care—Emergency Department (ED) Visits*	*Administrative*
18. *Frequency of Selected Procedures*	31. *Frequency of Selected Procedures—Bariatric Weight Loss Surgery* 32. *Frequency of Selected Procedures—Tonsillectomy* 33. *Frequency of Selected Procedures—Abdominal Hysterectomy* 34. *Frequency of Selected Procedures—Vaginal Hysterectomy* 35. *Frequency of Selected Procedures—Open Cholecystectomy* 36. *Frequency of Selected Procedures—Closed Cholecystectomy* 37. *Frequency of Selected Procedures—Back Surgery* 38. *Frequency of Selected Procedures—Mastectomy* 39. *Frequency of Selected Procedures—Lumpectomy*	*Administrative*
19. *Antibiotic Utilization*	40. *Antibiotic Utilization—Average Number of Prescriptions Per Member Per Year (PMPY) for Antibiotics* 41. *Antibiotic Utilization—Average Days Supplied per Antibiotic Prescription* 42. *Antibiotic Utilization—Average Number of Prescriptions PMPY for Antibiotics of Concern* 43. *Antibiotic Utilization—Percentage of Antibiotics of Concern of All Antibiotic Prescriptions*	*Administrative*

Results of trending the weighted averages as well as the comparison of health plans' performance for the measures listed in Table 2-1 are presented in the following sections by dimension. For *Inpatient Utilization—General Hospital/Acute Care*, *Ambulatory Care*, *Frequency of Selected Procedures*, and *Antibiotic Utilization* measures, since high/low rates reported in the Interactive Data Submission System (IDSS) files did not take into account the demographic and clinical conditions of an eligible population, they are considered utilization-based measures and not performance measures. As such, a trending discussion and performance summary are not included for these measures. Results for the antigen-specific indicators for *Childhood Immunization Status*,

therapeutic agent-specific indicators for *Annual Monitoring for Patients on Persistent Medications* and age-cohort indicators under the *Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents, Adults' Access to Preventive/Ambulatory Health Services,* and *Chlamydia Screening in Women* are displayed in Appendices A (Tabular Results) and B (Trend Tables).

Audit Results

Through the audit process, each measure reported by a health plan is assigned an NCQA-defined audit result. Measures can receive one of four predefined audit results: *Report (R), Not Applicable (NA), Not Report (NR),* and *No Benefit (NB).* An audit result of *R* indicates that the health plan complied with all HEDIS specifications to produce an unbiased, reportable rate or rates, which can be released for public reporting. Although a health plan may have complied with all applicable specifications, the denominator identified may be considered too small to report a valid rate; and the measure would have been assigned an *NA* audit result. An audit result of *NR* indicates that the rate could not be publicly reported because the measure deviated from HEDIS specifications such that the reported rate was significantly biased, a health plan chose not to report the measure, or a health plan was not required to report the measure. An *NB* audit result indicates that the health plan did not offer the benefit required by the measure.

Dimensions of Care

HSAG examined five different dimensions of care for Colorado Medicaid members: Pediatric Care, Access to Care, Living With Illness, Preventive Screening, and Use of Services. This approach to the analysis is designed to encourage health plans to consider the key measures as a whole rather than in isolation, and to consider the strategic and tactical changes required to improve overall performance.

Changes to Measures

For the 2011 HEDIS reporting year, NCQA made modifications to the following measures included in this report, which may impact trending and/or comparisons to national data.

Childhood Immunization Status

- Revised dosing requirements for HiB and Rotavirus vaccines.
- Defined 6 months of age for influenza as "180 days."
- Clarified that the prior year's audited, product line-specific rate may be used for sample size reduction.

Well-Child Visits in the First 15 Months of Life

- Updated ICD-9-CM codes to identify well-child visits.

Adults' Access to Preventative/Ambulatory Health Services

- Deleted UB revenue codes that identify preventive/ambulatory health services.

Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents

- Added an anchor date to the eligible population criteria.
- Revised the age in the description to match the eligible population age criteria.
- Deleted UB revenue code(s) that identify an outpatient visit.
- Clarified the use of member-reported BMIs in the Note section.

Adults' Access to Preventive/Ambulatory Health Services

- Deleted UB revenue codes that identified preventive/ambulatory health services.

Prenatal and Postpartum Care

- Updated Current Procedural Terminology (CPT) and Logical Observation Identifiers Names and Codes (LOINC) to identify prenatal and postpartum care visits.
- Clarified that ultrasounds and lab results alone should not be considered a visit in the Note section.
- Added a practitioner type requirement to the *Postpartum Care* numerator.

Annual Monitoring for Patients on Persistent Medications

- Deleted obsolete LOINC code(s).

Use of Imaging Studies for Low Back Pain

- Deleted UB revenue code(s) that identify visit types.

Pharmacotherapy Management of COPD Exacerbation

- Revised the definition of "active prescription" for acute inpatient claims/encounters.
- Removed "Exclusions based on direct transfers to another facility" and "Exclusions based on readmissions."
- Deleted UB Revenue code(s) that identify visit types.

Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis

- Deleted UB revenue code(s) that identify acute bronchitis.

Chlamydia Screening in Women

- Revised the age in the description to match the eligible population age criteria.
- Added LOINC codes to capture screening data.
- Deleted and/or added CPT codes, Healthcare Common Procedure Coding System (HCPCS) codes, and International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9 CM) diagnosis code(s) that identify sexually active women and that identify exclusions for this measure.

Adult BMI Assessment

- Added an anchor date to the eligible population criteria.
- Deleted UB revenue code(s) that identify outpatient visits.

Inpatient Utilization

- Clarified that each discharge should count in the Total category and only one other category based on the hierarchy described in the measure.

Ambulatory Care Utilization

- Removed "Ambulatory surgeries and procedures" and "Observation room stays" categories.
- Revised the CPT and UB revenue codes to identify emergency department (ED) visits.

Frequency of Selected Procedures

- Added bariatric weight loss surgery to procedures.
- Retired myringotomy, nonobstetric dilation and curettage (D&C), partial excision of large intestine, and reduction of fracture of femur from procedures.
- Replaced percutaneous transluminal coronary angioplasty (PTCA) with percutaneous coronary intervention (PCI) throughout the measure.
- Added and/or deleted HCPCS or ICD-9 codes to identify selected procedures.

Performance Levels

The purpose of identifying performance levels is to compare the quality of services provided to Colorado Medicaid health plan consumers to national percentiles and ultimately improve the Colorado Medicaid weighted average for all of the measures. The high performance level (HPL) represents current high performance in national Medicaid managed care, and the low performance level (LPL) represents low performance nationally. Health plans should focus their efforts on reaching and/or maintaining the HPL for each measure, rather than comparing themselves to other Colorado Medicaid health plans. Percentile rankings of measures in Use of Services dimension do not necessarily correspond to better or lower performance. Therefore, performance level analyses were not applied to these measures.

Comparative information in this report is based on the national HEDIS 2010 Medicaid percentiles, which are the most recent data available from NCQA. The results displayed in this report were rounded to the first decimal place to be consistent with the display of national percentiles. There are some instances in which the rounded rate may appear the same; however, the more precise rates are not identical. In these instances, the hierarchy of the scores in the graphs is displayed in the correct order.

For most measures included in this report, the 90th percentile indicates the HPL and the 25th percentile represents the LPL. This means that Colorado Medicaid health plans with reported rates above the 90th percentile (HPL) rank in the top 10 percent of all health plans nationally. Similarly, health plans reporting rates below the 25th percentile (LPL) rank in the bottom 25 percent nationally of all health plans nationally.

For one measure, *Well-Child Visits in the First 15 Months of Life—Zero Visits*, the 10th percentile (rather than the 90th percentile) represents excellent performance and the 75th percentile (rather than the 25th percentile) represents below average performance. For this measure only, a *lower* rate (i.e., less “no-visits”) indicates better performance and better care.

Star Ratings

To summarize each plan's overall performance at the dimension level, the health plan's percentile rank based on NCQA's HEDIS 2010 Medicaid percentiles were aggregated into a 5-star rating system shown in Table 2-2 below.

Table 2-2—Star Rating Summary

Performance Star	Description
Excellent Performance (★★★★★)	indicates a rate at or above the 90th percentile
Good Performance (★★★★)	indicates a rate at or above the 75th percentile and below the 90th percentile
Average Performance (★★★)	indicates a rate at or above the 25th percentile and below the 75th percentile
Fair Performance (★★)	indicates a rate at or above the 10th percentile and below the 25th percentile
Poor Performance (★)	indicates a rate below the 10th percentile
NA (No stars assigned)	indicates NA audit designation (i.e., too small denominator size)
NR (No stars assigned)	indicates NR audit designation (i.e., not reported)
NB (No stars assigned)	indicates NB audit designation (i.e., no benefit)
NC (No stars assigned)	indicates Not Comparable (i.e., measure not comparable to national percentiles or national percentiles not available)

For the *Well-Child Visits in the First 15 Months of Life—Zero Visits* measure, where lower rates represent better performance, the percentiles were rotated to align with performance (e.g., if the *Well-Child Visits in the First 15 Months of Life—Zero Visits* rate was at or above the 10th percentile and below the 25th percentile, it would be inverted to be at or above the 75th percentile and below the 90th percentile to represent the level of performance).

The number of stars was then aggregated across all measures within each dimension to create a single star rating for that dimension. Similarly, the health plan's overall performance across all dimensions was reported by aggregating the number of stars from all measures.

Performance Trend Analysis

Appendix B provides the results of the trend analysis. For purposes of this analysis, the health plans' HEDIS 2011 results were compared to their HEDIS 2010 results for each measure, where applicable, using Pearson's Chi-square tests. Statistical test results reflect each year's measure rate and a comparison between the HEDIS 2010 and 2011 data. The trends are shown in the following example with specific notations.

Table 2-3—Performance Trend Analysis Summary

HEDIS 2010–2011 Difference	Interpretation
+2.5	The HEDIS 2011 rate is 2.5 percentage points *higher* than the HEDIS 2010 rate.
-2.5	The HEDIS 2011 rate is 2.5 percentage points *lower* than the HEDIS 2010 rate.
+2.5	The HEDIS 2011 rate is 2.5 percentage points *statistically significantly higher* than the HEDIS 2010 rate.
-2.5	The HEDIS 2011 rate is 2.5 percentage points *statistically significantly lower* than the HEDIS 2010 rate.

Please note that since some utilization measures under *Inpatient Utilization—General Hospital/Acute Care*, *Ambulatory Care*, *Frequency of Selected Procedures*, and *Antibiotic Utilization* report rates per 1,000 member months or averages instead of percentages, statistical tests across years were not performed due to lack of variances reported in the IDSS file for these measures. Differences in the reported rates for these measures were reported without statistical test results.

Colorado Medicaid Weighted Averages

The principal measure of overall Colorado Medicaid health plan performance on a given measure is the weighted average rate. The use of a weighted average, based on the health plan's eligible population for that measure, provides the most representative rate for the overall Colorado Medicaid population. Weighting the rate by the health plan's eligible population size ensures that rates for a health plan with 125,000 members, for example, had a greater impact on the overall Colorado Medicaid rate than a rate for a health plan with only 10,000 members. Rates reported as *NA* were included in the calculations of these averages and rates reported as *NB* or *NR* were not included.

Calculation Methods: Administrative Versus Hybrid

Administrative Method

The administrative method requires health plans to identify the eligible population (i.e., the denominator) using administrative data, derived from claims and encounters (i.e., statistical claims). In addition, the numerator(s), or services provided to the members in the eligible population, are derived solely from administrative data. Medical records cannot be used to retrieve information. When using the administrative method, the entire eligible population becomes the denominator, and sampling is not allowed. There are measures in each of the four dimensions of care in which HEDIS methodology requires that the rates be derived using only the administrative method, and medical record review is not permitted.

Hybrid Method

The hybrid method requires health plans to identify the eligible population using administrative data and then extract a systematic sample of members from the eligible population, which becomes the denominator. Administrative data are used to identify services provided to those members.

Medical records must then be reviewed for those members who do not have evidence of a service being provided using administrative data.

The hybrid method generally produces higher rates because the completeness of documentation in the medical record exceeds what is typically captured in administrative data; however, the medical record review component of the hybrid method is considered more labor intensive. For example, a health plan has 10,000 members who qualify for the *Prenatal and Postpartum Care* measure. The health plan chooses to use the hybrid method. After randomly selecting 411 eligible members, the health plan finds that 161 members had evidence of a postpartum visit using administrative data. The health plan then obtains and reviews medical records for the 250 members who did not have evidence of a postpartum visit using administrative data. Of those 250 members, 54 were found to have a postpartum visit recorded in the medical record. Therefore, the final rate for this measure, using the hybrid method, would be (161 + 54)/411, or 52 percent, a 13 percentage point increase from the administrative only rate of 39 percent.

Interpreting Results

HEDIS results can differ among health plans and even across measures for the same health plan.

The following questions should be asked when examining these data:

1. How accurate are the results?
2. How do Colorado Medicaid rates compare to national percentiles?
3. How are Colorado health plans performing overall?

1. How accurate are the results?

All Colorado Medicaid health plans are required by the Department to have their HEDIS results confirmed through an NCQA HEDIS Compliance Audit. As a result, any rate included in this report has been verified as an unbiased estimate of the measure. NCQA's HEDIS protocol is designed so that the hybrid method produces results with a sampling error of ± 5 percent at a 95 percent confidence level.

How sampling error affects the accuracy of results is best explained using an example. Suppose a health plan uses the hybrid method to derive a *Postpartum Care* rate of 52 percent. Because of sampling error, the true rate is actually ± 5 percent of this rate—somewhere between 47 percent and 57 percent at a 95 percent confidence level. If the target is a rate of 55 percent, it cannot be said with certainty whether the true rate between 47 percent and 57 percent meets or does not meet the target level.

To prevent such ambiguity, this report uses a standardized methodology that requires the reported rate to be at or above the threshold level to be considered as meeting the target. For internal purposes, health plans should understand and consider the issue of sampling error when evaluating HEDIS results.

2. How do Colorado Medicaid rates compare to national percentiles?

For each measure, a health plan ranking presents the reported rate in order from highest to lowest, with bars representing the established HPL, LPL, and the national HEDIS 2010 Medicaid 50th percentile. In addition, the 2009, 2010, and 2011 Colorado Medicaid weighted averages are presented for comparison purposes.

Colorado Medicaid health plans with reported rates above the 90th percentile (HPL) rank in the top 10 percent of all health plans nationally. Similarly, health plans reporting rates below the 25th percentile (LPL) rank in the bottom 25 percent nationally for that measure.

3. How are Colorado health plans performing overall?

For each dimension, a performance profile analysis compares the 2011 Colorado Medicaid weighted average for each rate with the 2009 and 2010 Colorado Medicaid weighted averages and the national HEDIS 2010 Medicaid 50th percentile.

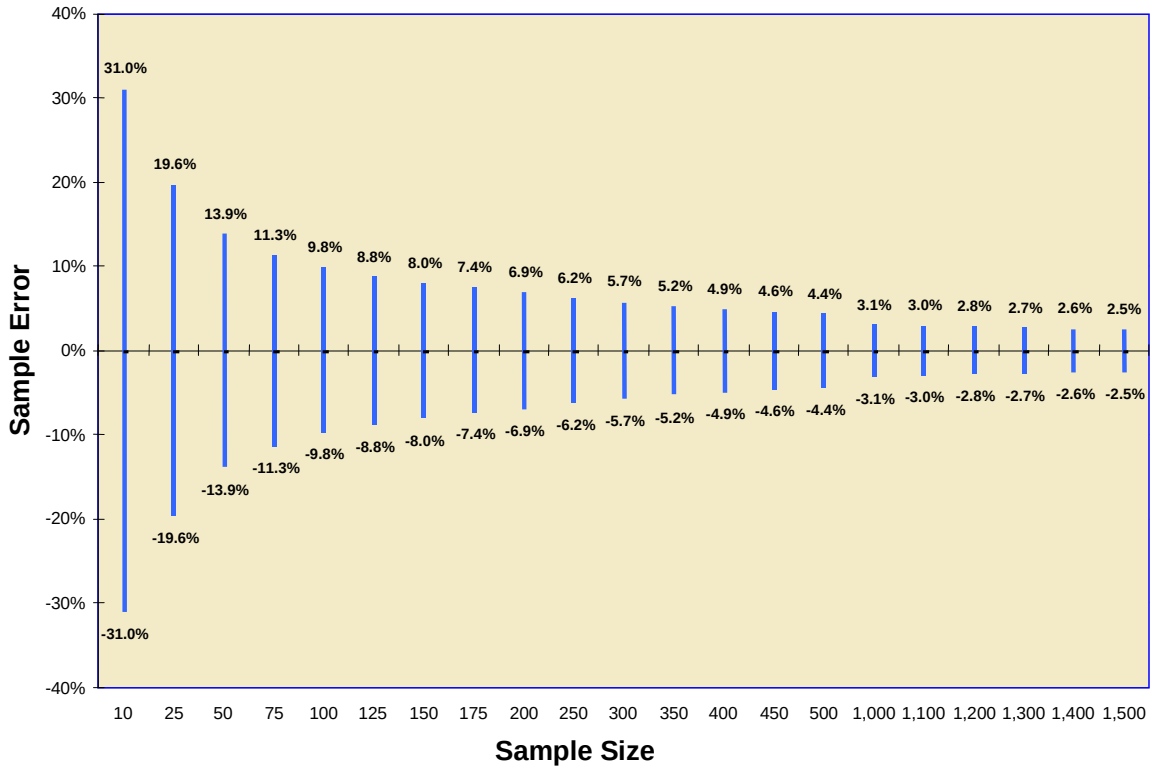
Understanding Sampling Error

Correct interpretation of results for measures collected using the HEDIS hybrid methodology requires an understanding of sampling error. It is rarely possible, logistically or financially, to complete medical record review for the entire eligible population for a given measure. Measures collected using the HEDIS hybrid method include only a sample from the eligible population, and statistical techniques are used to maximize the probability that the sample results reflect the experience of the entire eligible population.

For results to be generalized to the entire eligible population, the process of sample selection must be such that everyone in the eligible population has an equal chance of being selected. The HEDIS hybrid method prescribes a systematic sampling process selecting at least 411 members of the eligible population. Health plans may use a 5 percent, 10 percent, 15 percent, or 20 percent oversample to replace invalid cases (e.g., a male selected for *Postpartum Care*).

Figure 2-1 shows that if 411 health plan members are included in a measure, the margin of error is approximately ± 4.9 percentage points. Note that the data in this figure are based on the assumption that the size of the eligible population is greater than 2,000. The smaller the sample included in the measure, the larger the sampling error.

Figure 2-1—Relationship of Sample Size to Sample Error



As Figure 2-1 shows, sample error gets smaller as the sample size gets larger. Consequently, when sample sizes are very large and sampling errors are very small, almost any difference is statistically significant. This does not mean that all such differences are important. On the other hand, the difference between two measured rates may not be statistically significant but may, nevertheless, be important. The judgment of the reviewer is always a requisite for meaningful data interpretation.

Introduction

Pediatric primary health care involves health promotion and disease prevention for children and adolescents. Timely immunizations and health checkups are particularly important for young children. Failure to detect problems with growth, hearing, and vision may adversely affect children's future abilities and experiences. Early detection allows health care providers the best opportunity to detect developmental issues early and intervene, providing children with the chance to grow and learn without health-related limitations.

The following section provides detailed analysis of the Colorado Medicaid health plans' performance for the Pediatric Care dimension. Results tied to antigen-related indicators under the *Childhood Immunization Status* and age-cohort indicators under the *Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents* are displayed in Appendices A (Tabular Results) and B (Trend Tables).

The Pediatric Care dimension encompasses the following measures:

- *Childhood Immunization Status—Combination 2*
- *Childhood Immunization Status—Combination 3*
- *Well-Child Visits in the First 15 Months of Life—Zero Visits*
- *Well-Child Visits in the First 15 Months of Life—Six or More Visits*
- *Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life*
- *Adolescent Well-Care Visits*
- *Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Body Mass Index (BMI) Assessment: Total*
- *Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Nutrition Counseling: Total*
- *Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Physical Activity Counseling: Total*

For each of the Pediatric Care measures, a graph depicting yearly comparison of the weighted averages for that measure is presented. Next, a horizontal bar graph compares health plan's performance relative to the HEDIS 2011 weighted average as well as the high and low performance levels. The performance levels are developed based on each measure's national HEDIS 2010 Medicaid percentiles. Please refer to Appendix D for a full set of national HEDIS 2010 Medicaid percentiles for each measure.

Childhood Immunization Status

Measure Definitions

Childhood Immunization Status—Combination 2 calculates the percentage of enrolled children who turned two years of age during the measurement year, who were continuously enrolled for 12 months immediately preceding their second birthday, and who were identified as having the following vaccinations: at least four diphtheria, tetanus and acellular pertussis (DTaP); at least three polio (IPV); at least one measles, mumps and rubella (MMR); at least three H influenza type B (HiB); at least three hepatitis B (HepB); and at least one chicken pox (VZV) on or before the child's second birthday.

Childhood Immunization Status—Combination 3 calculates the percentage of enrolled children who turned two years of age during the measurement year, who were continuously enrolled for 12 months immediately preceding their second birthday, and who were identified as having the following vaccinations: at least four diphtheria, tetanus and acellular pertussis (DTaP); at least three polio (IPV); at least one measles, mumps and rubella (MMR); at least three H influenza type B (HiB); at least three hepatitis B (HepB); at least one chicken pox (VZV), and at least four pneumococcal conjugate (PCV) on or before the child's second birthday.

Importance

Disease prevention is the key to public health, and one of the most basic methods of prevention of diseases is immunizations. Immunizations are the safest and most effective tools for protecting children from various potentially serious childhood diseases. Vaccines are proven to help children stay healthy and avoid the harmful effects of diseases such as diphtheria, tetanus, hepatitis, polio, measles, mumps, and rubella. While the rates of vaccine-preventable diseases are very low in the United States, the viruses and bacteria that cause these infectious diseases still exist. Without proper immunization, the potential to pass on vaccine-preventable diseases such as mumps to unprotected persons increases drastically. In fact, in 2009 the United States saw the largest outbreak of mumps since 2006.[3-1]

The social and direct economic costs of ensuring each child receives the CDC Advisory Committee for Immunization Practices' (ACIP's) recommended schedule of vaccines provide an impressive return on investment. Childhood vaccines prevent 10.5 million diseases among all children born in the United States in a given year and are a cost-effective preventive measure. It is estimated that for every $1 spent on immunizations, up to $29 can be saved in direct and indirect costs.[3-2]

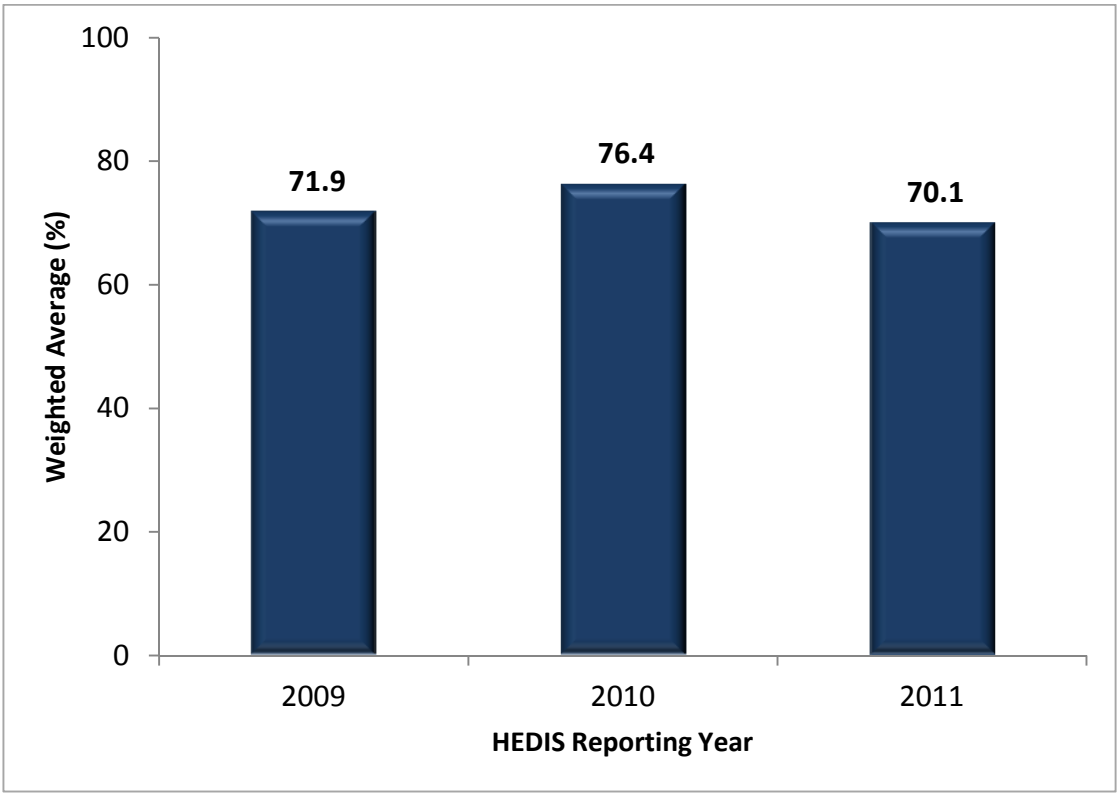
Despite established guidelines and documented benefits and risks associated with childhood immunization, a gap in coverage still exists. Evidence has shown that the populations at greatest risk for under-immunization are minority children from low-income families or children who live in

[3-1] Centers for Disease Control and Prevention. *Mumps Outbreaks.* Available at: http://www.cdc.gov/mumps/outbreaks.html. Accessed on: August 8, 2011.
[3-2] National Committee for Quality Assurance. *The State of Health Care Quality in 2010*. Washington, D.C.:NCQA; 2010.

inner-cities or rural areas.[3-3] In the State of Colorado, in 2010, nearly 15 percent of children in the United States ages 19 to 35 months of age did not receive the recommended vaccinations, a decrease of 7.1 percent from the prior year.[3-4] For these reasons, leading health care organizations and professionals widely agree that the need to focus on increasing childhood immunization rates in the United States remains crucial.[3-5]

Performance Results

Figure 3-1—Childhood Immunization Status—Combination 2
Colorado Medicaid Weighted Averages



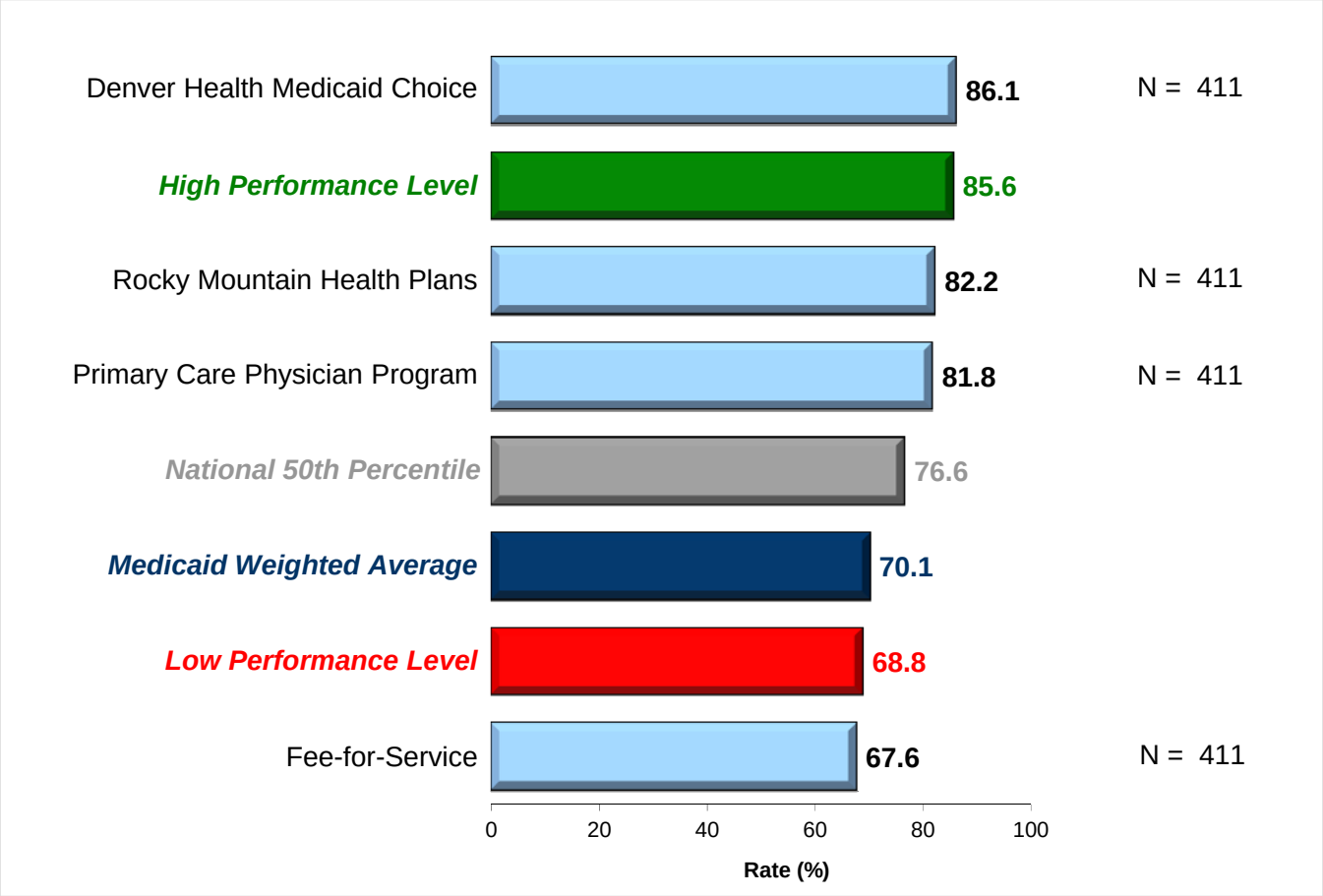
The Colorado Medicaid 2011 weighted average for *Childhood Immunization Status—Combination 2* decreased 1.8 and 6.3 percentage points from the 2009 and 2010 weighted averages, respectively. However, the decline from 2010 to 2011 was not statistically significant.

[3-3] American Academy of Pediatrics, Committee on Practice and Ambulatory Medicine and Council on Community Pediatrics. Increasing Immunization Coverage. Available at: http://aappolicy.aappublications.org/cgi/content/full/pediatrics;125/6/1295#B13. Accessed on: August 8, 2011.

[3-4] America's Health rankings. Colorado (2010). Available at: http://www.americashealthrankings.org/yearcompare/2009/2010/CO.aspx. Accessed on: August 8, 2011.

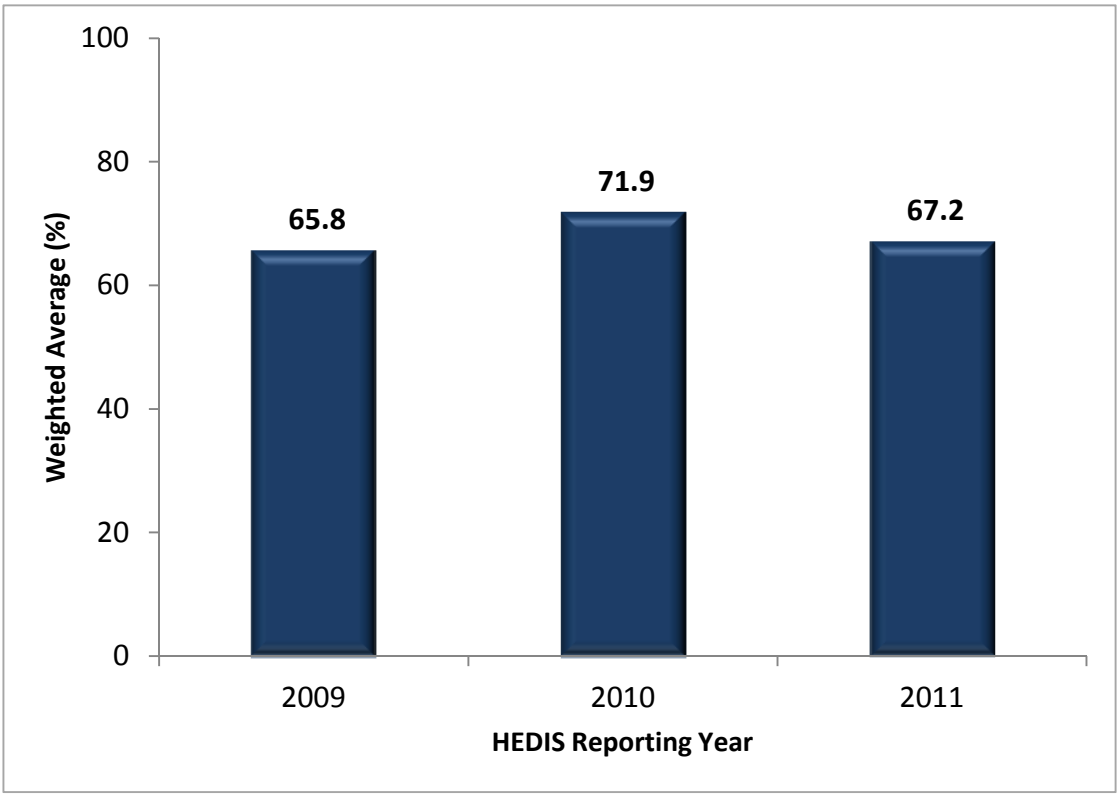
[3-5] Centers for Disease Control and Prevention. Epidemiology and Prevention of Vaccine-Preventable Diseases. 12th ed. Washington, D.C.: Public Health Foundation; 2010. Available at: http://www.cdc.gov/vaccines/pubs/pinkbook/pink-chapters.htm. Accessed on: August 8, 2011.

Figure 3-2—Childhood Immunization Status—Combination 2



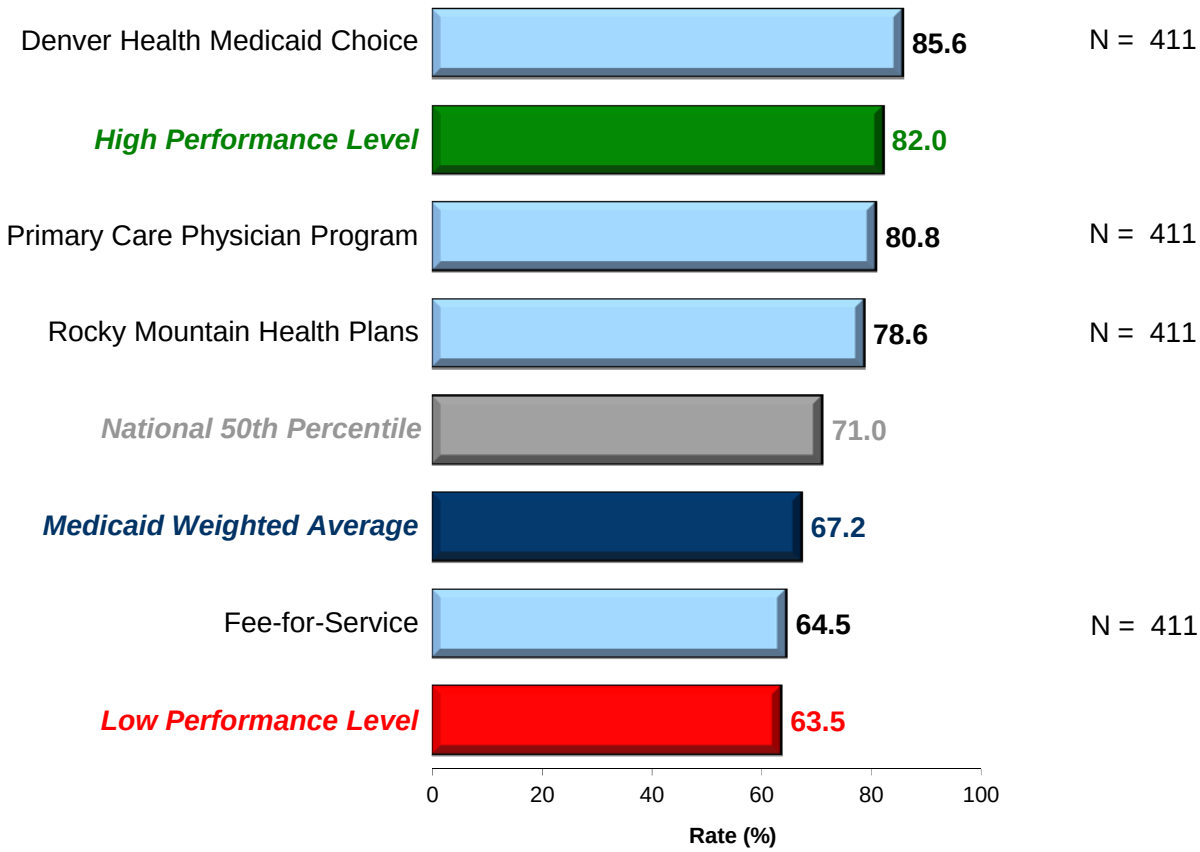
One health plan exceeded the HPL of 85.6 percent, and one health plan was below the LPL of 68.8 percent. The health plan surpassing the HPL and two additional health plans reported rates above the national HEDIS 2010 Medicaid 50th percentile. The 2011 Colorado Medicaid weighted average of 70.1 percent was below the national HEDIS 2010 Medicaid 50th percentile by 6.5 percentage points.

Figure 3-3—Childhood Immunization Status—Combination 3
Colorado Medicaid Weighted Averages



While the 2011 Colorado Medicaid weighted average was 1.4 percentage points above the 2009 weighted average, the 2011 weighted average for the *Childhood Immunization Status—Combination 3* measure decreased by 4.7 percentage points from 2010. However, this decline was not statistically significant.

Figure 3-4—Childhood Immunization Status—Combination 3



One health plan exceeded the HPL of 82.0 percent, and none of the health plans were below the LPL of 63.5 percent. Three health plans, including the one above the HPL, reported rates above the national HEDIS 2010 Medicaid 50th percentile. The 2011 Colorado Medicaid weighted average of 67.2 percent was below the national HEDIS 2010 Medicaid 50th percentile by 3.8 percentage points.

Well-Child Visits

Measure Definitions

Well-Child Visits in the First 15 Months of Life—Zero Visits calculates the percentage of enrolled members who turned 15 months old during the measurement year, who were continuously enrolled in the health plan from 31 days of age through 15 months of age, and who received zero visits with a primary care practitioner (PCP) during their first 15 months of life.

Well-Child Visits in the First 15 Months of Life—Six or More Visits calculates the percentage of enrolled members who turned 15 months old during the measurement year, who were continuously enrolled in the health plan from 31 days of age through 15 months of age, and who received six or more visits with a PCP during their first 15 months of life.

Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life calculates the percentage of members who were three, four, five, or six years old during the measurement year, who were continuously enrolled during the measurement year, and who received one or more well-child visits with a PCP during the measurement year.

Importance

Regular checkups are crucial to detect physical, developmental, behavioral, and emotional problems at an early stage, and well-child exams include many needed medical services important to the health and well-being of infants and children. Doctors may perform health exams and tests, such as vision, hearing, or lab services. During the first year of life, when an infant undergoes substantial changes in abilities, physical growth, motor skills, hand-eye coordination and social and emotional growth, well-child visits are of particular importance.[3-6] Vaccinations are often performed concurrently, resulting in a reduction in disease, as well as savings in health costs over time. Furthermore, there is evidence that timely preventive care in children has a positive impact on overall health care utilization. Medicaid children who are up to date with well-child visits are approximately 48 percent less likely to have an avoidable hospitalization.[3-7]

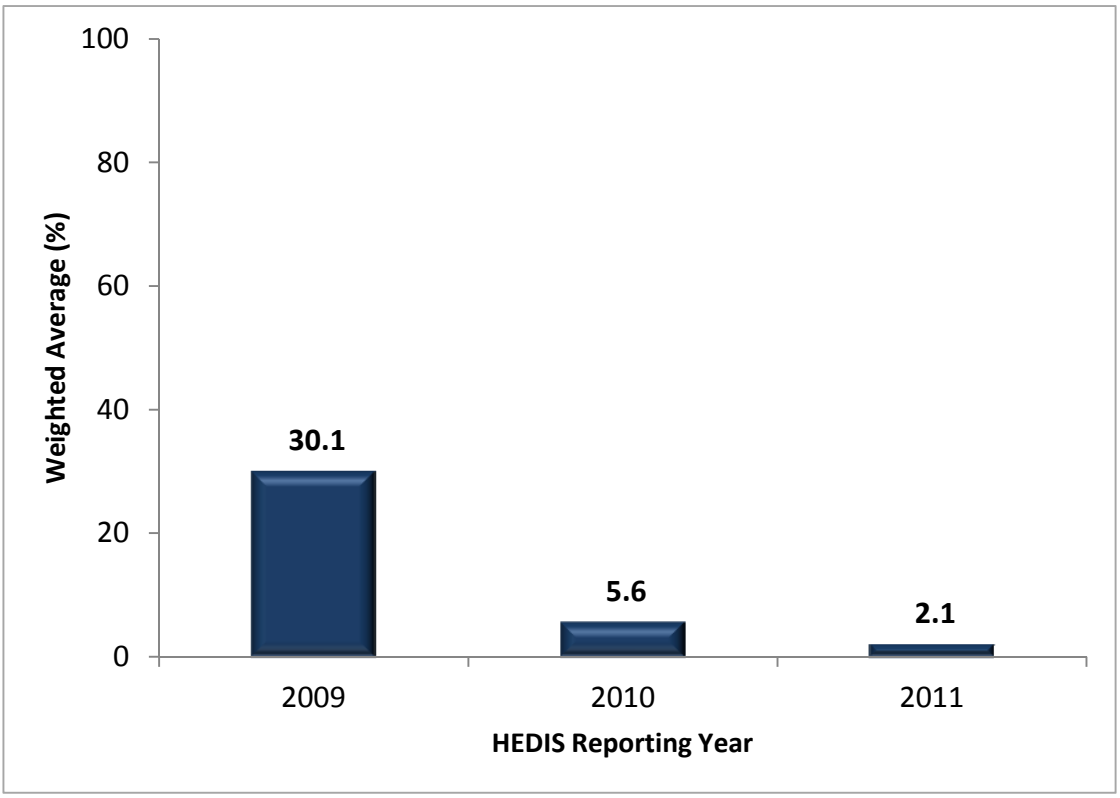
The American Medical Association (AMA) and American Academy of Pediatrics (AAP) recommend timely, comprehensive well-child visits for children. These periodic checkups allow clinicians to assess a child's physical, behavioral, and developmental status and provide any necessary treatment, intervention, or referral to a specialist.[3-8] Children with poorer health status are more likely not to receive recommended well-child visits since these children tend to use more acute or specialty care.[3-9] Researchers have found associations between increased well-child visits

[3-6] Agency for Healthcare Research and Quality. National Quality Measures Clearinghouse. Well-Child Visits in the First 15 Months of Life—Measure Summary. Available at: http://www.qualitymeasures.ahrq.gov/content.aspx?id=34126. Accessed on: August 3, 2011.
[3-7] Hakim, RB, Bye BV. Effectiveness of Compliance with Pediatric Preventive Care Guidelines Among Medicaid Beneficiaries. *Pediatrics*. 2001; 108(1):90–97.
[3-8] Ibid.
[3-9] Yu SM, Bellamy HA, Kogan MD, et al. Factor That Influence Receipt of Recommended Preventive Pediatric Health and Dental Care. *Pediatrics*. 2002:110(6): 73.

and reductions in avoidable hospitalization, reductions in emergency department (ED) use, and improved child health.[3-10]

Performance Results

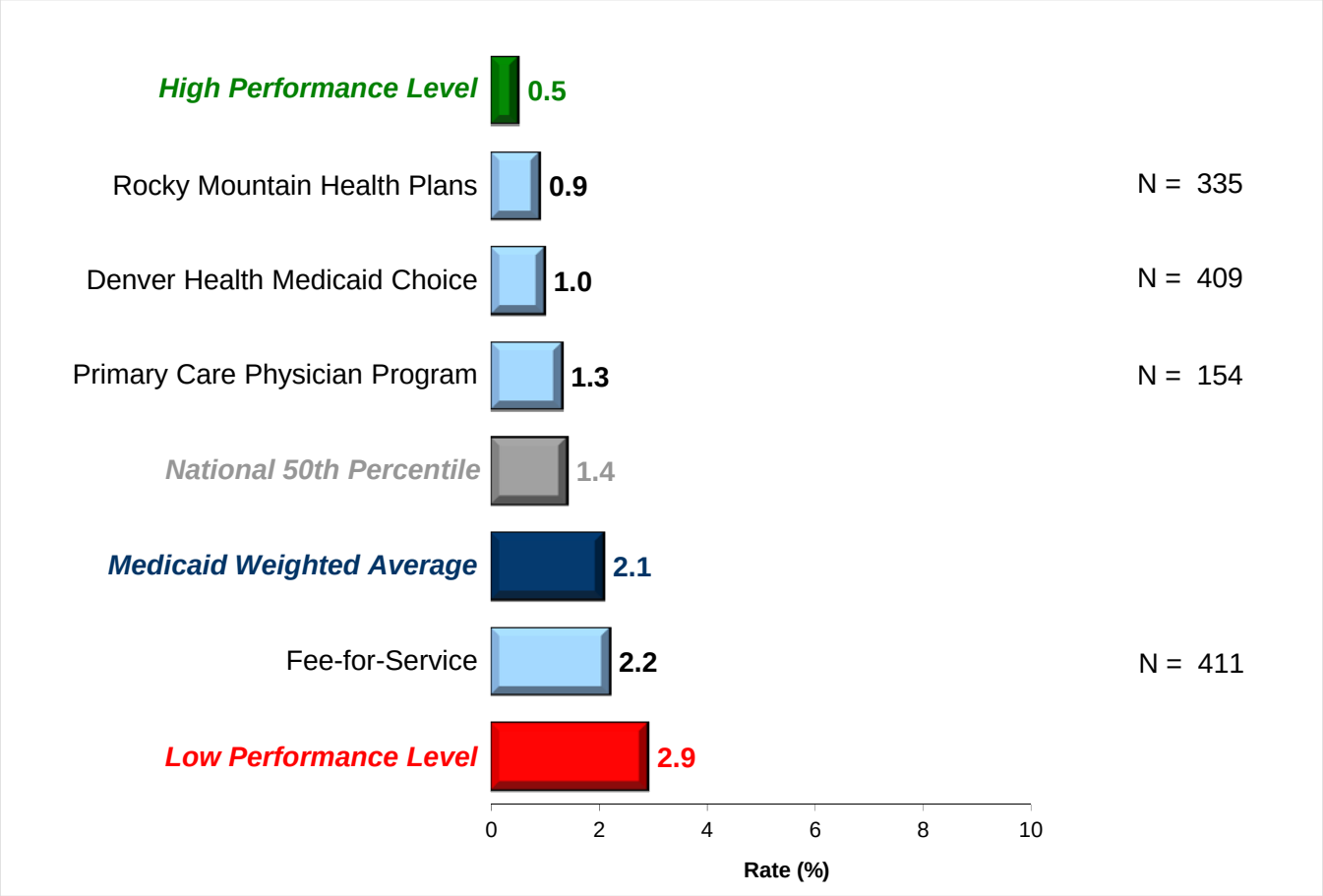
Figure 3-5—Well-Child Visits in the First 15 Months of Life—Zero Visits
Colorado Medicaid Weighted Averages



The Colorado weighted averages for *Well-Child Visits in the First 15 Months of Life—Zero Visits* have decreased (improved) each year from 2009 to 2011. The 2011 Colorado Medicaid weighted average decreased 28.0 and 3.5 percentage points from the 2009 and 2010 weighted averages, respectively. These declines in the rate indicate an *improvement* in performance on this measure (e.g., fewer children with no well-child visits), and the improvement from 2010 to 2011 was statistically significant.

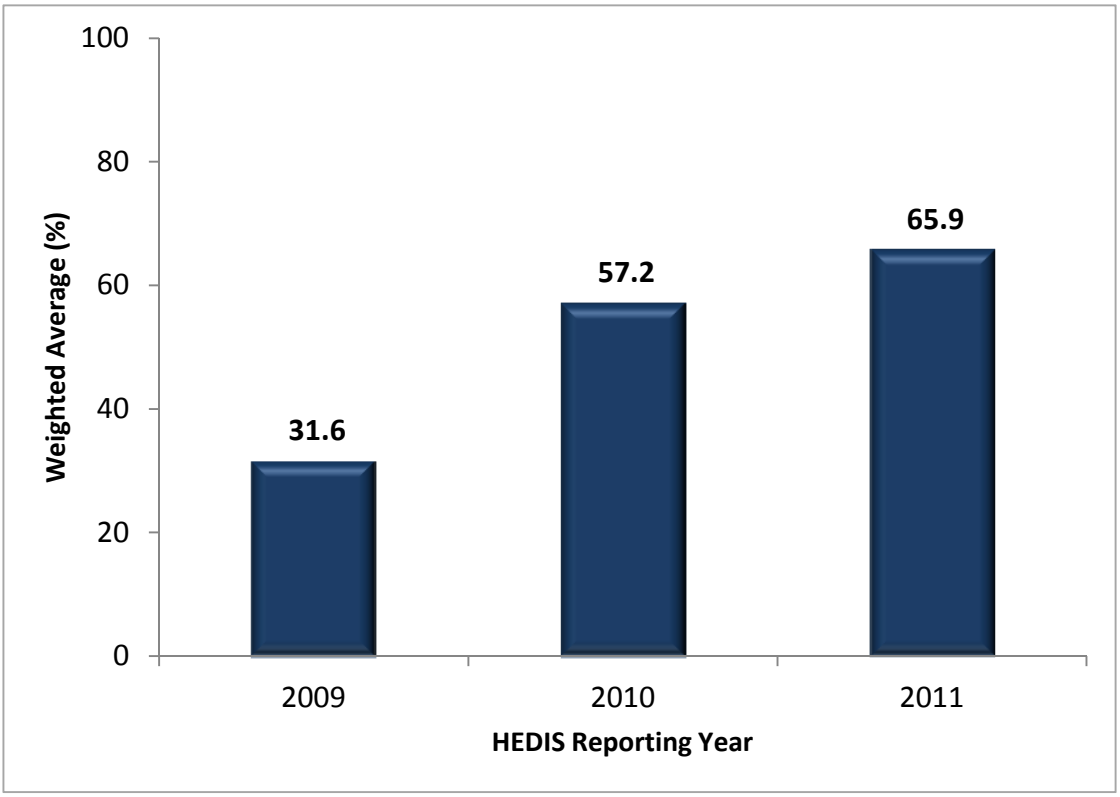
[3-10] Selden, TM. "Compliance with Well-Child Visit Recommendations: Evidence From the Medical Expenditure Panel Survey, 2000-2002." *Pediatrics*. 2006; 118(6): 1766–1778.

Figure 3-6—Well-Child Visits in the First 15 Months of Life—Zero Visits



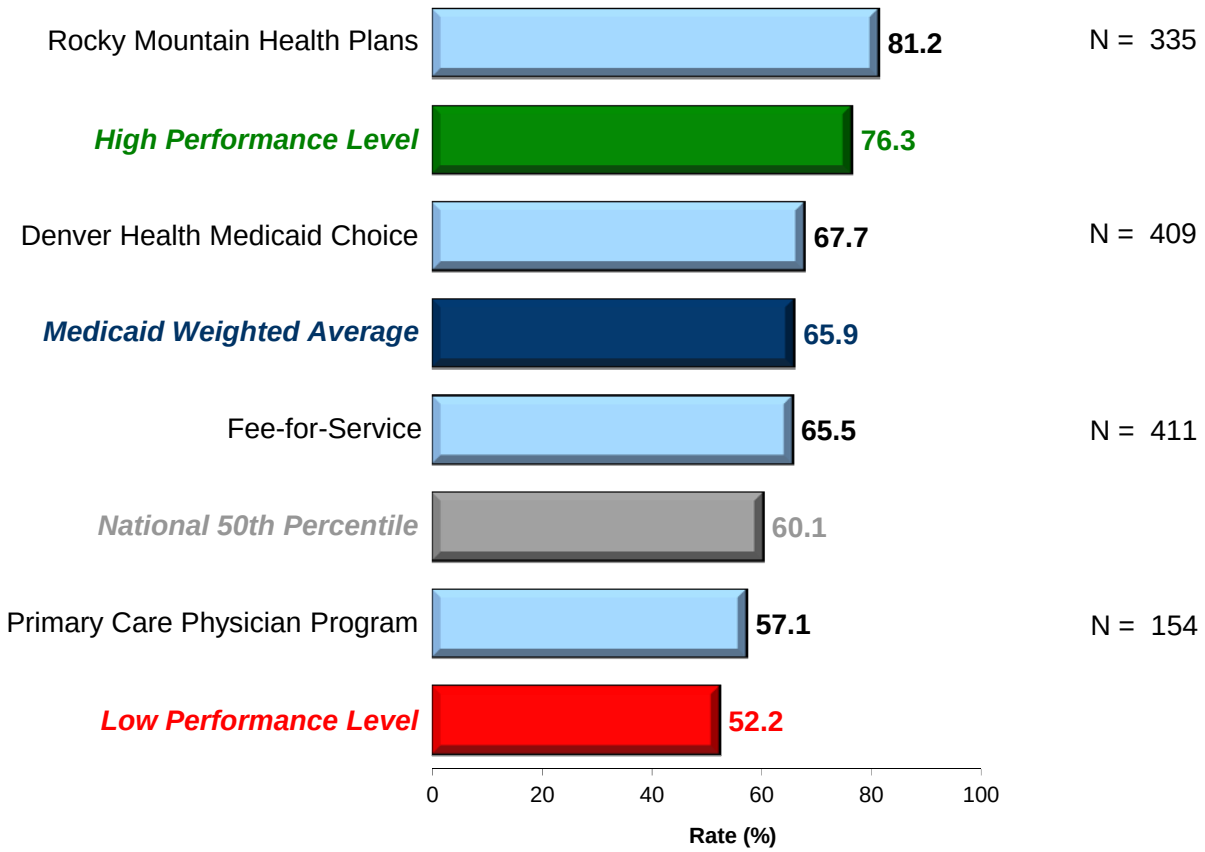
For this measure, a lower rate indicates better performance. None of the health plans scored higher than the HPL of 0.5 percent or lower than the LPL of 2.9 percent. A total of three health plans reported rates better than the national HEDIS 2010 Medicaid 50th percentile. The 2011 Colorado Medicaid weighted average of 2.1 percent exceeded the national HEDIS 2010 Medicaid 50th percentile by 0.7 percentage point.

Figure 3-7—Well-Child Visits in the First 15 Months of Life—Six or More Visits
Colorado Medicaid Weighted Averages



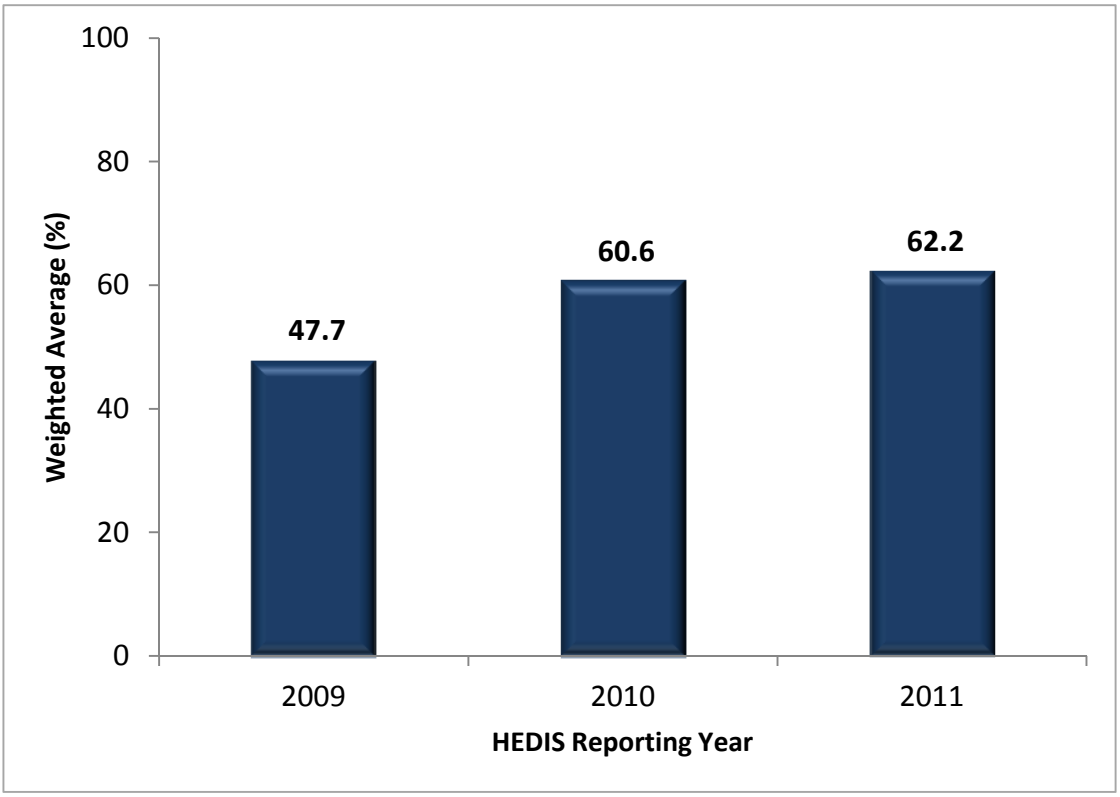
The weighted averages for *Well-Child Visits in the First 15 Months of Life—Six or More Visits* have increased each year from 2009 to 2011. The 2011 Colorado Medicaid weighted average increased 34.3 and 8.7 percentage points from the 2009 and 2010 weighted averages, respectively. The improvement seen between 2010 and 2011 was statistically significant.

Figure 3-8—Well-Child Visits in the First 15 Months of Life—Six or More Visits



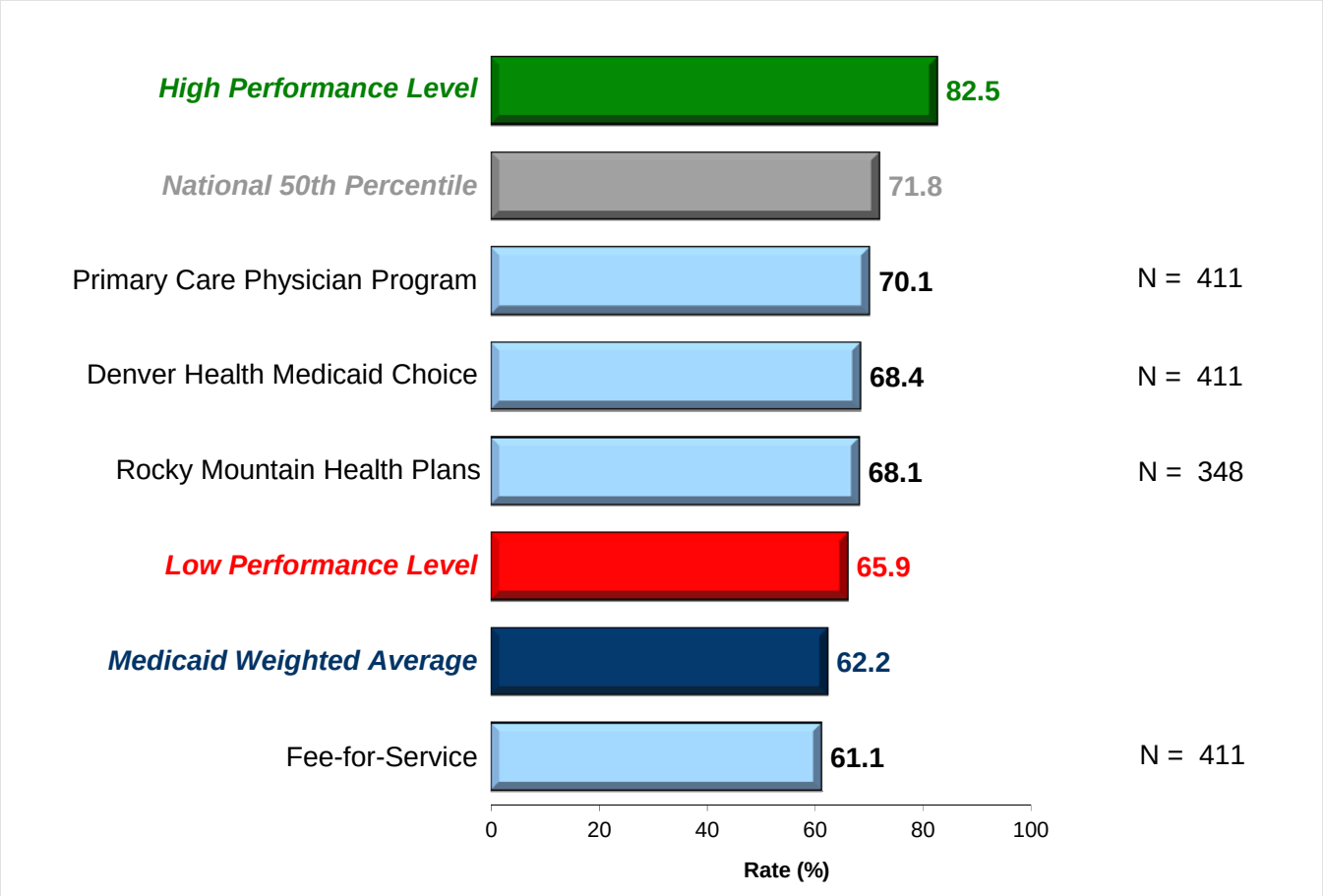
One health plan exceeded the HPL of 76.3 percent, and none of the health plans scored below the LPL of 52.2 percent. Three health plans, including the one above the HPL, reported rates exceeding the national HEDIS 2010 Medicaid 50th percentile. The 2011 Colorado Medicaid weighted average of 65.9 percent exceeded the national HEDIS 2010 Medicaid 50th percentile by 5.8 percentage points.

Figure 3-9—Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life
Colorado Medicaid Weighted Averages



The weighted averages for *Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life* have increased each year from 2009 to 2011. The 2011 Colorado Medicaid weighted average increased 14.5 and 1.6 percentage points over the 2009 and 2010 weighted averages, respectively. The observed improvement from 2010 to 2011 was not statistically significant.

Figure 3-10—Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life



None of the health plans exceeded the HPL of 82.5 percent, and one of the health plans scored below the LPL of 65.9 percent. None of the health plans reported a rate that exceeded the national HEDIS 2010 Medicaid 50th percentile. The 2011 Colorado Medicaid weighted average of 62.2 fell below the national HEDIS 2010 Medicaid 50th percentile by 9.6 percentage points and scored 3.7 percentage points below the LPL.

Adolescent Well-Care Visits

Measure Definition

Adolescent Well-Care Visits reports the percentage of enrolled members who were 12 to 21 years of age during the measurement year, who were continuously enrolled during the measurement year, and who had at least one comprehensive well-care visit with a PCP or an obstetrician/gynecologist (OB/GYN) during the measurement year.

Importance

The healthy transition from childhood to adolescence is critical to the well-being of children and the United States society. Understanding this transitional period is difficult; and physicians can play a critical role in helping parents deal with physical, emotional, and social adolescent problems. Accidents, homicide, and suicide deaths increase dramatically between the first year of life and the thirteenth year of life and increase further in the 15-to-24-year age group.[3-11] While accidents are the largest cause of death for this age category, many of the other diseases or disorders including homicide and suicide are preventable. Physicians can help parents/guardians understand the root cause of many of these disorders including sexually transmitted diseases, substance abuse, pregnancy and antisocial behavior and work with the parents/guardians or other medical professionals to counsel young people about their behaviors and risks to their health.

Annual visits with a physician can reinforce health promotion messages, identify at-risk adolescents, and build relationships that foster open disclosure of future health information.[3-12] Furthermore, regular health care visits aid in the prevention, early diagnosis, and treatment of health care conditions so that the transition from youth to adulthood is a healthy one. The American Medical Association's (AMA's) Guidelines for Adolescent Preventive Services recommend that all adolescents 11 to 21 years of age have an annual preventive services visit that focuses on both the biomedical and psychosocial aspects of health.[3-13] Adolescents, however, tend to have greater difficulty obtaining appropriate health care services on their own due to developmental characteristics and lack of experience negotiating medical systems. They often need specialized planning to respond to their needs for confidentiality, quality service, and coordination of care.[3-14]

[3-11] U.S. Department of Health and Human Services. National Institutes of Health. MedlinePlus. *Death among children and adolescents*. Available at: http://www.nlm.nih.gov/medlineplus/ency/article/001915.htm. Accessed on: August 8, 2011.

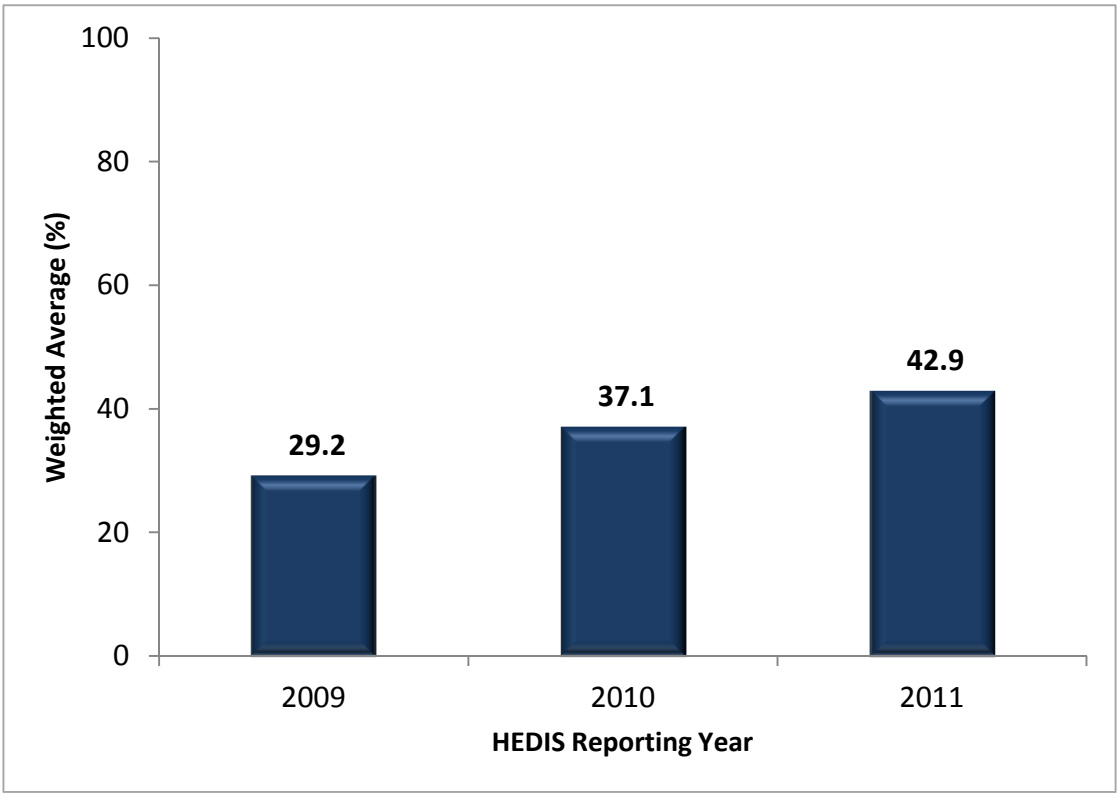
[3-12] American Medical Association. Guidelines for Adolescent Preventive Services (GAPS). Available at: http://www.ama-assn.org/ama/upload/mm/39/gapsmono.pdf. Accessed on: August 3, 2011.

[3-13] Ibid.

[3-14] National Adolescent Health Information Center. Assuring the Health of Adolescents in Managed Care: A Quality Checklist for Planning and Evaluating Components of Adolescent Health Care. Available at: http://nahic.ucsf.edu/downloads/Assuring_Hlth_Checklist.pdf. Accessed on: August 3, 2011.

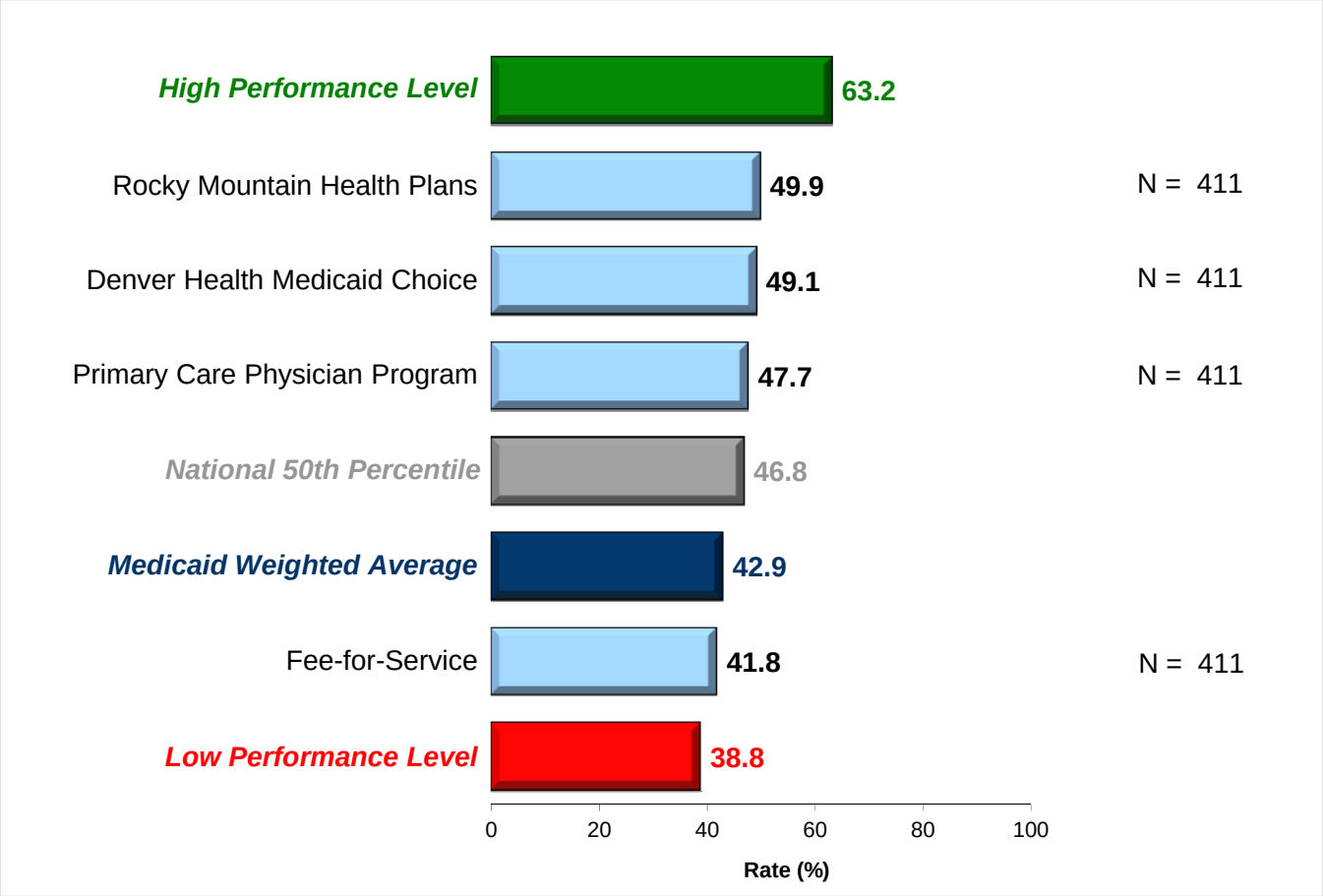
Performance Results

Figure 3-11—Adolescent Well-Care Visits
Colorado Medicaid Weighted Averages



The weighted averages for *Adolescent Well-Care Visits* have increased each year from 2009 to 2011. The 2011 Colorado Medicaid weighted average increased 13.7 and 5.8 percentage points over the 2009 and 2010 weighted averages, respectively. The observed improvement from last year was not statistically significant.

Figure 3-12—Adolescent Well-Care Visits



None of the health plans exceeded the HPL of 63.2 percent or fell below the LPL of 38.8 percent. Three health plans reported rates that exceeded the national HEDIS 2010 Medicaid 50th percentile. The 2011 Colorado Medicaid weighted average of 42.9 percent fell below the national HEDIS 2010 Medicaid 50th percentile by 3.9 percentage points.

Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents

Measure Definition

Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents calculates the percentage of enrolled members between 3 and 17 years of age, who were continuously enrolled and who had an outpatient visit with a PCP or OB/GYN and who had evidence of BMI percentile documentation, counseling for nutrition, and counseling for physical activity during the measurement year.

Importance

Childhood obesity has many physical consequences including glucose intolerance and insulin resistance, type 2 diabetes, hypertension, sleep apnea, impaired balance and orthopedic problems.[3-15] In addition, childhood obesity has a social stigma and can cause emotional and social consequences including low self-esteem, negative body image, depression and discrimination.[3-16]

Daily participation in physical education classes dropped from 42 percent in 1991 to 33 percent in 2005, supporting research that approximately two thirds of young people in grades 9 through 12 do not engage in the recommended levels of physical activity. The following statistics show increases in childhood obesity for the last 30 years.[3-17]

- Children ages 2 to 5 years of age, an increase of 8.9 percentage points
- Children ages 6 to 11 years of age, an increase of 12.3 percentage points
- Children ages 12 to 19 years of age, an increase of 12.4 percentage points

For these reasons, it is essential that children and adolescents in the United States receive adequate weight assessment and counseling for nutrition and physical activity. The first step involves screening for overweight and obesity in the physicians' offices with the calculation of a BMI. BMI is a useful screening tool for assessing and tracking the degree of obesity among children and adolescents. To address the lack of physical activity and nutritional education among children and adolescents in the United States, health care providers should promote regular physical activity and healthy eating, as well as assist parents to create an environment that supports these healthy habits.[3-18]

3-15 National Committee for Quality Assurance. *The State of Health Care Quality in 2010*. Washington, D.C.:NCQA; 2010

3-16 Ibid.

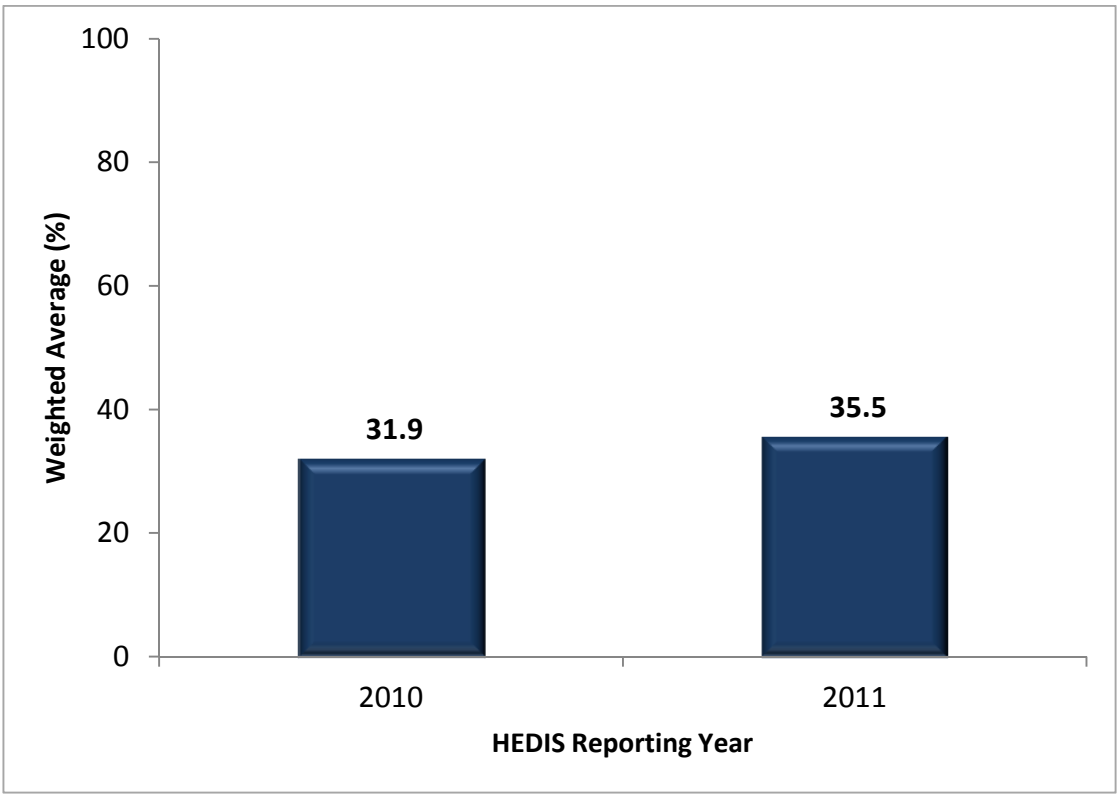
3-17 National Quality Measures Clearinghouse. Weight assessment and counseling for nutrition and physical activity for children and adolescent measure summary. Available at: http://www.qualitymeasures.ahrq.gov/content.aspx?id=32369&search=weight+assessment+and+counseling+for+nutrition+and+physical+activity+for+children. Accessed on: August 8, 2011.

3-18 U.S. Department of Health and Human Services. *Physical Activity and Health: A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention; 1996.

Performance Results

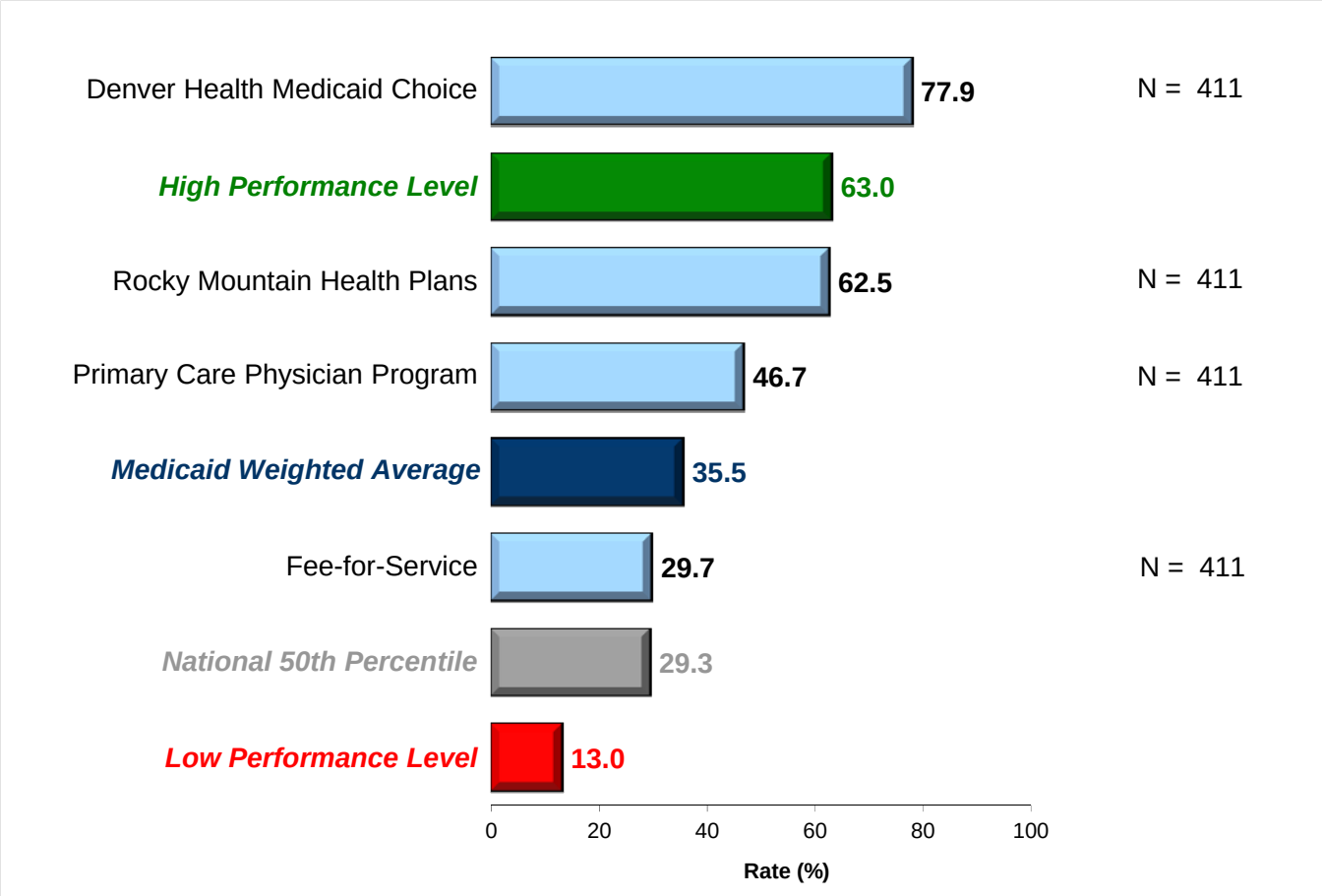
The Colorado Medicaid health plans began reporting this measure for HEDIS 2010; therefore, results are limited to two years. The age cohort indicators for this measure are displayed in Appendix A (Tabular Results) and Appendix B (Trend Results).

Figure 3-13—Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—BMI Assessment: Total
Colorado Medicaid Weighted Averages



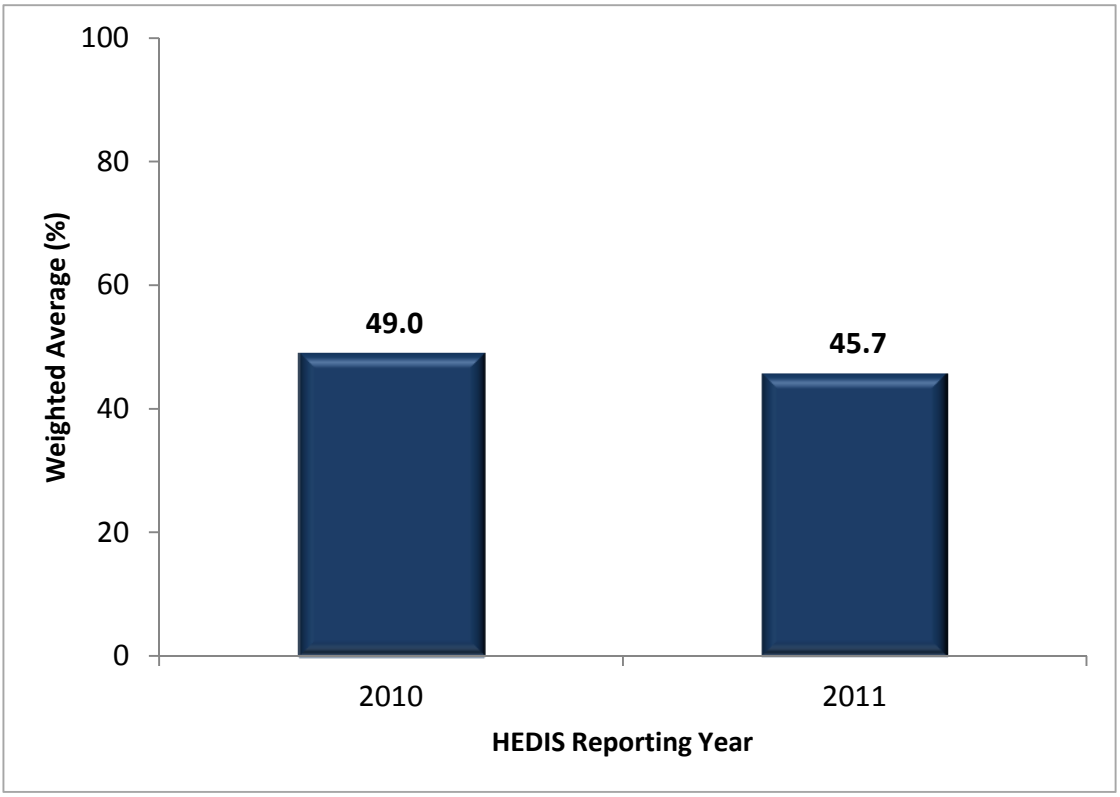
The 2011 Colorado Medicaid weighted average for the *BMI Assessment—Total* indicator increased 3.6 percentage points from the 2010 weighted average. The observed improvement was not statistically significant.

Figure 3-14— Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—BMI Assessment: Total



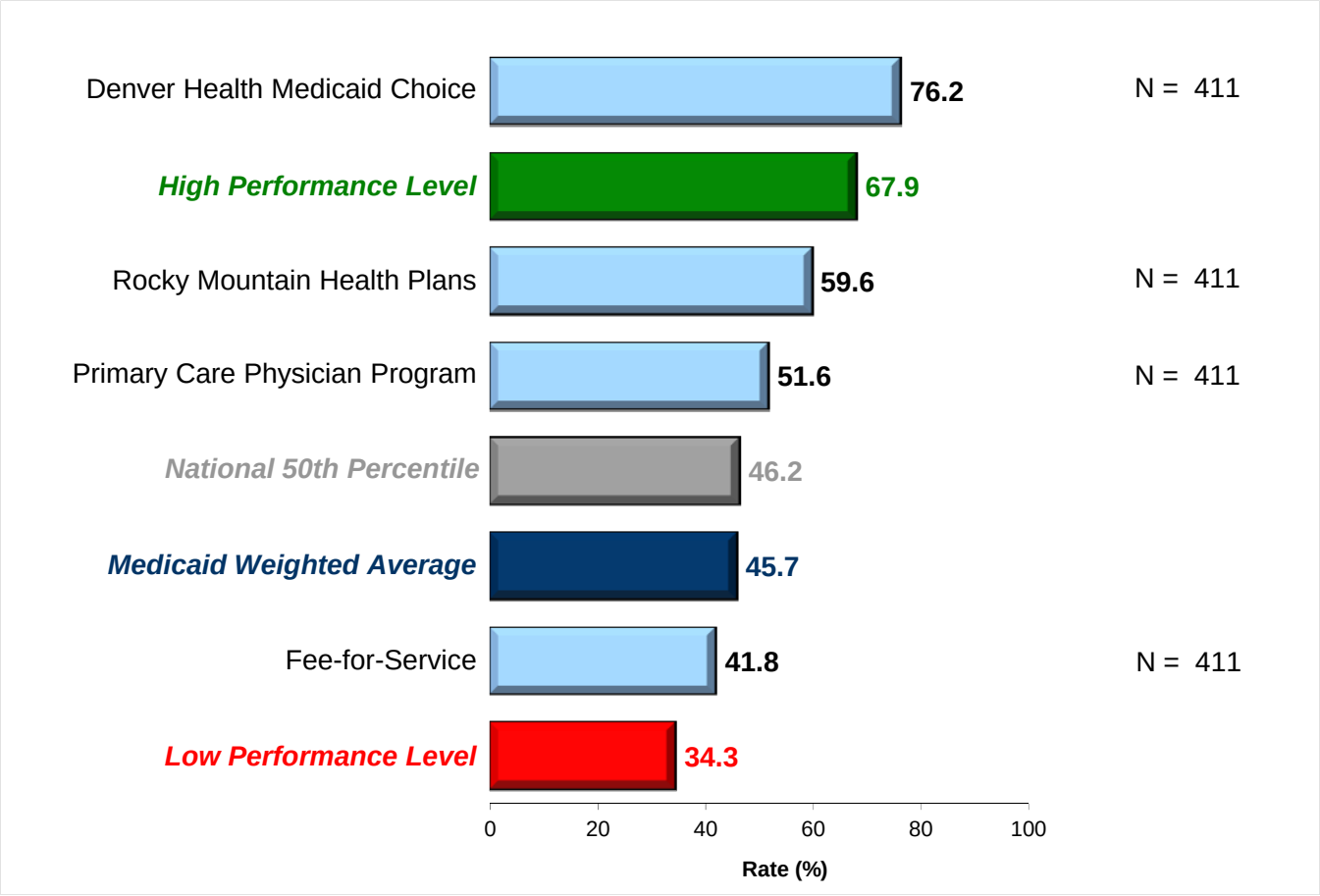
One health plan exceeded the HPL of 63.0 percent, and none of the health plans fell below the LPL of 13.0 percent. All four of the health plans reported rates that exceeded the national HEDIS 2010 Medicaid 50th percentile. The 2011 Colorado Medicaid weighted average of 35.5 percent exceeded the national HEDIS 2010 Medicaid 50th percentile by 6.2 percentage points.

Figure 3-15—Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Nutrition Counseling: Total
Colorado Medicaid Weighted Averages



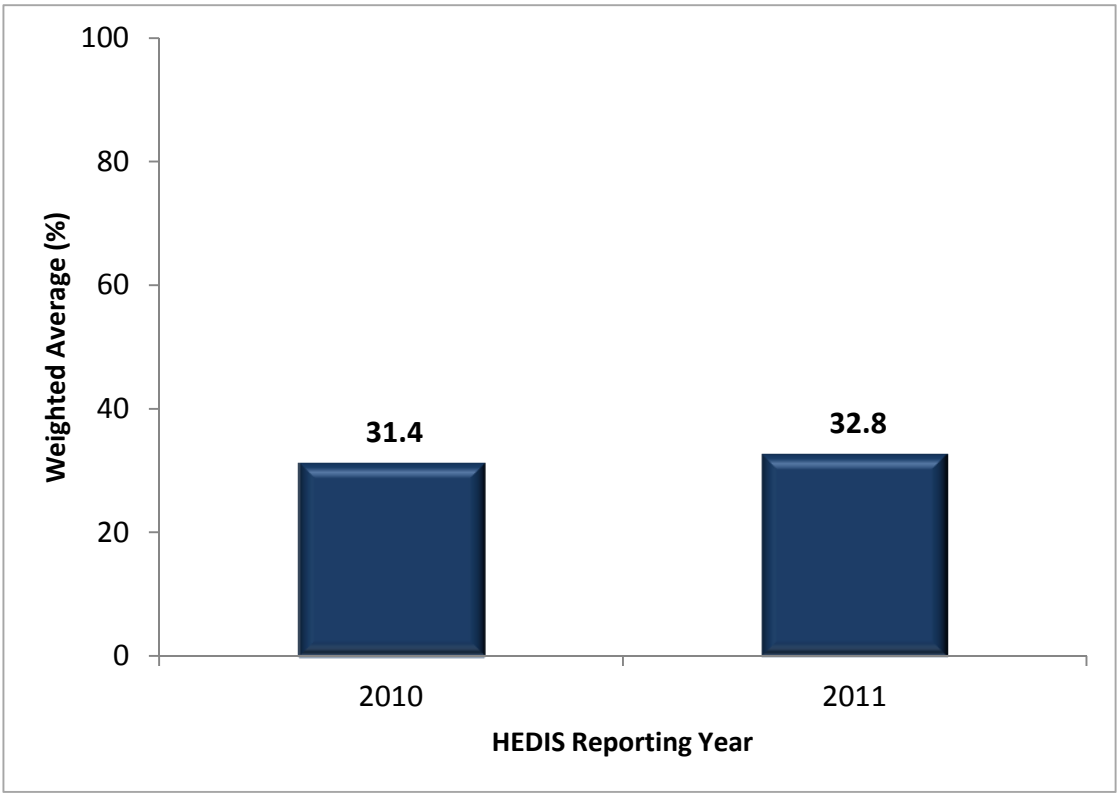
The 2011 Colorado Medicaid weighted average for the *Nutrition Counseling—Total* indicator decreased 3.3 percentage points from the 2010 weighted average. The observed decline was not statistically significant.

Figure 3-16—Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Nutrition Counseling: Total



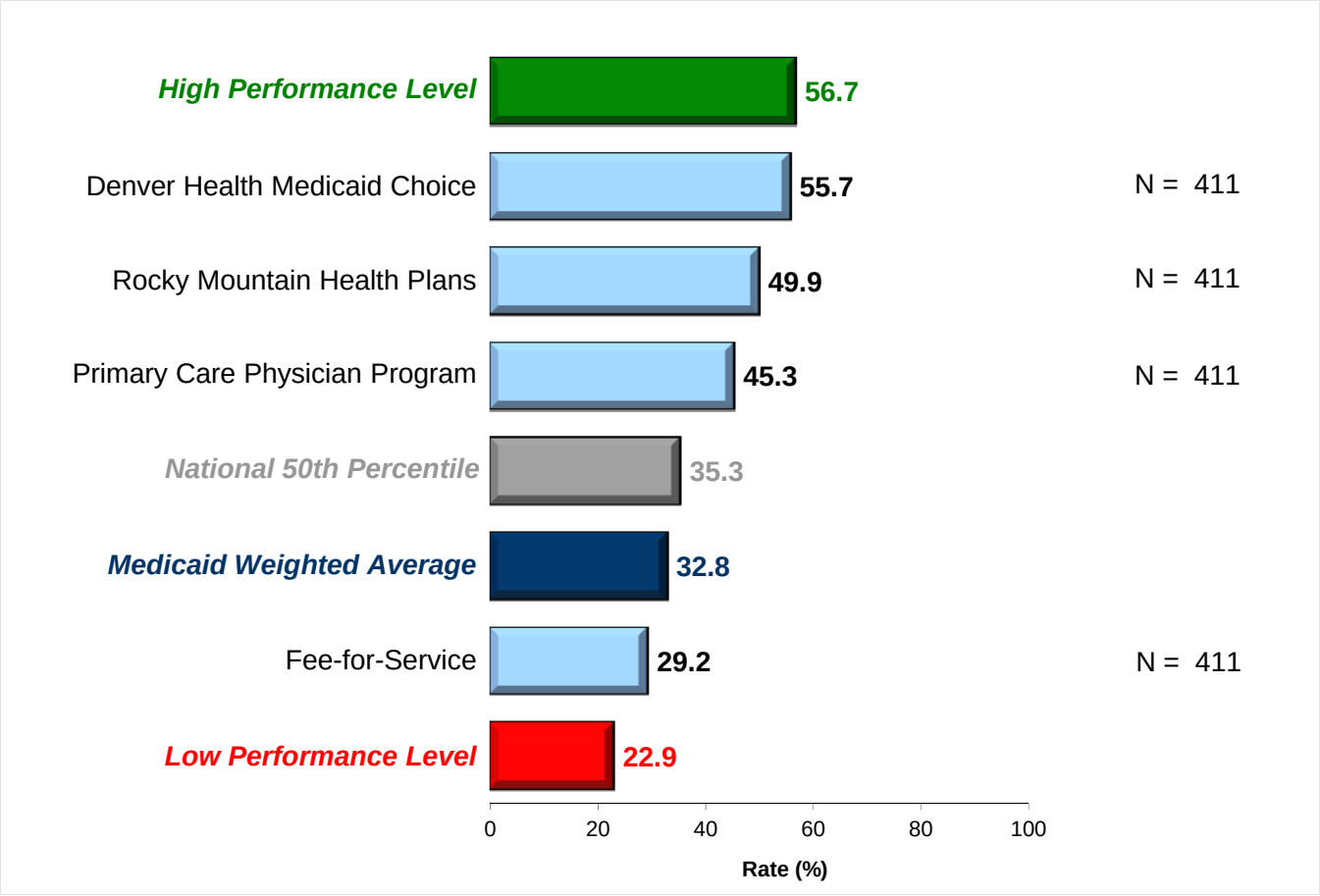
One health plan exceeded the HPL of 67.9 percent, and none of the health plans fell below the LPL of 34.3 percent. Three of the health plans reported rates exceeding the national HEDIS 2010 Medicaid 50th percentile. The 2011 Colorado Medicaid weighted average of 45.7 percent fell slightly below the national HEDIS 2010 Medicaid 50th percentile by 0.5 percentage point.

Figure 3-17—Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Physical Activity Counseling: Total
Colorado Medicaid Weighted Averages



The 2011 Colorado Medicaid weighted average for the *Physical Activity Counseling—Total* indicator increased 1.4 percentage points over the 2010 weighted average. The observed improvement was not statistically significant.

Figure 3-18—Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Physical Activity Counseling: Total



None of the health plans exceeded the HPL of 56.7 percent or fell below the LPL of 22.9 percent. Three health plans reported rates exceeding the national HEDIS 2010 Medicaid 50th percentile. The 2011 Colorado Medicaid weighted average of 32.8 percent fell below the national HEDIS 2010 Medicaid 50th percentile by 2.5 percentage points.

Pediatric Care Findings and Recommendations

Summary of Findings

Table 3-1 presents a summary of the health plans' overall performance (in rank order from highest-to-lowest performing health plan) on the Pediatric Care dimension.

Table 3-1—Overall Pediatric Care Performance Summary	
Health Plan Name	**Star Rating Results**
DHMC	★★★★
RMHP	★★★★
PCPP	★★★
FFS	★★★

Table 3-2 presents a summary of the health plans' performance for each of the measures in the Pediatric Care dimension.

Table 3-2—Pediatric Care Performance Summary				
Measure	**FFS**	**PCPP**	**DHMC**	**RMHP**
Childhood Immunization Status—Combination 2	★★	★★★★	★★★★★	★★★★
Childhood Immunization Status—Combination 3	★★★	★★★★	★★★★★	★★★★
*Well-Child Visits in the First 15 Months of Life—Zero Visits**	★★★	★★★	★★★	★★★
Well-Child Visits in the First 15 Months of Life—Six or More Visits	★★★	★★★	★★★	★★★★★
Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life	★★	★★★	★★★	★★★
Adolescent Well-Care Visits	★★★	★★★	★★★	★★★
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—BMI Assessment: Total	★★★	★★★★	★★★★★	★★★★
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Nutrition Counseling: Total	★★★	★★★	★★★★★	★★★★
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Physical Activity Counseling: Total	★★★	★★★	★★★★	★★★★
* For this indicator a *lower* rate indicates better performance; therefore, the star ratings are based on rotated percentiles.				

Table 3-3 presents a summary of the number of measures that fell into each star rating category for the Pediatric Care dimension for each health plan.

Table 3-3—Pediatric Care Star Ratings Summary

Health Plan Name	5 Stars	4 Stars	3 Stars	2 Stars	1 Star	NA/NR
FFS	0	0	7	2	0	0
PCPP	0	3	6	0	0	0
DHMC	4	1	4	0	0	0
RMHP	1	5	3	0	0	0

DHMC was the top performing health plan in the Pediatric Care domain, with four measures receiving a 5-star rating (rates at or above the national HEDIS 2010 Medicaid 90th percentile). Fee-for-Service (FFS), on the other hand, performed comparatively poorer than the other plans, with two measures reporting rates below the 25th percentiles. The majority of rates for the Colorado Medicaid program demonstrated fair (★★★) performance. Overall, performance represents opportunities for improvement across all measures in the Pediatric Care dimension. Keep in mind that all measures in this domain were reported as administrative measures except *Childhood Immunization Status* and *Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents*. Well-child rates can be improved through supplementing the health plan's rates with the use of medical record data.

Best Practices

Childhood Immunization Status

Use of Technology

Health plans can use technology to help identify missed opportunities to overcome immunization barriers and improve immunization rates. Electronic health records (EHRs) can aid in identifying a child's current immunization status and help identify missed opportunities. An EHR can also include, with each visit, a standing order for the physician to review and provide needed immunizations. It can also programmatically review immunization compliance reports and alert nursing and physician staff.[3-19]

Motivate and Educate Parents

Educating parents through language-appropriate materials about the benefits, safety, and risks associated with vaccine-preventable diseases and the impact immunizations have on reducing the prevalence of these diseases has been shown to improve coverage. In addition, providing parents with information as to where they can find reliable and accurate immunization and vaccine information online can assist in minimizing the negative impact of false and inaccurate information.[3-20] It may also be beneficial to offer evening/weekend clinics or provide open scheduling for busy parents, work with the Vaccines for Children Program (VFC) to provide free immunizations to qualified children, and develop an incentive program to entice parents to have their children properly immunized (e.g., free book offers).[3-21]

Educate Staff and Enhance Administration Protocols

Keeping physicians and nurses up to date with information regarding vaccine requirement changes, shortages and recalls is critically important to improving immunization rates. Education of physicians and nurses may include proper administration of each immunization, emphasizing the importance of screening and documenting immunizations properly. A health plan can further improve its administration protocols by including immunization information during a monthly provider meeting, conducting quarterly meetings to gather immunization updates and forming a physician/nurse subcommittee to develop a plan for improving childhood immunizations.[3-22]

[3-19] American Academy of Family Physicians Foundation. Immunization Awards Best Practices Tip Sheet. Available at: http://www.aafpfoundation.org/online/etc/medialib/found/documents/programs/education/wyeth/aafpfwyethimmuntipsheet.Par.0001.File.tmp/wyethtipsupdate.pdf. Accessed on: August 8, 2011.

[3-20] American Academy of Pediatrics. Increasing Immunization Coverage. *Pediatrics*. 2010; 125(6): 1299–1304.

[3-21] American Academy of Family Physicians Foundation. Immunization Awards Best Practices Tip Sheet. Available at: http://www.aafpfoundation.org/online/etc/medialib/found/documents/programs/education/wyeth/aafpfwyethimmuntipsheet.Par.0001.File.tmp/wyethtipsupdate.pdf. Accessed on: August 8, 2011.

[3-22] Ibid.

Well-Child and Well-Care Visits

Improve Access

Open-access appointments can increase compliance by expanding provider availability.[3-23] Provider evening or weekend clinic hours can accommodate parents who cannot take time off from work. For example, one Saturday a month could be set aside for children and adolescents, with clinicians designated to perform well visits on that day. Visits on certain days could be made available on a walk-in, first-come, first-serve basis. Additionally, parents should be encouraged to schedule their next visit before leaving the clinic. Plans also may consider improved access to transportation as a strategy to increase well-visit compliance.

Set Up Reminder Systems

Postcards are an easy and effective tool for increasing well-care visits. They can be sent to parents as a reminder to schedule their child's or adolescents' well-care visit. To be most effective, postcards should include contact information for doctors' offices near the member's address or the member's assigned PCP. In addition, age-specific forms detailing which services should be provided and why they are important to the well-being of the child can help educate parents.

Educate Providers

Quarterly provider reports that highlight children and adolescents in need of well-visits are useful for promoting visit reminders and helping providers track their performance. Members who saw a doctor but did not have a well visit can be flagged as missed opportunities. To make this information pertinent to providers, their performance may be tied to a recognition program for providers who display outstanding performance. Another practice that can improve well-visit compliance is to educate providers on proper billing codes for well-child visits, which can reduce missed opportunities.

Additionally, electronic tracking tools and provider prompts are associated with greater provider satisfaction rates as well as increased well-care visit rates.

Weight Assessment and Counseling for Nutrition and Physical Activity

Promote Increased Physical Activity

Local schools and pediatricians can help identify and manage a weight management program to help children and their family members reach and maintain a healthy weight through physical activity and healthy eating. Partnering with programs such as KidShape, an evidence-based weight management program that focuses on increasing awareness about good nutrition and healthy eating among overweight children ages 6 to 14, children at risk of becoming overweight, and their family members. KidShape has helped participating families who have reported eating more fruits and

[3-23] O'Connor ME, Matthews BS, Gao D. Effect of Open Access Scheduling on Missed Appointments, Immunizations, and Continuity of Care for Infant Well-Child Care Visits. *Archives of Pediatrics & Adolescent Medicine.* 2006; 160: 889–893.

vegetables and spending more time being physically active. In addition, school districts, which regularly assess students' body weight, are now able to connect overweight children and their families with KidShape to assist in reaching and maintaining a healthy weight.[3-24]

Launch a Community-Wide Wellness Campaign

Using a multi-tiered campaign aimed at changing the community (e.g., media, restaurants, churches, policymakers, schools and retailers) could help improve residents' health behaviors including decreasing obesity and diabetes rates.[3-25] Educating the community on the importance of a healthy diet and the significance of regular physical activity can be highly beneficial. Educational materials, Web-based information, and signs within the community may offer subtle reminders of these important lifestyles. Evidence also suggests that providing information and practical strategies related to good nutrition and meal preparation will lead to an increase in knowledge about healthy nutrition and an increase in healthy eating behaviors.[3-26]

Educate Health Care Professionals

Educating health care professionals and providing them with the tools, skills, and knowledge necessary to identify and screen children and adolescents for obesity in a primary care setting is crucial. Nationally, an average of 47.77 percent of Medicaid adolescents received a well-child visit, as of the most recent HEDIS data available.[3-27] Physician visits offer health care providers and other clinicians the opportunity to provide preventive services, such as BMI assessments, dietary counseling, and related weight management and nutrition services. Studies indicate that adolescents view their physicians as a trustworthy source of health information and that parents want clinicians to provide these services.[3-28]

[3-24] Centers for Disease Control and Prevention (CDC). *The Steps Program in Action: Success Stories on Community Initiatives to Prevent Chronic Diseases*. Atlanta, GA: HHS; 2008. Available at: http://www.cdc.gov/healthycommunitiesprogram/evaluation-innovation/pdf/StepsInAction.pdf. Accessed on: August 28, 2010.

[3-25] Centers for Disease Control and Prevention (CDC). CDC's Step Communities. Steps in the News. Available at: http://www.cdc.gov/steps/in_the_news/index.htm. Accessed on: September 8, 2011.

[3-26] U.S. Department of Health and Human Services (HHS) and United States Department of Agriculture (USDA). *Dietary Guidelines for Americans, 2005*. Washington, D.C.: HHS; 2005. Available at: http://www.health.gov/dietaryguidelines/dga2005/report/. Accessed on: September 8, 2011.

[3-27] National Committee for Quality Assurance (NCQA). *NCQA HEDIS 2010 Audit Means, Percentiles, and Ratios, Medicaid HMO Means, Percentiles and Ratios, 2011*.

[3-28] Ibid.

Introduction

As federal, state and local programs that provide and support primary care services are required to demonstrate that they maintain or increase access to primary care, measures of access to care will become increasingly important, particularly to plans already reporting. Measures that capture both the perception and the "reality" of access to primary care services at a population or community level will be important for this measurement process.[4-1]

Accessibility to primary care, health care specialists and emergency treatment are the focal point of Access to Care type measures. Access to primary health care specialists and emergency treatment can be restricted at times due to constraints, such as distance between the patient and physician, lack of transportation, a disability prohibiting the patient from traveling to see the physician, the cost of receiving services, limited office hours and long waits to get an appointment.[4-2]

According to a research study analyzing National Health Interview Survey data, people with one or more barriers to primary care are more likely to visit the emergency department. The likelihood of an emergency department visit over a primary care health care specialist has significantly increased, as the research also found that the barriers to primary care have doubled over the past decade.[4-3]

Statistics regarding access to care often vary considerably by race. The Centers for Disease Control and Prevention (CDC) reports that during 2006, approximately 902 million visits were made to office-based physicians in the United States. The visit rate for Whites was higher than the rate for African-American and Hispanic individuals (323.9 versus 235.4 and 271.0 visits per 100 individuals per year, respectively).[3-4] Furthermore, the type or lack of insurance coverage has a significant impact on the ability to obtain timely access to care. Individuals with Medicaid coverage were less likely to receive an appointment than those with private coverage (34.2 percent for Medicaid compared with 63.3 percent for private insurance).[4-5]

Better primary care improves equity in health.[4-6] Areas with a larger disparity of household income have a one-third higher rate of reporting poor or fair health only if coincident with a poor supply of practitioners. Several studies have compared patients at community health centers (CHCs), which

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[4-1] NLM Gateway. Measures of Access to Primary Health Care: Perceptions and Reality. Available at: http://gateway.nlm.nih.gov/MeetingAbstracts/ma?f=102194440.html. Accessed on: August 9, 2011.

[4-2] Hall A, Harris Lemak C, Steingraber H, *et al.* Expanding the definition of access: It isn't just about health insurance. *J Health Care Poor Underserved.* 2008;19:625-638.

[4-3] PR Newswire. Barriers to Primary Care Doubled in a Decade Leading to Continued Rise in Emergency Department Visits. Available at: http://www.prnewswire.com/news-releases/barriers-to-primary-care-doubled-in-a-decade-leading-to-continued-rise-in-emergency-department-visits-127266898.html. Accessed on: August 9, 2011.

[4-4] Centers for Disease Control and Prevention. National Ambulatory Medical Care Survey: 2006 Summary. Available at: http://www.cdc.gov/nchs/data/nhsr/nhsr003.pdf. Accessed on: August 3, 2011.

[4-5] Asplin BR, Rhodes KV, Levy H, et al. Insurance Status and Access to Urgent Ambulatory Care Follow-up Appointments. *Journal of the American Medical Association*. 2005; 294: 1248–1254.

[4-6] Murray M, Swanson JA, Margolis PA. Behind Schedule: Improving Access to Care for Children One Practice at a Time. *Pediatrics.* 2004; 113(3): e230–237.

provide high-quality primary care services, to the general population and found health disparities are significantly decreased in these settings.[4-7]

There is a correlation between higher continuity of and improved utilization in primary care settings. Evidence shows that with increased access to primary care comes better treatment compliance, lower ED usage, and lower hospitalization rates.[4-8] Having a regular source of care was found to be the single most important factor associated with receiving preventive care services, even after considering the effect of demographic characteristics, financial status, and need for ongoing care.

The following pages provide detailed analysis of the Colorado health plans' performance. The Access to Care dimension encompasses the following measures:

- *Children's and Adolescents' Access to Primary Care Practitioners—Ages 12 to 24 Months*
- *Children's and Adolescents' Access to Primary Care Practitioners—Ages 25 Months to 6 Years*
- *Children's and Adolescents' Access to Primary Care Practitioners—Ages 7 to 11 Years*
- *Children's and Adolescents' Access to Primary Care Practitioners—Ages 12 to 19 Years*
- *Adults' Access to Preventive/Ambulatory Health Services—Total*
- *Prenatal and Postpartum Care—Timeliness of Prenatal Care*
- *Prenatal and Postpartum Care—Postpartum Care*

4-7 Starfield B, Shi L. The Medical Home, Access to Care, and Insurance: A Review of Evidence. *Pediatrics.* 2004; 113(5): 1493–1498.

4-8 Murray M, Swanson JA, Margolis PA. Behind Schedule: Improving Access to Care for Children One Practice at a Time. *Pediatrics.* 2004; 113(3): e230–237.

Prenatal and Postpartum Care—Timeliness of Prenatal Care

Measure Definition

The *Timeliness of Prenatal Care* measure calculates the percentage of deliveries of live births between November 6 of the year prior to the measurement year and November 5 of the measurement year, who were continuously enrolled at least 43 days prior to delivery through 56 days after delivery, and who received a prenatal care visit as a member of the health plan in the first trimester or within 42 days of enrollment in the health plan.

Importance

The health of both infant and mother is positively affected by the benefits of prenatal visits. Health care providers are able to educate mothers on important health issues. Diet and nutrition, exercise, immunizations, weight gain, and abstaining from drugs and alcohol are just some of the topics that may be covered during prenatal visits.[4-9] Health professionals also have the unique advantage of being able to instruct expectant parents on nutrition for their newborn, injury and illness prevention, the benefits of breastfeeding, as well as monitor both the mother and the unborn for health-compromising conditions. Health professionals can also help prepare for the new emotional challenges of caring for an infant.[4-10,4-11]

Mothers are more likely to have babies with health problems when they begin receiving care late in pregnancy (defined as beginning in the third trimester) or receive no prenatal care. Babies are three times more likely to be low-birthweight babies when their mothers do not receive prenatal care. Additionally, those babies are five times more likely to die.[4-12] There are some researchers of health care data that have concerns about the effectiveness of prenatal care. It can be difficult to measure the unique effects of prenatal care, as research has shown that women who seek this care are more likely to have higher incomes and intended pregnancies.[4-13] Prenatal care does not always address, and may not be as effective among, women with specific social and medical risks.[4-14] However, adequacy of care, as defined by the frequency and timing of visits, has been correlated with positive

[4-9] National Institute of Child Health and Human Development. Care Before and During Pregnancy: Prenatal Care. Available at: http://www.nichd.nih.gov/womenshealth/research/pregbirth/prenatal_care.cfm. Accessed on: August 9, 2011.

[4-10] Bright Futures. (2002). "Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents" (2nd ed., rev.) Edited by Morris Green and Judith S. Palfrey. Arlington, VA: National Center for Education in Maternal and Child Health. Available at: http://www.brightfutures.org/bf2/pdf/index.html. Accessed on: August 9, 2011.

[4-11] Mathews, T.J., MacDorman, M.F. (2007) Infant Mortality Statistics from the 2004 Period Linked Birth/Infant Death Data Set. National vital statistics reports; vol 55, num 14, Hyattsville, Maryland: National Center for Health Statistics. Available at: http://www.cdc.gov/nchs/data/nvsr/nvsr55/nvsr55_14.pdf. Accessed on: August 9, 2011.

[4-12] Maternal and Child Health Bureau, Health Resources and Services Administration, U.S. Department of Health and Human Services. "A Healthy Start: Begin Before Baby's Born." Available at: ftp://ftp.hrsa.gov/mchb/prenatal.pdf. Accessed on: August 9, 2011.

[4-13] Logan, C., Moore, K., Manlove, J., Mincieli, L., Cottingham, S. 2007. "Conceptualizing a 'Strong Start': Antecedents of Positive Child Outcomes at Birth and Into Early Childhood". Child Trends Research Brief. Child Trends: Washington, D.C. Available at: http://www.childtrends.org/Files//Child_Trends-2007_02_12_RB_StrongStart.pdf. Accessed on: August 9, 2011.

[4-14] Alexander, G.R., Kotelchuck, M. 2001. "Assessing the role and effectiveness of prenatal care: history, challenges, and directions for future research." Public Health Reports. Vol. 116 (4). pp. 306–16. Available at: http://www.pubmedcentral.nih.gov/picrender.fcgi?artid=1497343&blobtype=pdf. Accessed on: August 9, 2011.

outcomes. Those visits may also play a part in the reduced likelihood of postpartum depression and infant injuries.

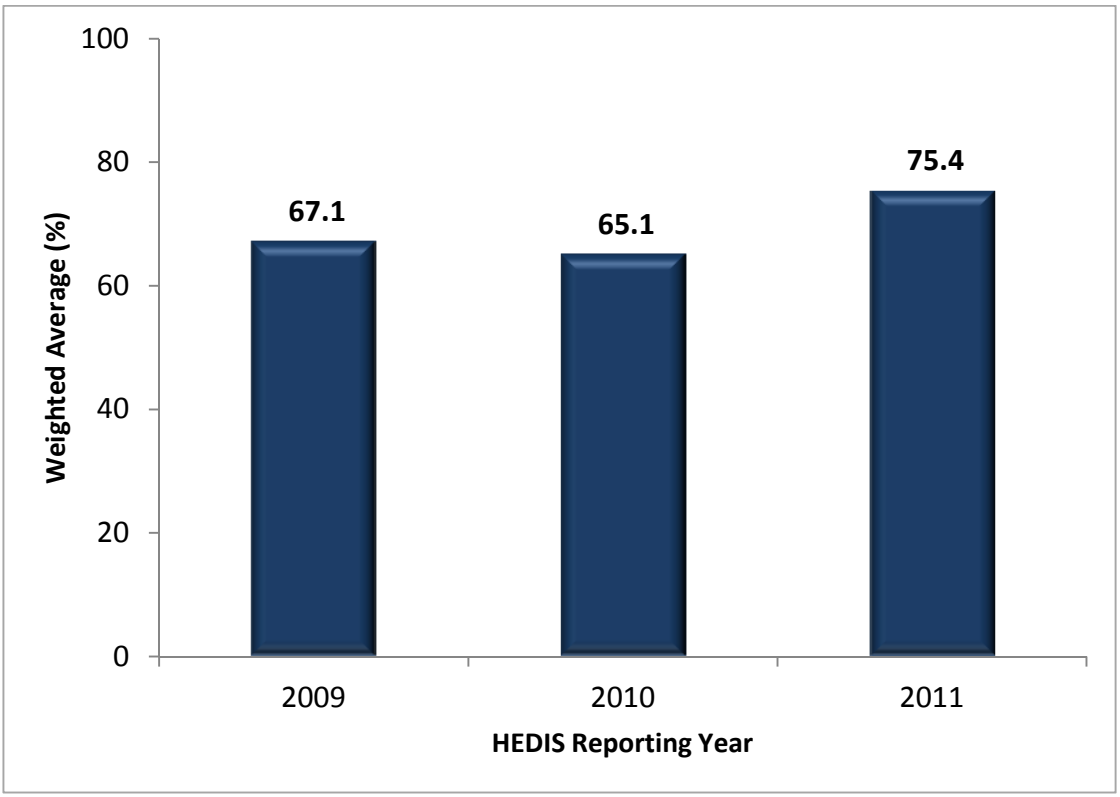
Improving timeliness of prenatal care among low-income women with third-party coverage is likely to require broad social and health policies that focus on factors affecting women before pregnancy. Assistance with transportation could contribute to more timely care for some low-income women, but programs focusing primarily on other noninsurance barriers during pregnancy might not substantially improve the timeliness of care, at least among low-income women with third-party coverage.[4-15]

Each year, there are more than four million infants born in the United States. Approximately 520,000 infants are born preterm each year, and another 338,000 are of low birth weight. Low birth weight carries with it the increased risk for neurodevelopmental handicaps, congenital abnormalities, and respiratory illness. In 2010, Colorado's infant mortality rate ranked 12th in the United States, compared to ranking 16th in 2009, when the infant mortality rate was 6.1 deaths per 1,000 live births.[4-16,4-17] Socioeconomic factors that present barriers to consistent care are common in the Medicaid population. Due to this lack of care, poor birth outcomes are particularly high among Medicaid members.[4-18] In 2008, only 82 percent of Medicaid members received timely prenatal care, compared to approximately 92 percent for members in commercial Medicaid health plans.[4-19]

[4-15] U.S. National Library of Medicine National Institutes of Health. Barriers to Time Prenatal Care Among Women With Insurance: The Importance of Prepregnancy Factors. Available at: http://www.ncbi.nlm.nih.gov/pubmed/10831984. Accessed on: August 9, 2011.
[4-16] United Health Foundation. America's Health: State Health Rankings 2009. Available at: http://www.americashealthrankings.org/Measure/2009/List%20All/Infant%20Mortality.aspx. Accessed on: August 10, 2011.
[4-17] Children's Defense Fund. Children in Colorado. Available at: http://www.childrensdefense.org/child-research-data-publications/data/state-data-repository/cits/2011/children-in-the-states-2011-colorado.pdf. Accessed on: August 9, 2011.
[4-18] Shulman, S. Poor Preventive Care Achievement and Program Retention Among Low Birth Weight Infant Medicaid Enrollees. *Pediatrics*. 2006; 118(5): 1509–1515.
[4-19] National Committee for Quality Assurance. *The State of Health Care Quality 2009*. Washington, D.C.: NCQA; 2009.

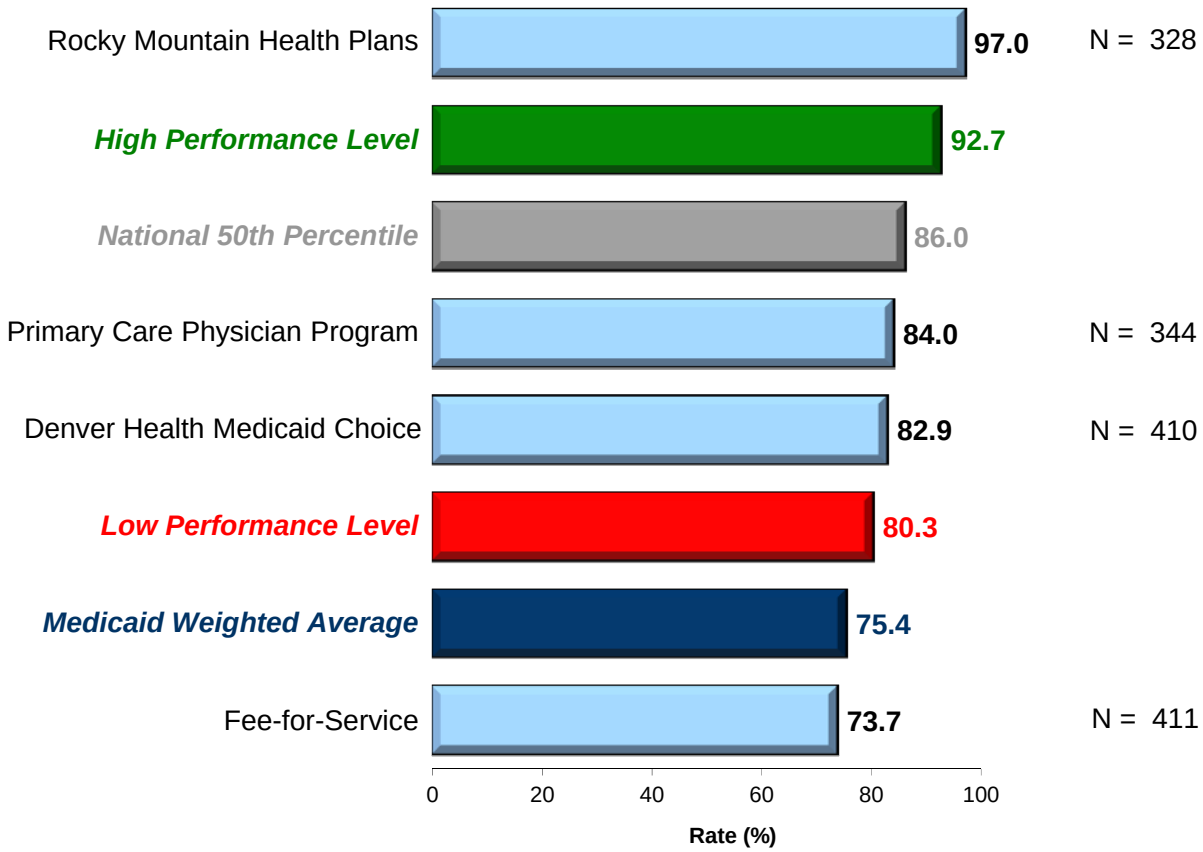
Performance Results

Figure 4-1—Prenatal and Postpartum Care—Timeliness of Prenatal Care
Colorado Medicaid Weighted Averages



The Colorado Medicaid weighted averages for *Timeliness of Prenatal Care* indicator decreased between 2009 and 2010, but increased between 2010 and 2011. The 2011 weighted average increased 10.3 percentage points from the 2010 weighted average and the increase was statistically significant.

Figure 4-2—Prenatal and Postpartum Care—Timeliness of Prenatal Care



One health plan exceeded the HPL of 92.7 percent, and one health plan scored below the LPL of 80.3 percent. The 2011 Colorado Medicaid weighted average of 75.4 percent fell below the national HEDIS 2010 Medicaid 50th percentile by 10.6 percentage points and scored 4.9 percentage points below the LPL.

Prenatal and Postpartum Care—Postpartum Care

Measure Definition

The *Postpartum Care* measure reports the percentage of deliveries of live births between November 6 of the year prior to the measurement year and November 5 of the measurement year, who were continuously enrolled at least 43 days prior to delivery through 56 days after delivery, and who received a postpartum visit on or between 21 days and 56 days after delivery.

Importance

The value of postpartum visits is to ensure that the mother's body has recovered from pregnancy and birth and that no problems have developed. Postpartum care visits provide important opportunities to check the physical and mental well-being of the mother, give and receive information about family planning, and provide referrals for any chronic conditions such as diabetes, high blood pressure, or obesity.[4-20]

Traditionally, much more emphasis has been placed on care planning of the prenatal period and not as much on the postpartum period. Although it is commonly referred to as the six-week period following delivery, many health care professionals agree that the need for postpartum care can extend to four to six months with some patients. However, most problems can be identified within the first six weeks.

There is a disparity between the percent of commercial health plan members who received timely postpartum care and those enrolled in Medicaid plans, indicating that there are socioeconomic factors that serve as barriers to consistent care in the Medicaid population. In 2008, almost 82 percent of members enrolled in commercial health plans received timely postpartum care; however, only 63 percent of Medicaid members received timely postpartum care.[4-21]

Health outcomes for women giving birth are largely determined by whether or not a new mother has received adequate and timely postpartum care. Since medical complications and even death can occur after a woman has given birth, postpartum visits can address possible adverse effects, such as persistent bleeding, inadequate iron levels, thyroid problems, elevated blood pressure, pain, emotional changes, and infections.

One of the most common issues facing new mothers after delivery is postpartum depression. Estimates indicate as many as 70 percent of women experience some degree of postpartum sadness immediately after delivery (i.e., within the first week).[4-22] Approximately 10 percent of these women suffer from postpartum depression for which a postpartum care visit is needed.[4-23] If the woman has a history of postpartum depression, the estimate increases to 25 percent. If untreated,

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[4-20] Marshfield Clinic. Quality in Health Care: Postpartum Care. Available at: http://www.marshfieldclinic.org/patients/?page=about_qualitymeasures_postpartumcare. Accessed on: August 10, 2011.

[4-21] National Committee for Quality Assurance. *The State of Health Care Quality in 2009*. Washington, D.C.: NCQA; 2009.

[4-22] Blenning C, Paladine H. An Approach to the Postpartum Office Visit. *American Family Physician.* 2005; 72(12): 2491–2496.

[4-23] Centers for Disease Control and Prevention. *PRAMS and Postpartum Depression.* Atlanta, GA: CDC; June 2004.

postpartum depression usually lasts around seven months.[4-24] Receiving appropriate postpartum care can address the emotional issues that accompany postpartum depression, and appropriate and timely referrals can be made for continued care if needed.

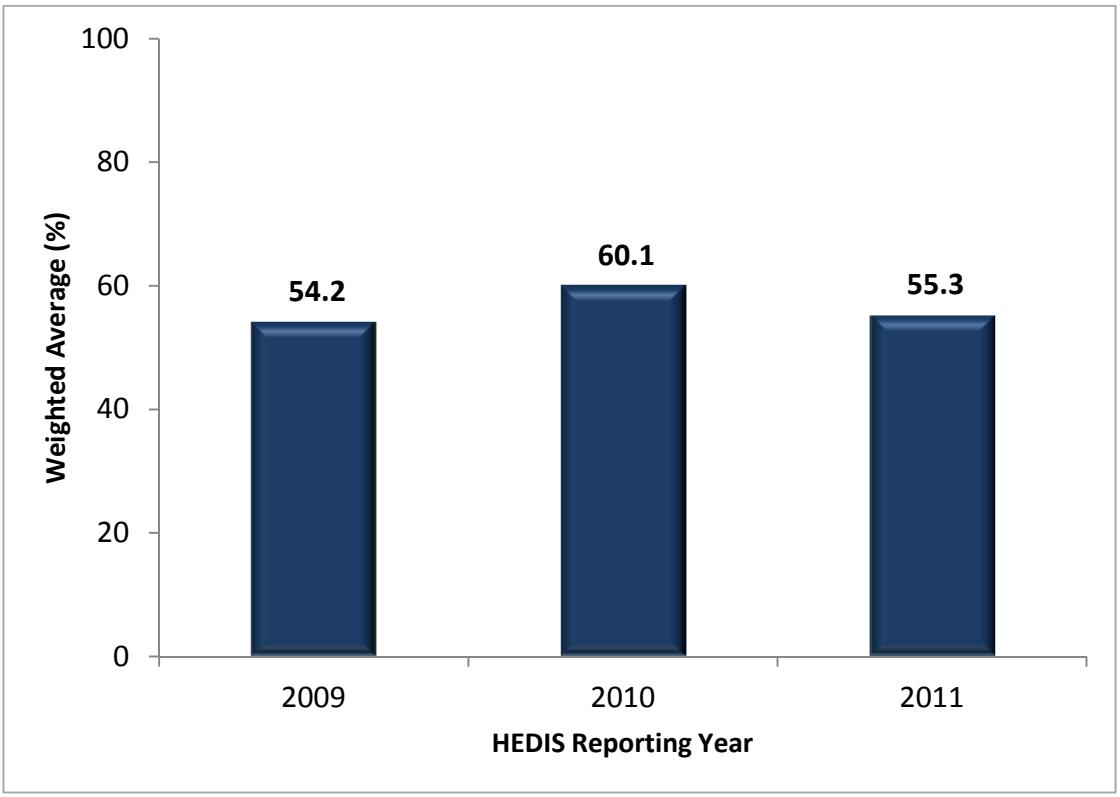
Other physical issues associated with pregnancy should be closely monitored during the postpartum period. Postpartum endometriosis is a problem for 1 to 3 percent of vaginal deliveries. Urinary incontinence is prevalent in up to 23 percent of pregnancies after the first year of delivery. Approximately 4 to 7 percent of pregnancies result in a thyroid disorder during the first year of pregnancy. Women at risk for any of these complications should be tested and treated during the postpartum period.[4-25]

[4-24] Blenning C, Paladine H. An Approach to the Postpartum Office Visit. *American Family Physician.* 2005; 72(12): 2491–2496.

[4-25] Ibid.

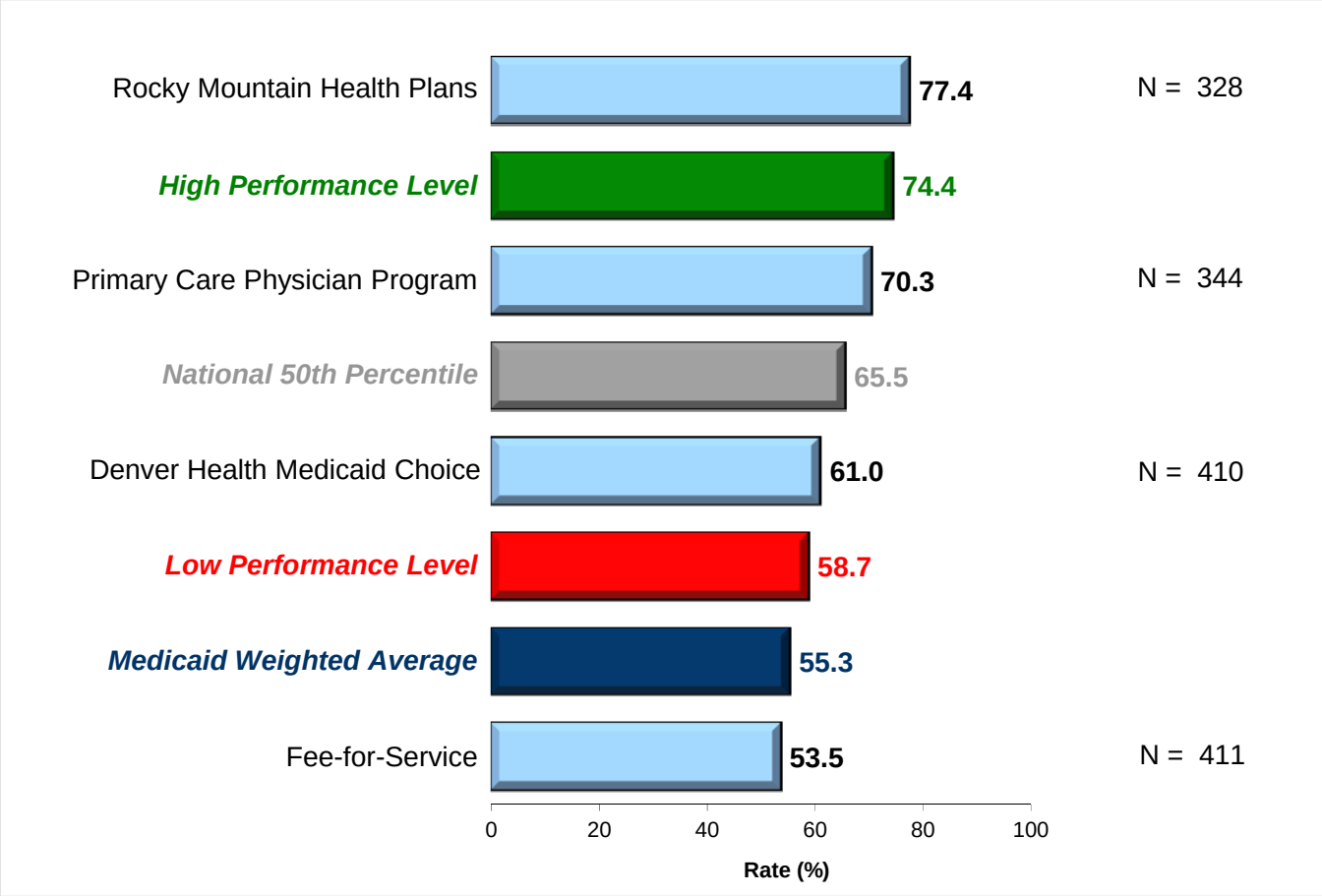
Performance Results

Figure 4-3—Prenatal and Postpartum Care—Postpartum Care
Colorado Medicaid HEDIS Weighted Averages



The weighted averages for *Postpartum Care* indicator increased 5.9 percentage points between 2009 and 2010, but decreased 4.8 percentage points between 2010 and 2011. Overall, there was a net increase of 1.1 percentage points from 2009 to 2011. The observed decline from last year, however, was not statistically significant.

Figure 4-4—Prenatal and Postpartum Care—Postpartum Care



One health plan exceeded the HPL of 74.4 percent, and one fell below the LPL of 58.7 percent. Two health plans, including the one that exceeded the HPL, reported a higher rate than the national HEDIS 2010 Medicaid 50th percentile. The 2011 Colorado Medicaid weighted average of 55.3 percent fell below the national HEDIS 2010 Medicaid 50th percentile by 10.2 percentage points and scored 3.4 percentage points below the LPL.

Children's and Adolescents' Access to Primary Care Practitioners

Measure Definition

Children's and Adolescents' Access to Primary Care Practitioners calculates the percentage of:

- Children 12 to 24 months and 25 months to 6 years who had a visit with a PCP during the measurement year.
- Children 7 to 11 years and adolescents 12 to 19 years who had a visit with a PCP during the measurement year or the year prior to the measurement year.

This measure is reported in four age groups: 12 to 24 months, 25 months to 6 years, 7 to 11 years, and 12 to 19 years.

Importance

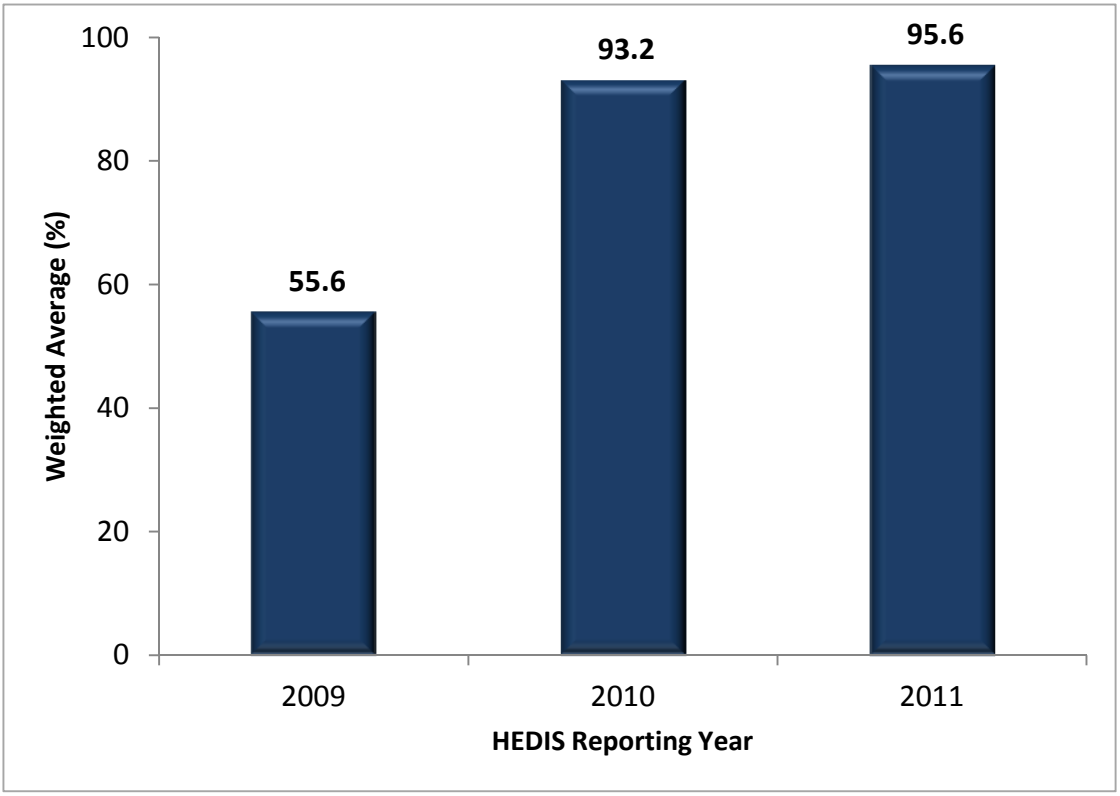
The *Children's and Adolescents' Access to Primary Care Practitioners* measure looks at visits to pediatricians, family physicians, and other PCPs as a way to assess general access to care for children. Regular access to primary care assures continuity of care and provides essential preventive and acute care services to children and adolescents. According to a report from The Commonwealth Fund, Colorado ranked 48th in the country in terms of the best access to care for children.[4-26] One important component in this ranking was insurance coverage. The report ranked Colorado 44th nationwide for having the lowest rate of uninsured children. In addition, Colorado ranks 28th in the United States for children with a reported regular source of primary health care. However, the proportion of children who have a medical home declined from 87 percent to 62 percent between 2004 and 2007.[4-27]

[4-26] The Commonwealth Fund. United States Variations in Child Health System Performance: A State Scorecard. Available at: http://www.commonwealthfund.org/usr_doc/site_docs/slideshows/ChildScorecard/ChildScorecard.html. Accessed on: September 1, 2010.

[4-27] The 2008 Colorado Health Report Card. The Colorado Health Foundation. Available at: http://www.coloradohealthreportcard.org/ReportCard/2009/subdefault.aspx?id=2774. Accessed on: August 31, 2009.

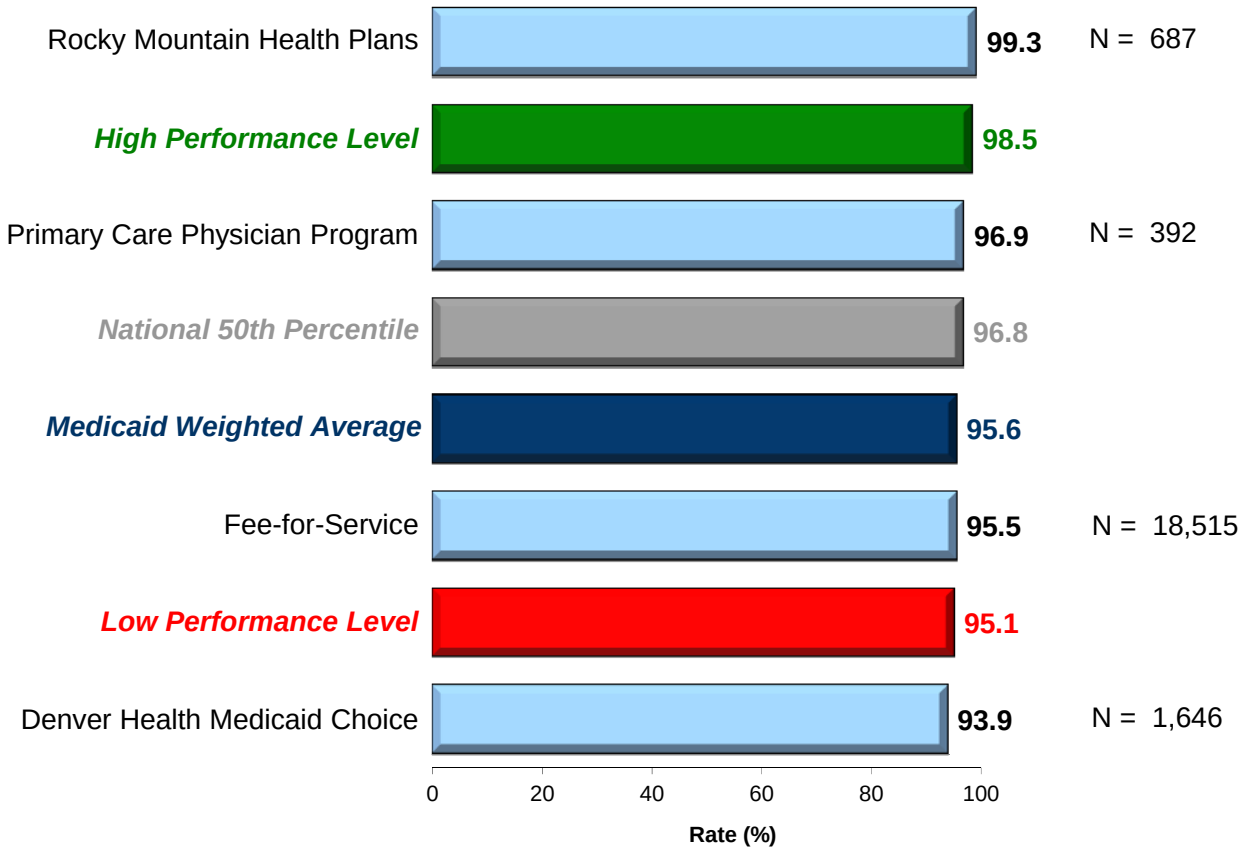
Performance Results

Figure 4-5—Children's and Adolescents' Access to Primary Care Practitioners: Ages 12 to 24 Months Colorado Medicaid Weighted Averages



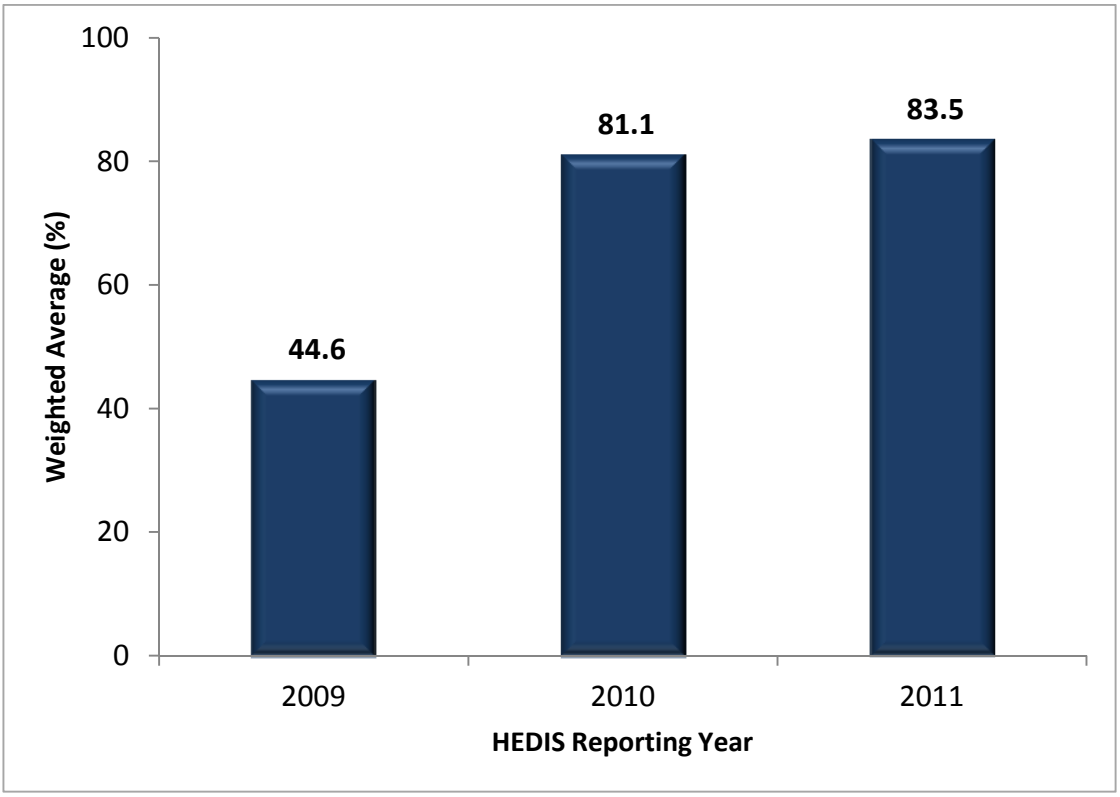
The weighted averages for *Children's and Adolescents' Access to Primary Care Practitioners—Ages 12 to 24 Months* have increased each year from 2009 to 2011. The 2011 weighted average increased 40.0 and 2.4 percentage points over the 2009 and 2010 weighted averages, respectively. The improvement from 2010 to 2011 was statistically significant.

Figure 4-6—Children's and Adolescents' Access to Primary Care Practitioners: Ages 12 to 24 Months



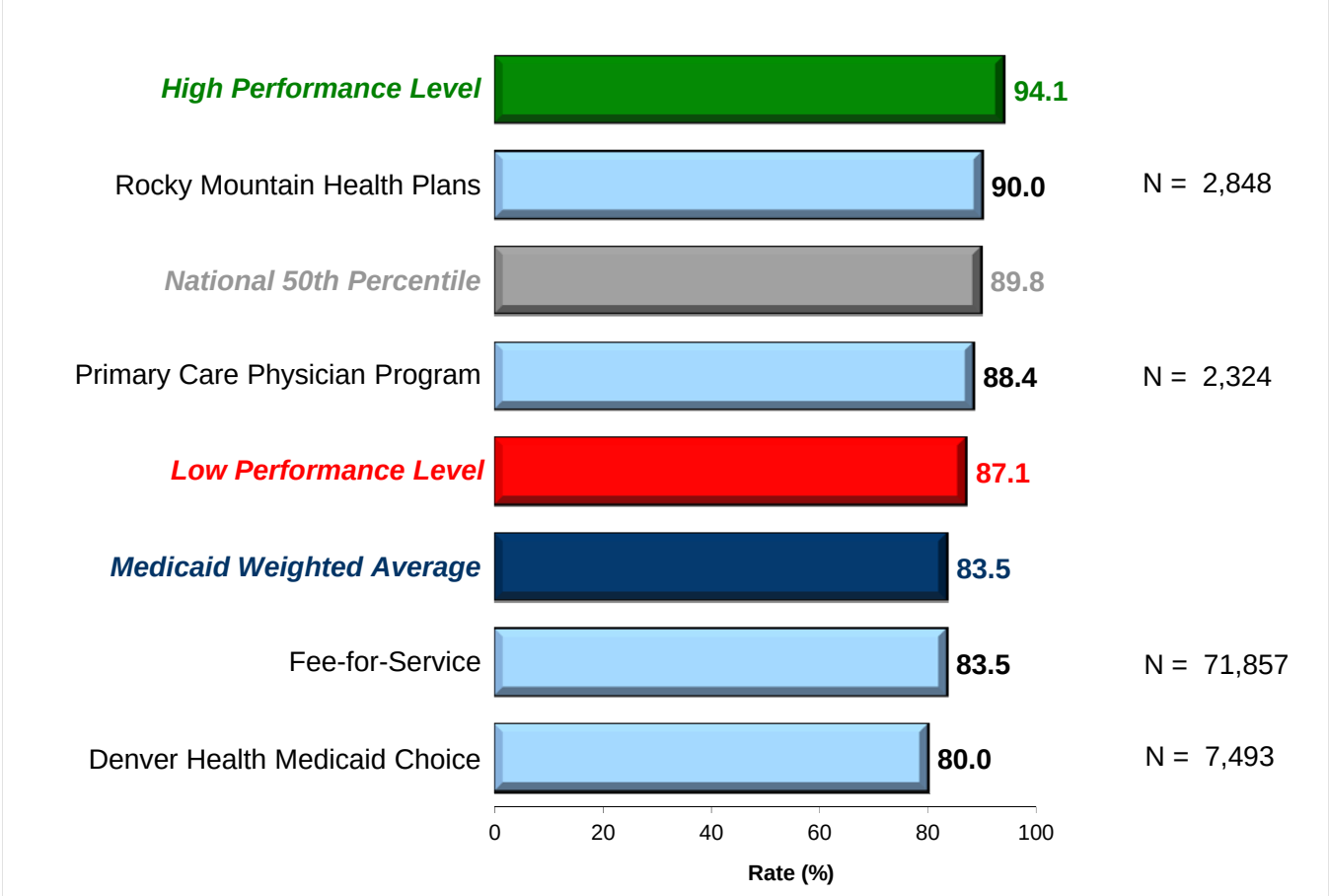
One health plan exceeded the HPL of 98.5 percent, and one health plan fell below the LPL of 95.1 percent. Two health plans, including the one that exceeded the HPL, reported higher rates than the national HEDIS 2010 Medicaid 50th percentile. The 2011 Colorado Medicaid weighted average of 95.6 percent fell below the national HEDIS 2010 Medicaid 50th percentile by 1.2 percentage points.

**Figure 4-7—Children's and Adolescents' Access to Primary Care Practitioners:
Ages 25 Months to 6 Years
Colorado Medicaid Weighted Averages**



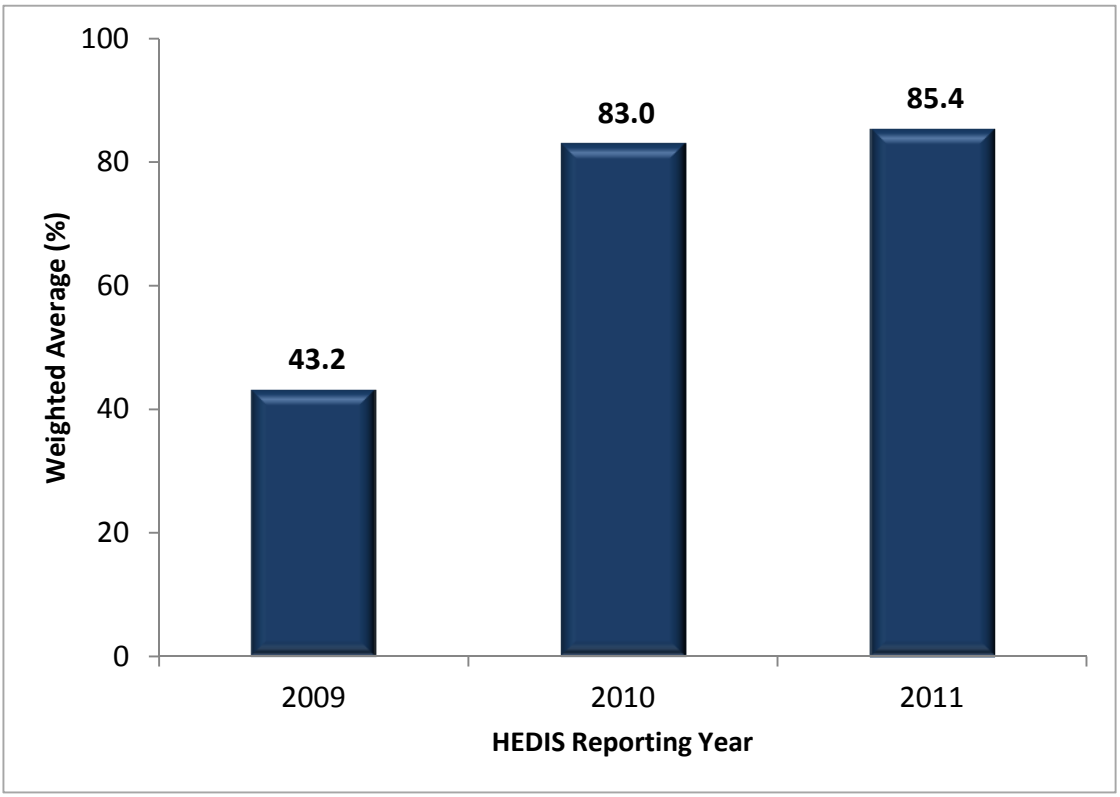
The weighted averages for *Children's and Adolescents' Access to Primary Care Practitioners—Ages 25 Months to 6 Years* have increased each year from 2009 to 2011. The 2011 weighted average increased 38.9 and 2.4 percentage points over the 2009 and 2010 weighted averages, respectively. The improvement from 2010 to 2011 was statistically significant.

Figure 4-8—Children's and Adolescents' Access to Primary Care Practitioners: Ages 25 Months to 6 Years



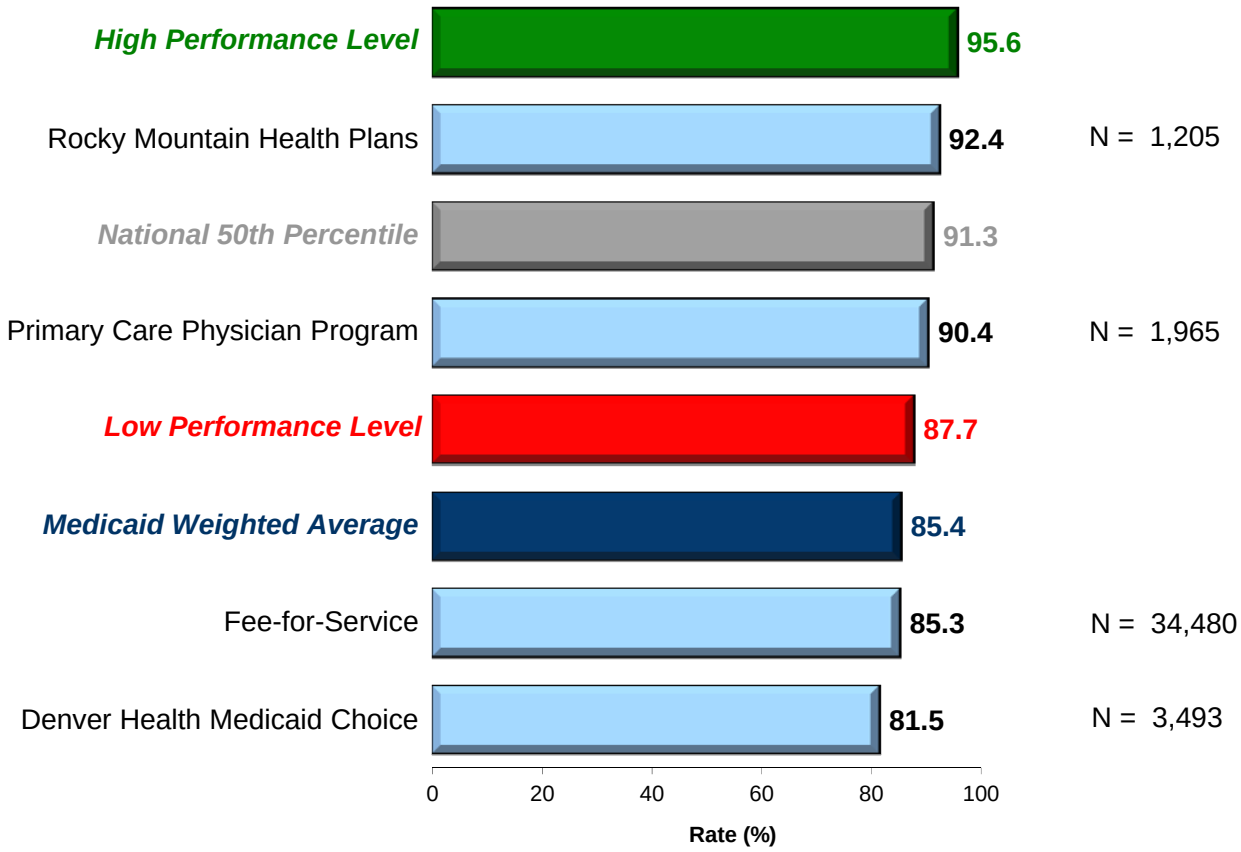
None of the health plans exceeded the HPL of 94.1 percent, and two of the health plans fell below the LPL of 87.1 percent. One health plan reported a rate that exceeded the national HEDIS 2010 Medicaid 50th percentile. The 2011 Colorado Medicaid weighted average of 83.5 percent fell below the national HEDIS 2010 Medicaid 50th percentile by 6.3 percentage points and scored 3.6 percentage points below the LPL.

Figure 4-9—Children's and Adolescents' Access to Primary Care Practitioners: Ages 7 to 11 Years Colorado Medicaid Weighted Averages



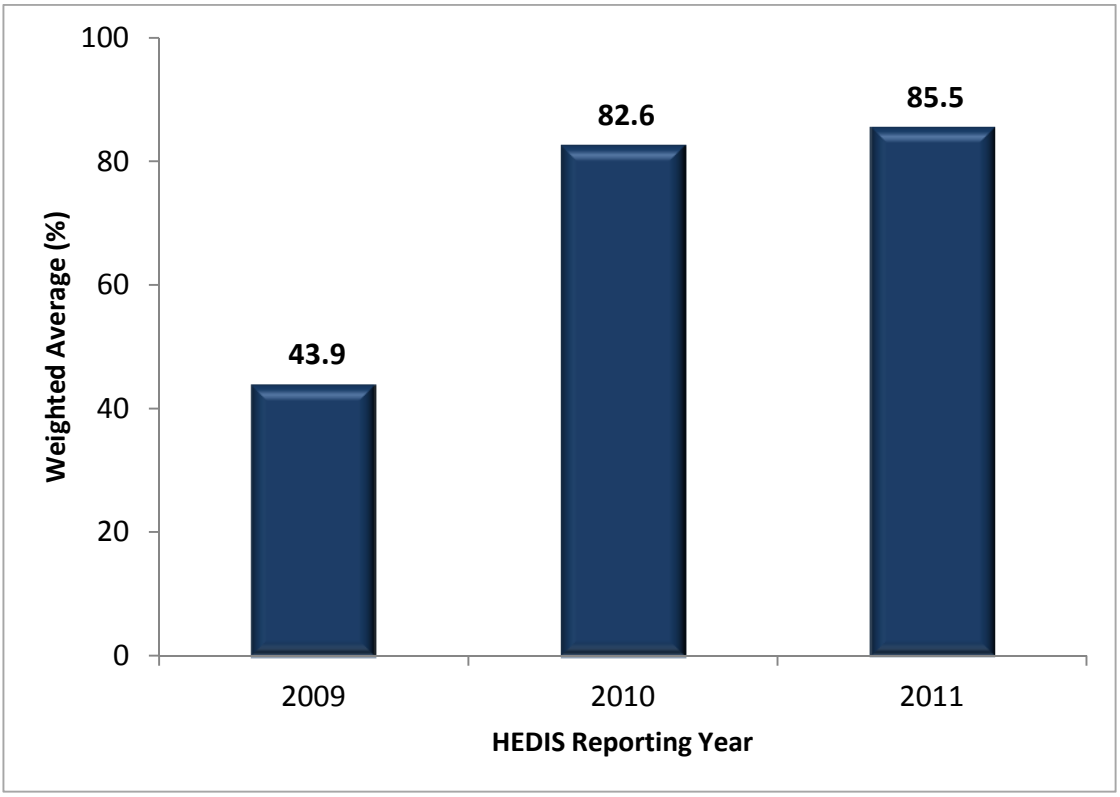
The weighted averages for *Children's and Adolescents' Access to Primary Care Practitioners—Ages 7 to 11 Years* have increased each year from 2009 to 2011. The 2011 weighted average increased 42.2 and 2.4 percentage points over the 2009 and 2010 weighted averages, respectively. The improvement from 2010 to 2011 was statistically significant.

Figure 4-10—Children's and Adolescents' Access to Primary Care Practitioners: Ages 7 to 11 Years



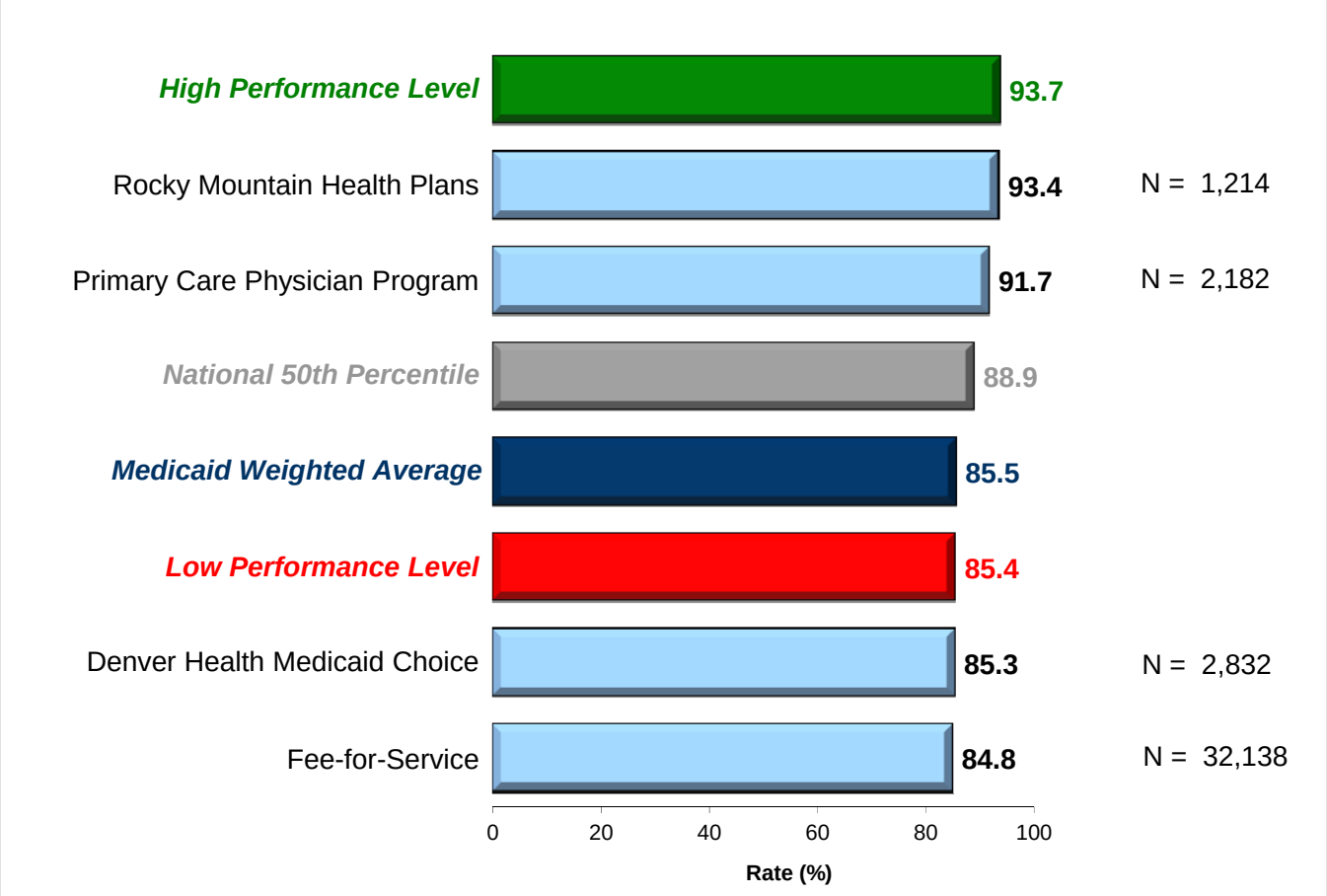
None of the health plans exceeded the HPL of 95.6 percent, and two of the health plans fell below the LPL of 87.7 percent. One health plan reported a rate that exceeded the national HEDIS 2010 Medicaid 50th percentile. The 2011 Colorado Medicaid weighted average of 85.4 percent fell below the national HEDIS 2010 Medicaid 50th percentile by 5.9 percentage points and scored 2.3 percentage points below the LPL.

Figure 4-11—Children's and Adolescents' Access to Primary Care Practitioners: Ages 12 to 19 Years Colorado Medicaid Weighted Averages



The weighted averages for *Children's and Adolescents' Access to Primary Care Practitioners—Ages 12 to 19 Years* have increased each year from 2009 to 2011. The 2011 weighted average increased 41.6 and 2.9 percentage points over the 2009 and 2010 weighted averages, respectively. The improvement from 2010 to 2011 was statistically significant.

Figure 4-12—Children's and Adolescents' Access to Primary Care Practitioners: Ages 12 to 19 Years



None of the health plans exceeded the HPL of 93.7 percent, and two of the health plans fell below the LPL of 85.4 percent. Two health plans reported rates exceeding the national HEDIS 2010 Medicaid 50th percentile. The 2011 Colorado Medicaid weighted average of 85.5 percent fell below the national HEDIS 2010 Medicaid 50th percentile by 3.4 percentage points.

Adults' Access to Preventive/Ambulatory Health Services

Measure Definition

The *Adults' Access to Preventive/Ambulatory Health Services* measure calculates the percentage of adults 20 years and older who were continuously enrolled during the measurement year and who had an ambulatory or preventive care visit during the measurement year. For this measure, four rates are reported: 20 to 44 years, 45 to 64 years, 65 years and older, and total. In this section, total rates were presented. The results for each age group are displayed in Appendix A.

Importance

Preventive care can significantly and positively affect many causes of disease and death. A five-year study of adults in a national survey showed that those who had a primary care physician as their regular source of care had one-third lower costs and were 19 percent less likely to die.[4-28] However, to realize these benefits, people must have access to effective services. A shortage of health care providers or facilities is a basic limitation that may impact access, but other factors such as lack of adequate health insurance, cultural and language differences, and lack of knowledge or education can also limit access. Lack of a usual source of medical care can also be a barrier to accessing health care. In 2006–2007, about 18 percent of U.S. adults 18 to 64 years of age did not have a usual source of health care.[4-29]

[4-28] Starfield B, Shi L. The Medical Home, Access to Care, and Insurance: A Review of Evidence. *Pediatrics*. 2004; 113(5): 1493–1498. Available at: http://pediatrics.aappublications.org/content/113/Supplement_4/1493.full.pdf . Accessed on: June 23, 2010.

[4-29] U.S. Department of Health and Human Services. Centers for Disease Control and Prevention. *Health, United States, 2009*. Atlanta, GA: DHHS; 2010.

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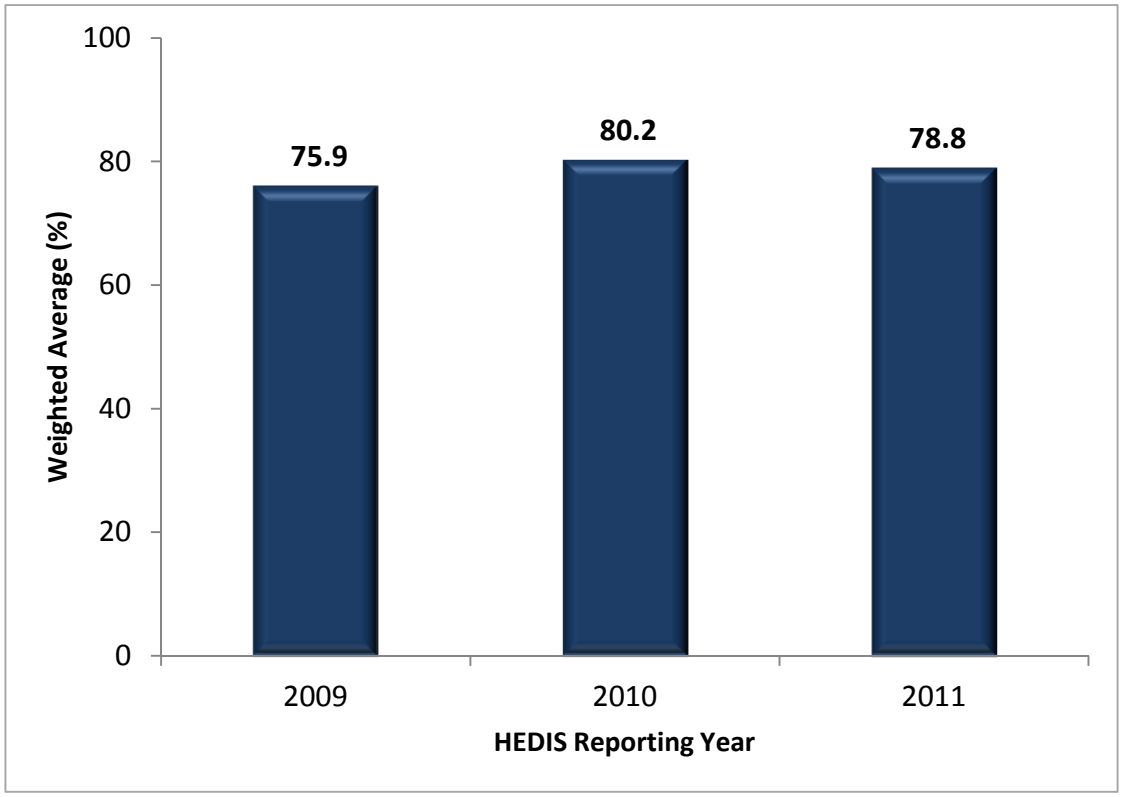
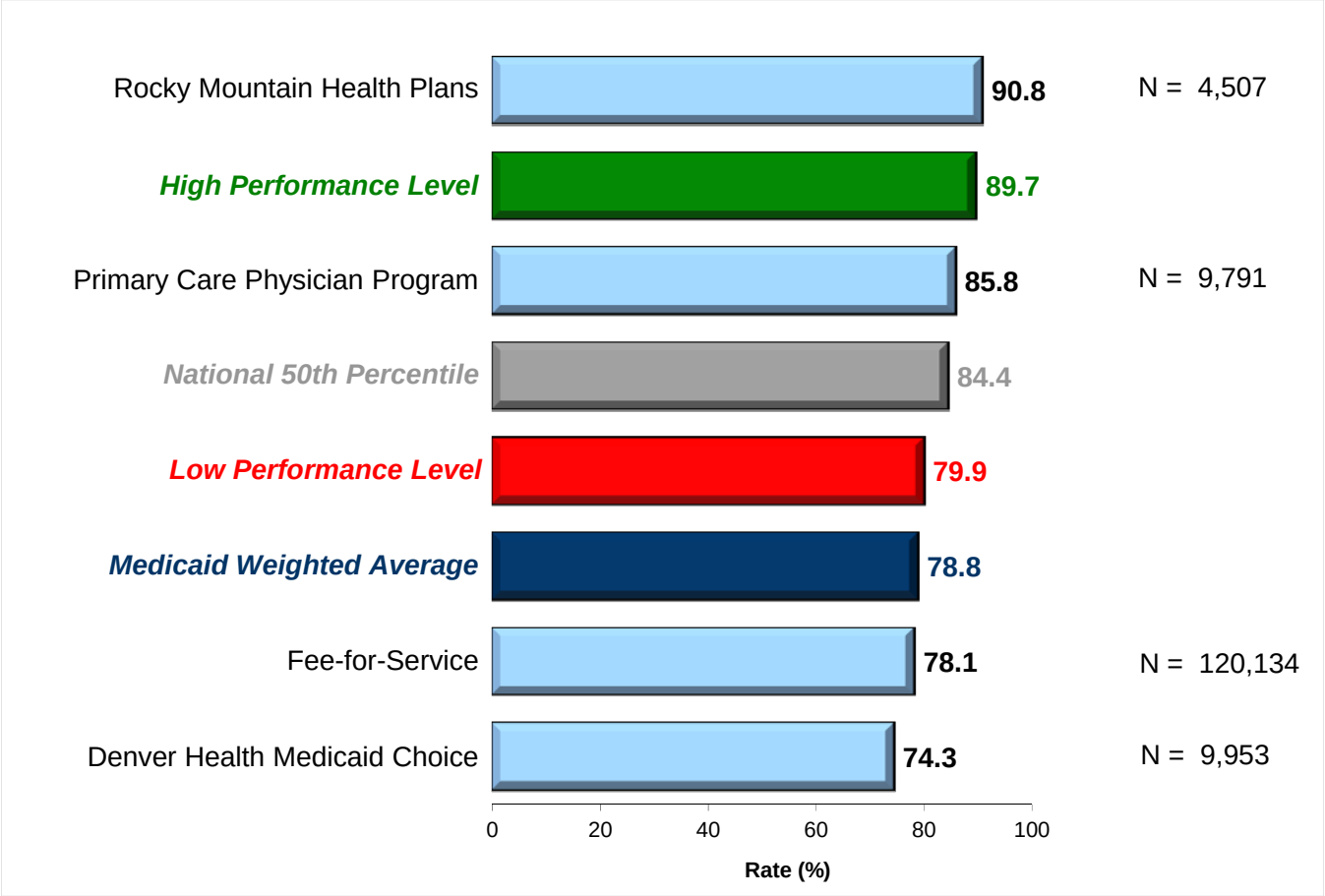
Figure 4-13—Adults' Access to Preventive/Ambulatory Health Services—Total Colorado Medicaid Weighted Averages



Note: The 'Total' age group was not a reported age group in HEDIS 2009; the weighted average for 2009 was calculated based on the three reported age groups from all plans.

The weighted averages for *Adults' Access to Preventive/Ambulatory Health Services—Total* increased 4.3 percentage points between 2009 and 2010 but decreased 1.4 percentage points between 2010 and 2011. The decline from 2010 to 2011 was statistically significant.

Figure 4-14—Adults' Access to Preventive/Ambulatory Health Services—Total



One health plan exceeded the HPL of 89.7 percent, and two fell below the LPL of 79.9 percent. Two health plans, including the one above the HPL, reported a rate above the national HEDIS 2010 Medicaid 50th percentile. The 2011 Colorado Medicaid weighted average of 78.8 percent fell below the national HEDIS 2010 Medicaid 50th percentile by 5.6 percentage points and scored 1.1 percentage points below the LPL.

Summary of Findings

Table 4-1 presents a summary of the health plans' overall performance (in rank order from highest-to-lowest performing health plan) on the Access to Care dimension.

Table 4-1—Overall Access to Care Performance Summary by Plan	
Health Plan Name	**Star Rating Results**
RMHP	★★★★
PCPP	★★★
FFS	★★
DHMC	★★

Table 4-2 presents a summary of the health plans' performance for each of the measures in the Access to Care dimension.

Table 4-2—Access to Care Performance Summary by Measure				
Measure	**FFS**	**PCPP**	**DHMC**	**RMHP**
Prenatal and Postpartum Care—Timeliness of Prenatal Care	★★	★★★	★★★	★★★★★
Prenatal and Postpartum Care—Postpartum Care	★★	★★★★	★★★	★★★★★
Children's and Adolescents' Access to Primary Care Practitioners—Ages 12 to 24 Months	★★★	★★★	★★	★★★★★
Children's and Adolescents' Access to Primary Care Practitioners—Ages 25 Months to 6 Years	★★	★★★	★	★★★
Children's and Adolescents' Access to Primary Care Practitioners—Ages 7 to 11 Years	★★	★★★	★	★★★
Children's and Adolescents' Access to Primary Care Practitioners—Ages 12 to 19 Years	★★	★★★	★★	★★★★
Adults' Access to Preventive/Ambulatory Health Services—Total	★★	★★★	★★	★★★★★

Table 4-3 presents a summary of the number of measures that fell into each star category for the Access to Care dimension.

Table 4-3—Access to Care Star Ratings Summary

Health Plan Name	5 Stars	4 Stars	3 Stars	2 Stars	1 Star	NA/NR
FFS	0	0	1	6	0	0
PCPP	0	1	6	0	0	0
DHMC	0	0	2	3	2	0
RMHP	4	1	2	0	0	0

RMHP was the top-performing health plan in the Access to Care dimension, with four measures receiving a 5-star rating (rates at or above the national HEDIS 2010 Medicaid 90th percentile). DHMC and FFS both had at least five measures reporting rates below the 25th percentiles, with DHMC having two measures below the 10th percentiles.

Best Practices

Prenatal and Postpartum Care

Use Automated Appointment Scheduling and Reminders

One best practice is to implement an automated process for identifying members that are at 36 weeks gestation to schedule a postpartum appointment approximately four to eight weeks after birth. An automated process should be developed to identify those members that have not scheduled or have missed a necessary postpartum care visit. An obstetrical database can be used to facilitate this process. Another best practice is to work with the appointment scheduling department to set up a postpartum appointment when the woman is discharged from the hospital.

Improve Coordination of Care

Plans that coordinate care and validate practice guidelines between internists, family practitioners, and OB/GYNs can positively affect maternal health. Incorporating alternative types of providers into the care delivery process, such as nurses and midwives, has been associated with increased member satisfaction. Interventions that incorporate member tools into prenatal visits have been shown to improve rates.

Launch Educational Outreach Programs

Educational outreach programs aimed at educating women who are pregnant or who have recently had a baby about the importance of timely prenatal and postpartum care could be developed and implemented. Educational programs can be administered throughout the community in various settings. Media campaigns can also be employed to further publicize the importance of receiving adequate care. Health plans should ensure that educational materials meet the language, literacy levels, and cultural needs of their Medicaid members.

Informational mailings can also be sent to members identified through administrative data who are of childbearing age. These mailings can include information on women's health, including prenatal and postpartum health care visits.

Provide Resource Lists

One barrier to care may be that women simply do not know where to receive health care. A solution to overcoming this barrier is to ensure that a resource list that includes provider contact information is readily available to women. For example, a list of resources could be made available to women when and where pregnancy tests are performed, as well as through health plan mailings and health plans' Web sites. In addition, resource lists could be disseminated to providers to ensure that their patients are receiving necessary care.[4-30]

[4-30] Tough S, S, Siever J, Johnson D. Retaining Women in a Prenatal care Randomized Controlled Trial in Canada: Implications for Program Planning. *BMC Public Health.* 2007; 7:148.

Engage Medical Directors and Pertinent Staff Members

It is important to distribute the results of the HEDIS measures to medical directors and those staff most intimately involved with quality improvement efforts aimed at increasing rates. Engaging pertinent staff members will help to promote change throughout the organization. It is also important to provide staff members with benchmark data (e.g., national and State data) so that they can see how their plan is performing relative to comparable entities.

Children's and Adolescents' Access to Primary Care Practitioners and Adults' Access to Preventive/Ambulatory Health Services

Reducing Waiting Time for Appointments

A study of nonurgent visits by children in two urban emergency departments found that long office waiting times was a commonly-cited reason that parents chose the emergency department for care. Practices can reduce delays for appointments by improving office efficiency and scheduling practices. Implementation requires some adjustment for practice staff because the system conflicts with long-held physician and staff views that waiting is acceptable for patients who do not have urgent problems.

Matching Supply and Demand

A key principle for improving access to care is the ability to match visit supply and demand daily. Practice-level data can be collected to assess patient demand for care as well as capacity to supply appointments. Variables to track include: calls for appointment requests, appointments available by day of the week, and practice patient-population size. While a rough estimate of daily demand can be calculated as (number of patients in population) x (0.008), this estimate should be adjusted to different populations and to accommodate variation in daily and seasonal demand. For example, Mondays, Fridays, and winter months typically have higher volumes.

Practices should implement office-efficiency improvements focused on matching supply and demand. One important area is the design of contingency plans to manage the schedules of clinicians and staff members during vacations or unexpected absences. Coordinated efforts and foresight can be used to ensure sustainability of care.

Geographic Availability

Geographic availability is an important determinant that affects access to care. Members living in counties with fewer primary care physicians are more likely to use emergency departments as their usual source of acute care. Many rural and inner-city urban areas still have fewer primary care physicians than demand would necessitate. Improving access to PCPs will be successful if there are adequate physician levels to meet demand.

Administrators can use Geographical Information System (GIS) applications to manage the geographic distribution of doctors and nurses based on maps of where patients are coming from. Types of visits can be mapped in relation to patient distributions in order to determine if certain

regions have proportionately higher emergency department utilization, for instance, than other regions. Correlations between region, inappropriate utilization, and availability of primary care practices can indicate where lower access rates are unduly influenced by physical barriers to care.

Patient Reminder Systems

Practice scheduling systems are the point of entry to primary care health services for children and thus directly determine access to care at the practice level. Patient reminder systems are simple, effective scheduling interventions that can improve outcomes for children. Patient reminder systems include mailed, electronically mailed, or telephoned messages to families sent before prescheduled appointments. Studies available on reminder systems show a consistent effect on reducing patient no-show rates in a variety of settings and reminder types.

Introduction

Chronic diseases affect 133 million people in the United States—nearly half of all Americans—and account for seven out of 10 deaths per year, as well as the vast majority of health care spending.[5-1] The aging U.S. population will increase this population to an estimated 157 million people by the year 2020.[5-2] Chronic diseases are also the leading causes of disability in the United States. Additionally, about one-fourth of those with chronic conditions experience at least one daily activity limitation.

The following section provides a detailed analysis of the Colorado Medicaid health plans' performance for the Living With Illness dimension. The Living With Illness dimension encompasses the following measures:

- *Annual Monitoring for Patients on Persistent Medications—Total*
- *Use of Imaging Studies for Low Back Pain*
- *Controlling High Blood Pressure*
- *Pharmacotherapy Management of COPD Exacerbation—Bronchodilator*
- *Pharmacotherapy Management of COPD Exacerbation—Systemic Corticosteroid*
- *Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis*

5-1 Centers for Disease Control and Prevention. Chronic Diseases and Health Promotion. Available at: http://www.cdc.gov/chronicdisease/overview/index.htm. Accessed on: August 4, 2011.

5-2 Partnership for Solutions. Chronic Conditions: Making the Case for Ongoing Care. Available at: http://www.partnershipforsolutions.org/DMS/files/chronicbook2004.pdf. Accessed on: August 4, 2011.

Annual Monitoring for Patients on Persistent Medications

Measure Definition

The *Annual Monitoring for Patients on Persistent Medications* measure assesses the percentage of members 18 years of age and older who received at least a 180-day supply of ambulatory medication therapy for a select therapeutic agent during the measurement year and at least one therapeutic monitoring event for the therapeutic agent in the measurement year. The selected therapeutic agents measured were: angiotensin converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARB), digoxin, diuretics, and anticonvulsants.

Importance

Physicians of patients who have taken medication for long periods of time must carefully manage and monitor these patients in order to assess medication side effects and adjust drug dosage decisions accordingly. However, as many as half of all patients on persistent medications that carry a high risk of toxicity receive no annual drug monitoring.[5-3] In the United States, medication-related problems cause approximately 106,000 deaths every year, and the annual costs associated with preventable adverse drug events total more than $4 billion.

Of the more than 700,000 visits that Americans make to emergency rooms each year due to adverse drug events, 120,000 patients require hospitalization for further treatment.[5-4] Through medication monitoring, clinicians can adjust a patient's dosage to prevent avoidable adverse events. Monitoring can also prevent liver and kidney damage, thyroid problems, heart attack, and death. The number of adverse drug reactions has been found to increase in direct proportion to the number of medications patients take.[5-5] Appropriate monitoring of drug therapy remains a significant issue to guide therapeutic decision-making and provides an unmet opportunity to improve care for patients on persistent medications.

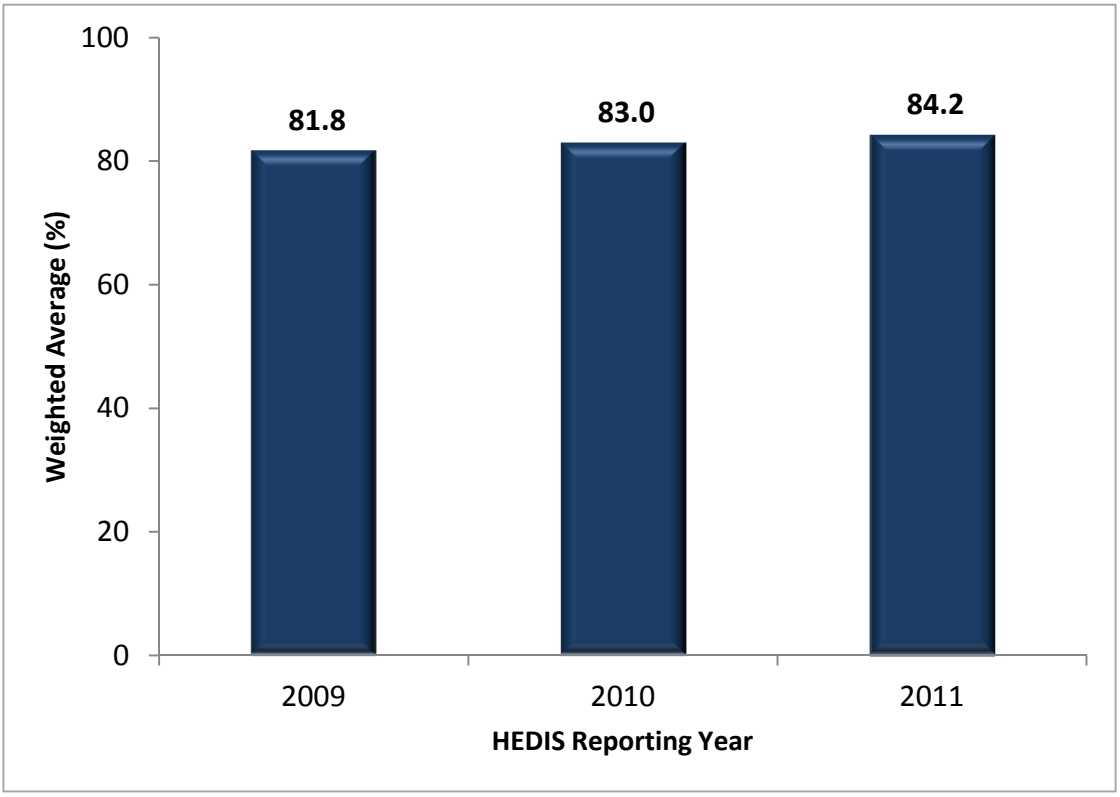
5-3 National Committee for Quality Assurance. *The State of Health Care Quality 2010*. Washington, D.C.: NCQA; 2010. Available at: http://www.ncqa.org/portals/0/state%20of%20health%20care/2010/sohc%202010%20-%20full2.pdf. Accessed on August 4, 2011.

5-4 Ibid.

5-5 Ibid.

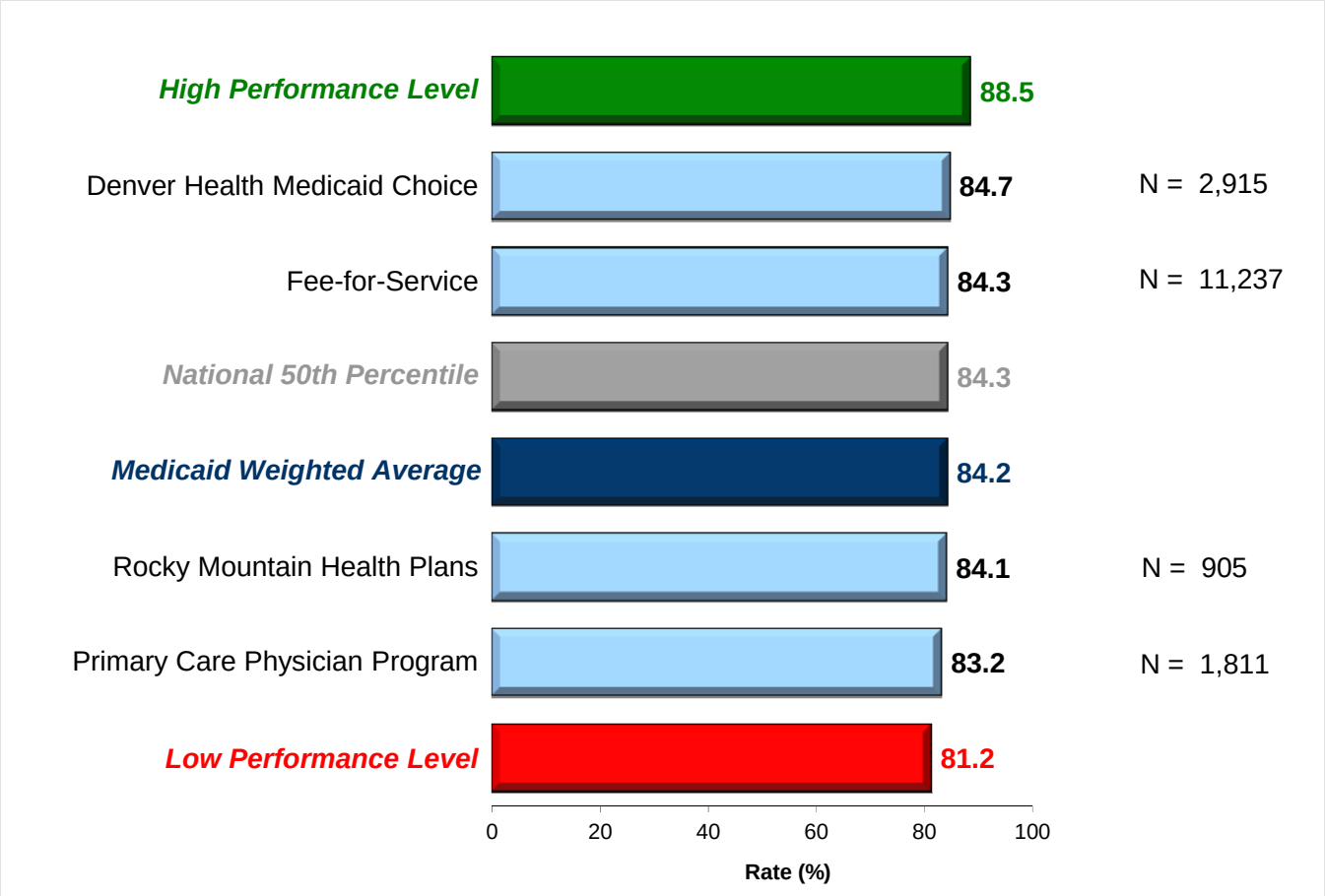
Performance Results

Figure 5-1—Annual Monitoring for Patients on Persistent Medications—Total Colorado Medicaid Weighted Averages



The Colorado Medicaid weighted averages for *Annual Monitoring for Patients on Persistent Medications—Total* has increased each year from 2009 to 2011. The 2011 weighted average increased 2.4 and 1.2 percentage points over the 2009 and 2010 weighted averages, respectively. The increase from 2010 to 2011 was statistically significant.

Figure 5-2—Annual Monitoring for Patients on Persistent Medications—Total



None of the health plans exceeded the HPL of 88.5 percent or fell below the LPL of 81.2 percent. Two health plans reported a rate above the national HEDIS 2010 Medicaid 50th percentile. The 2011 Colorado Medicaid weighted average of 84.2 percent was slightly below the national HEDIS 2010 Medicaid 50th percentile by 0.1 percentage point.

Use of Imaging Studies for Low Back Pain

Measure Definition

The *Use of Imaging Studies for Low Back Pain* measure assesses the percentage of members between 18 and 50 years of age, enrolled 180 days prior to the index episode start date (IESD) through 28 days after the IESD, who had a primary diagnosis of low back pain and who did not have an imaging study (x-ray, magnetic resonance imaging [MRI], computed topography [CT] scan) within 28 days of diagnosis.

Importance

Americans spend about $50 billion annually on low back pain; it is the most common cause of job-related disability and also is a major contributor to missed work days.[5-6] For most patients, acute low back pain is non-specific and lasts from a few days to a few weeks. Only a small portion of patients with persistent pain will need to be evaluated further to investigate more serious health problems. A history and physical examination can provide clues to the rare but potentially serious causes of low back pain. While imaging may be appropriate for patients at risk for more serious conditions, the majority of patients experience low back pain that is non-specific and with no identifiable cause. According to the American College of Radiology, uncomplicated acute low back pain is usually benign and self-limited, and does not necessitate any imaging studies, (e.g., x-ray, MRI, or CT scan).[5-7]

The rate of lumbar spine magnetic resonance imaging continues to increase in the United States, even though there is no evidence that it results in improved patient outcomes.[5-8] Overutilization of lumbar imaging for low back pain is a likely contributor to a two-to-three fold increase in surgical rates over the past 10 years. It is even possible that imaging abnormalities can decrease a patient's self-perception of health and predispose them to chronicity.[5-9]

5-6 National Institute of Neurological Disorders and Stroke. Low Back Pain Fact Sheet. Available at: http://www.ninds.nih.gov/disorders/backpain/detail_backpain.htm. Accessed on August 5, 2011.

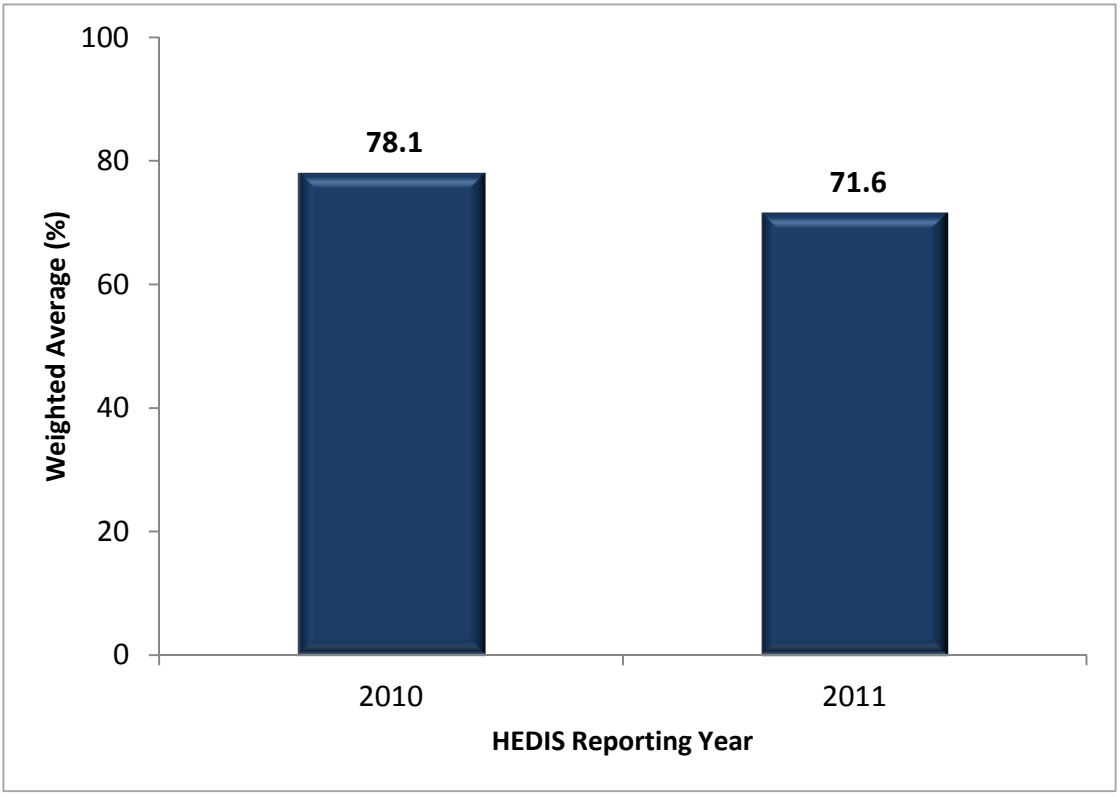
5-7 American College of Radiology. ACR Appropriateness Criteria. Available at: http://www.acr.org/SecondaryMainMenuCategories/quality_safety/app_criteria/pdf/ExpertPanelonNeurologicImaging/lowbackpainDoc7.aspx. Accessed on August 5, 2011.

5-8 Flynn TW, Smith B, Chou R. Appropriate Use of Diagnostic Imaging in Low Back Pain – A Reminder That Unnecessary Imaging May Do as Much Harm as Good. The *Journal of Orthopaedic and Sports Physical Therapy*. 2011 Jun 3.

5-9 Ibid.

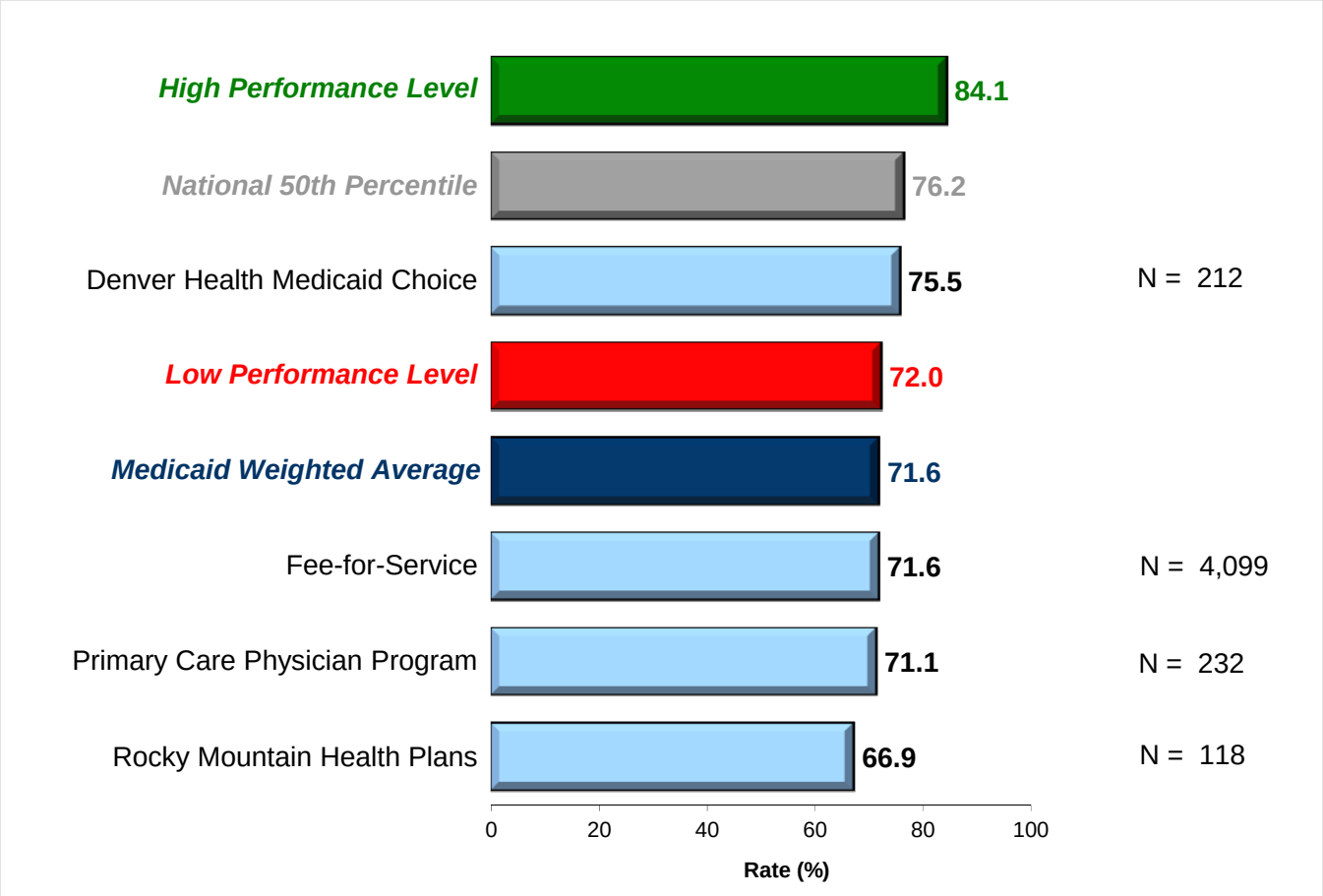
Performance Results

Figure 5-3—Use of Imaging Studies for Low Back Pain
Colorado Medicaid Weighted Averages



Use of Imaging Studies for Low Back Pain was a new measure for HEDIS 2010; therefore, only two years of results were presented in Figure 5-3. The 2011 Colorado Medicaid weighted average decreased 6.5 percentage points compared to the 2010 weighted average. This decline was statistically significant.

Figure 5-4—Use of Imaging Studies for Low Back Pain



None of the health plans exceeded the HPL of 84.1 percent or the national HEDIS 2010 Medicaid 50th percentile. Three health plans fell below the LPL of 72.0 percent. The 2011 Colorado Medicaid weighted average of 71.6 percent fell below the national HEDIS 2010 Medicaid 50th percentile by 4.6 percentage points and scored 0.4 percentage point below the LPL.

Controlling High Blood Pressure

Measure Definition

The *Controlling High Blood Pressure* measure assesses if blood pressure was controlled for adults with diagnosed hypertension. This measure calculates the percentage of members 18 through 85 years of age who were continuously enrolled for the measurement year, who had an ambulatory claim or encounter with a diagnosis of hypertension that was confirmed within the medical record, and whose blood pressure was controlled below 140/90 mm Hg.

Importance

Approximately one in three U.S. adults (76.4 million people) over the age of 20 has high blood pressure (i.e., hypertension) in the United States.[5-10] Hypertension was the primary cause of 57,732 deaths in the United States in 2007, and the condition is a major risk factor for cardiovascular disease. About 77 percent of those who have a stroke, 69 percent of those who have a heart attack, and 74 percent of those with heart failure have high blood pressure.[5-11]

The projected 2010 direct and indirect costs associated with hypertension in the United States are almost $77 billion.[5-12] In 2009, 17 percent of Colorado adults were reported as having high blood pressure. Colorado ranked second in the country in terms of high blood pressure prevalence in 2009.[5-13]

Fortunately, high blood pressure is easily detected and usually controllable. More than two-thirds of U.S. residents who have been diagnosed with the condition use medication, and about 70 percent of people who take medication are able to control their hypertension.[5-14]

Uncontrolled high blood pressure can lead to many further complications, including:

- Enlargement of the heart, which may lead to heart failure.
- Formation of aneurysms in blood vessels throughout the body (e.g., heart, brain, legs, intestines, and spleen).
- Narrowing of the blood vessels in the kidney, which may lead to kidney failure.
- Hardening of the arteries throughout the body (e.g., heart, brain, kidneys, and legs) which may lead to heart attack, stroke, kidney failure, or amputation.
- Bursting or bleeding of blood vessels in the eyes, which may cause vision changes and can ultimately result in blindness.

[5-10] American Heart Association. Statistical Fact Sheet – Risk Factors, 2011 Update. High Blood Pressure Statistics. Available at: http://www.heart.org/idc/groups/heart-public/@wcm/@sop/@smd/documents/downloadable/ucm_319587.pdf. Accessed on: August 5, 2011.

[5-11] National Committee for Quality Assurance. *The State of Health Care Quality 2010*. Washington, D.C.: NCQA; 2010. Available at: http://www.ncqa.org/portals/0/state%20of%20health%20care/2010/sohc%202010%20-%20full2.pdf. Accessed on August 5, 2011.

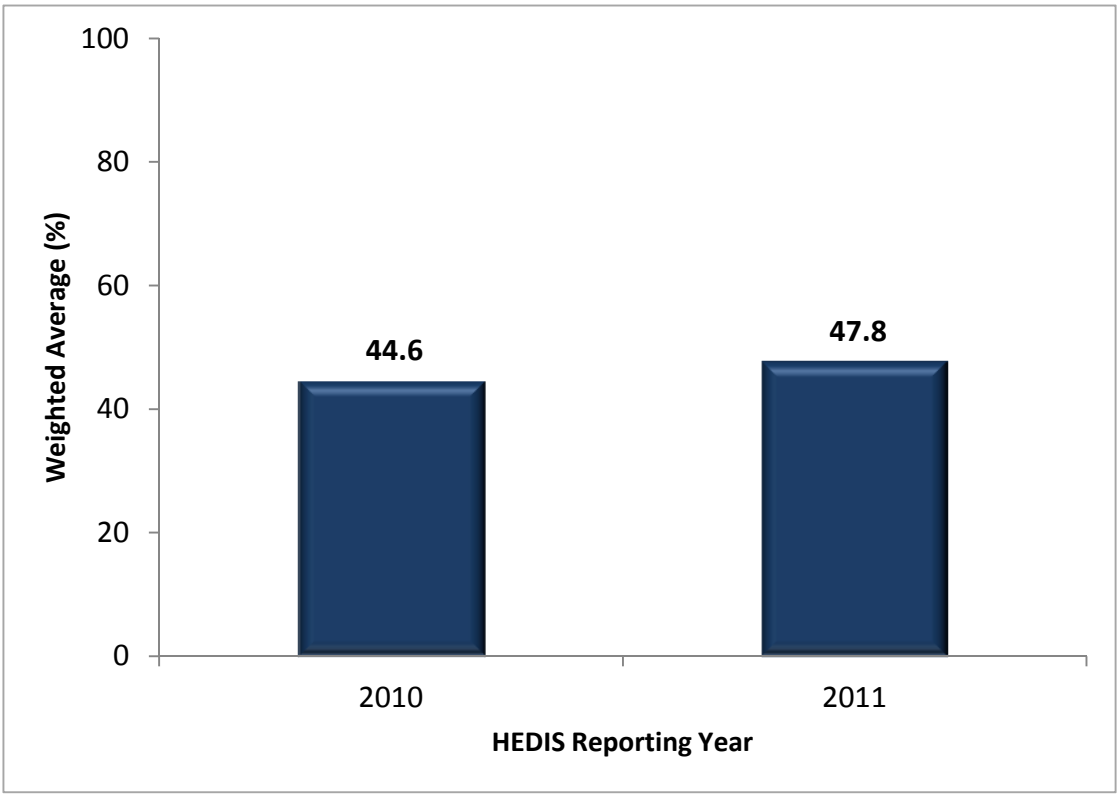
[5-12] Ibid.

[5-13] The Colorado Health Foundation. The Colorado Health Report Card, 2010. Available at: http://www.coloradohealthreportcard.org/ReportCard/2010/subdefault.aspx?id=4903. Accessed on: August 5, 2011.

[5-14] Centers for Disease Control and Prevention. High Blood Pressure Facts. Available at: http://www.cdc.gov/bloodpressure/facts.htm. Accessed on August 5, 2011.

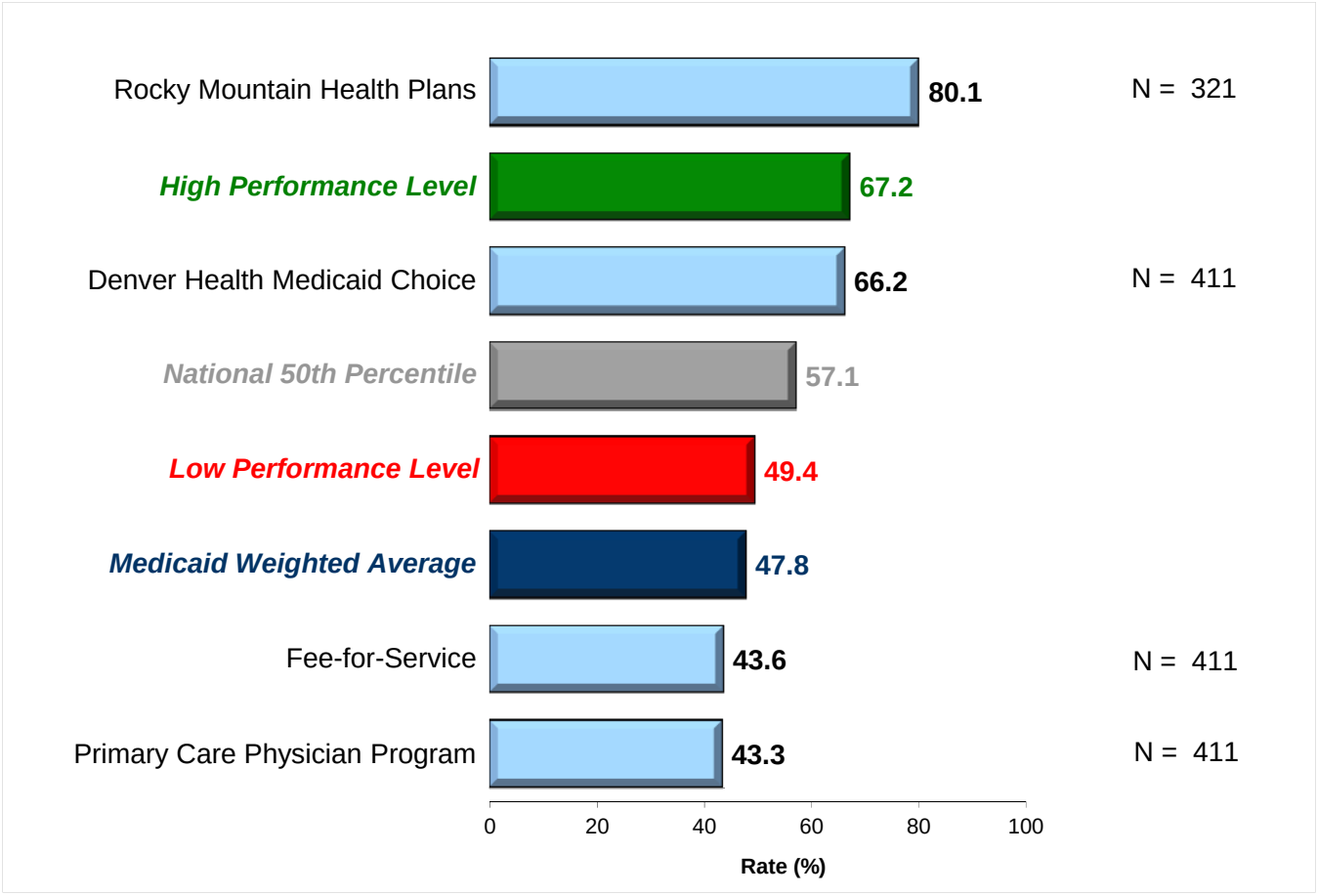
Performance Results

Figure 5-5—Controlling High Blood Pressure
Colorado Medicaid Weighted Averages



Controlling High Blood Pressure was a new measure for HEDIS 2010; therefore, only two years of results were presented in Figure 5-5. The 2011 Colorado Medicaid weighted average increased 3.2 percentage points over the 2010 weighted average. The observed improvement was not statistically significant.

Figure 5-6—Controlling High Blood Pressure



One health plan exceeded the HPL of 67.2 percent, and two fell below the LPL of 49.4 percent. Two health plans, including the one that exceeded the HPL, reported higher rates than the national HEDIS 2010 Medicaid 50th percentile. The 2011 Colorado Medicaid weighted average of 47.8 percent fell below the national HEDIS 2010 Medicaid 50th percentile by 9.3 percentage points and scored 1.6 percentage points below the LPL. The rates reported for this measure are diverse, and it may be helpful for the better performing plans to share with the other health plans the successful interventions they have implemented for this measure.

Pharmacotherapy Management of COPD Exacerbation

Measure Definition

The *Pharmacotherapy Management of COPD Exacerbation* measure assesses the percentage of members 40 years of age and older who had an acute inpatient discharge or ED encounter between January 1 to November 30 of the measurement year and who were dispensed appropriate medications. The two rates reported include:

- Members who were dispensed a bronchodilator within 30 days of the event.
- Members who were dispensed a systemic corticosteroid within 14 days of the event.

Importance

Chronic lower respiratory disease (which includes COPD and asthma) was the third leading cause of U.S. deaths in 2008.[5-15] From 2007 to 2009, 11.8 million U.S. adults had COPD; of this number, 7.4 million were women, and 4.4 million were men. Additionally, approximately 12 million people in the United States have COPD but are unaware of the condition.[5-16] In 2007, approximately 60,000 men and 65,000 women died from COPD (death rates of 63.5 per 100,000 population for men and 46.8 per 100,000 for women).[5-17]

In 2010, the projected national cost of COPD was almost $50 billion, including $29.5 billion in direct medical expenditures, $12.4 billion in indirect mortality costs, and $8 billion in direct mortality costs.[5-18] In 2006, there were approximately 672,000 hospital discharges for COPD in the United States. Approximately one third of patients discharged from the ED with acute COPD exacerbations have symptom recurrence within 14 days, and 17 percent of these patients experience a relapse and have to be readmitted.[5-19]

COPD exacerbation is important due to the increase in the chronic symptoms associated with acute exacerbation. Acute COPD exacerbations cause a decrease in quality of life, may require hospitalization, and are associated with an increased risk of mortality. Those with COPD exacerbations are also at an increased risk for respiratory failure.[5-20]

5-15 Centers for Disease Control and Prevention. Chronic Obstructive Pulmonary Disease Among Adults Aged 18 and Over in the United States, 1998–2009. NCHS Data Brief, June 2011. Available at: http://www.cdc.gov/nchs/data/databriefs/db63.pdf. Accessed on August 11, 2011.

5-16 National Committee for Quality Assurance. *The State of Health Care Quality 2010*. Washington, D.C.: NCQA; 2010. Available at: http://www.ncqa.org/portals/0/state%20of%20health%20care/2010/sohc%202010%20-%20full2.pdf. Accessed on August 11, 2011.

5-17 Centers for Disease Control and Prevention. Chronic Obstructive Pulmonary Disease Among Adults Aged 18 and Over in the United States, 1998-2009. NCHS Data Brief, June 2011. Available at: http://www.cdc.gov/nchs/data/databriefs/db63.pdf. Accessed on August 11, 2011.

5-18 American Lung Association. Chronic Obstructive Pulmonary Disease (COPD) Fact Sheet. Available at: http://www.lungusa.org/lung-disease/copd/resources/facts-figures/COPD-Fact-Sheet.html. Accessed on August 11, 2011.

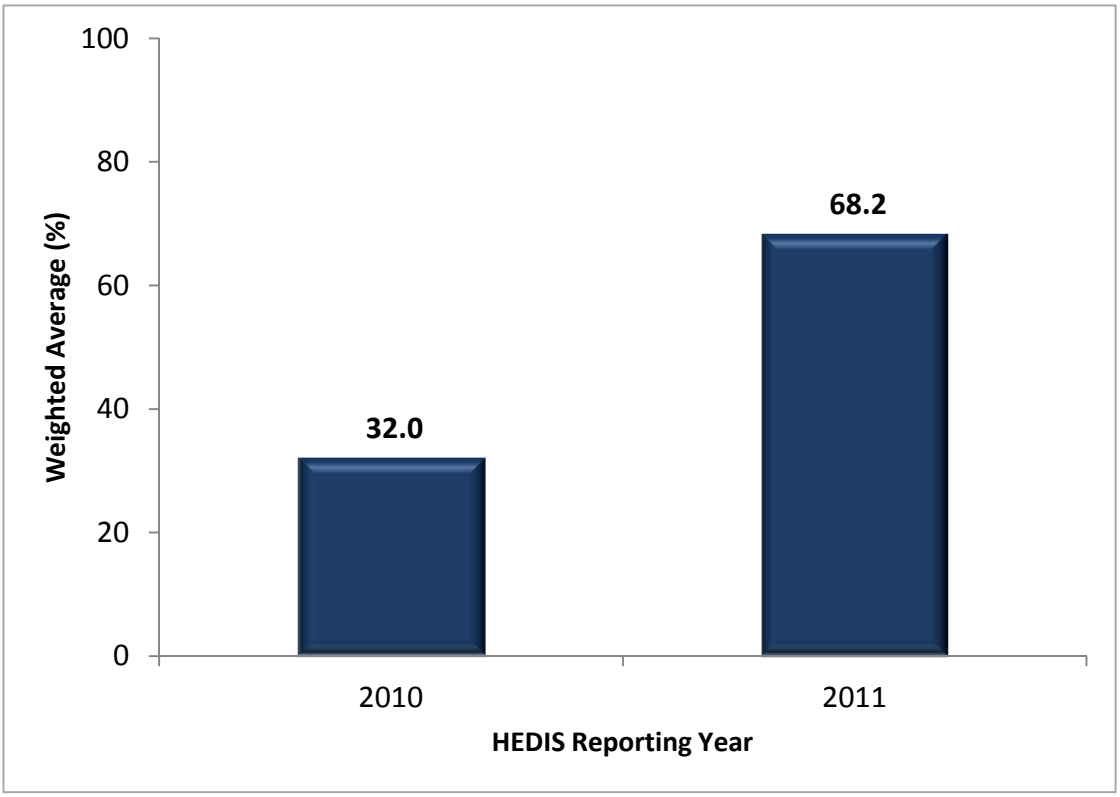
5-19 California Department of Health Care Services. DUR: Pharmacotherapy Management of COPD Exacerbation. Available at: http://files.medi-cal.ca.gov/pubsdoco/dur/articles/dured_9294.asp. Accessed on: August 11, 2011.

5-20 Pulmonology Channel. COPD Acute Exacerbations. Available at: http://www.healthcommunities.com/copd/acute-exacerbation.shtml. Accessed on: August 11, 2011.

Corticosteroids, when used on a short-term basis, are an important treatment for exacerbations; this treatment can increase patients' forced expiratory volume (FEV) and decrease the duration of hospital stays.[5-21] Bronchodilators are also an important treatment for COPD. A recent study showed that tiotropium (a bronchodilator) reduced the likelihood of exacerbations, and improved quality of life and dyspnea (shortness of breath).[5-22]

Performance Results

Figure 5-7—Pharmacotherapy Management of COPD Exacerbation—Bronchodilator
Colorado Medicaid Weighted Averages

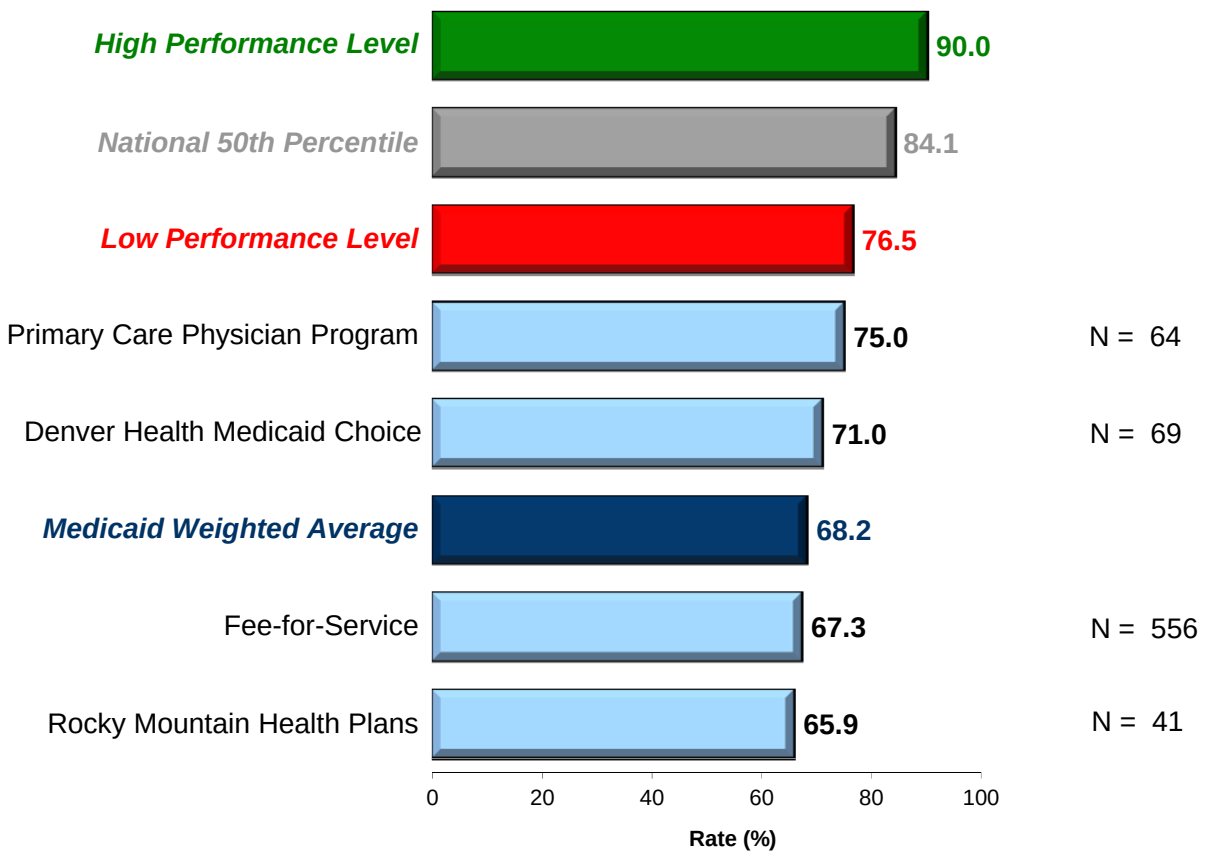


Pharmacotherapy Management of COPD Exacerbation—Bronchodilator was a new measure for HEDIS 2010; therefore, only two years of results were presented in Figure 5-7. The 2011 Colorado Medicaid weighted average increased 36.2 percentage points over the 2010 weighted average. The observed improvement was statistically significant.

[5-21] California Department of Health Care Services. DUR: Pharmacotherapy Management of COPD Exacerbation. Available at: http://files.medi-cal.ca.gov/pubsdoco/dur/articles/dured_9294.asp. Accessed on: August 11, 2011.

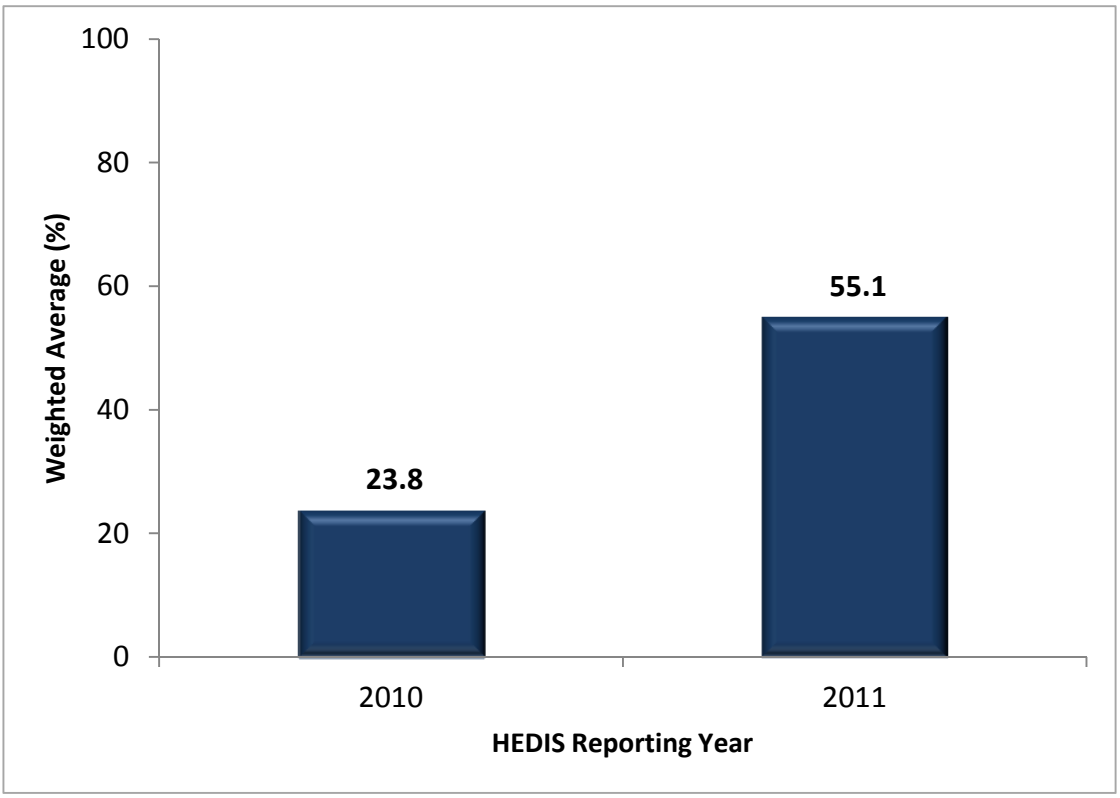
[5-22] Yohannes AM, Willgoss TG, Vestbo J. Tiotropium Treatment of Stable COPD: A Meta-analysis of Clinically Relevant Outcomes. *Respiratory Care*. 2011 Apr; 56(4): 477–87.

Figure 5-8—Pharmacotherapy Management of COPD Exacerbation—Bronchodilator



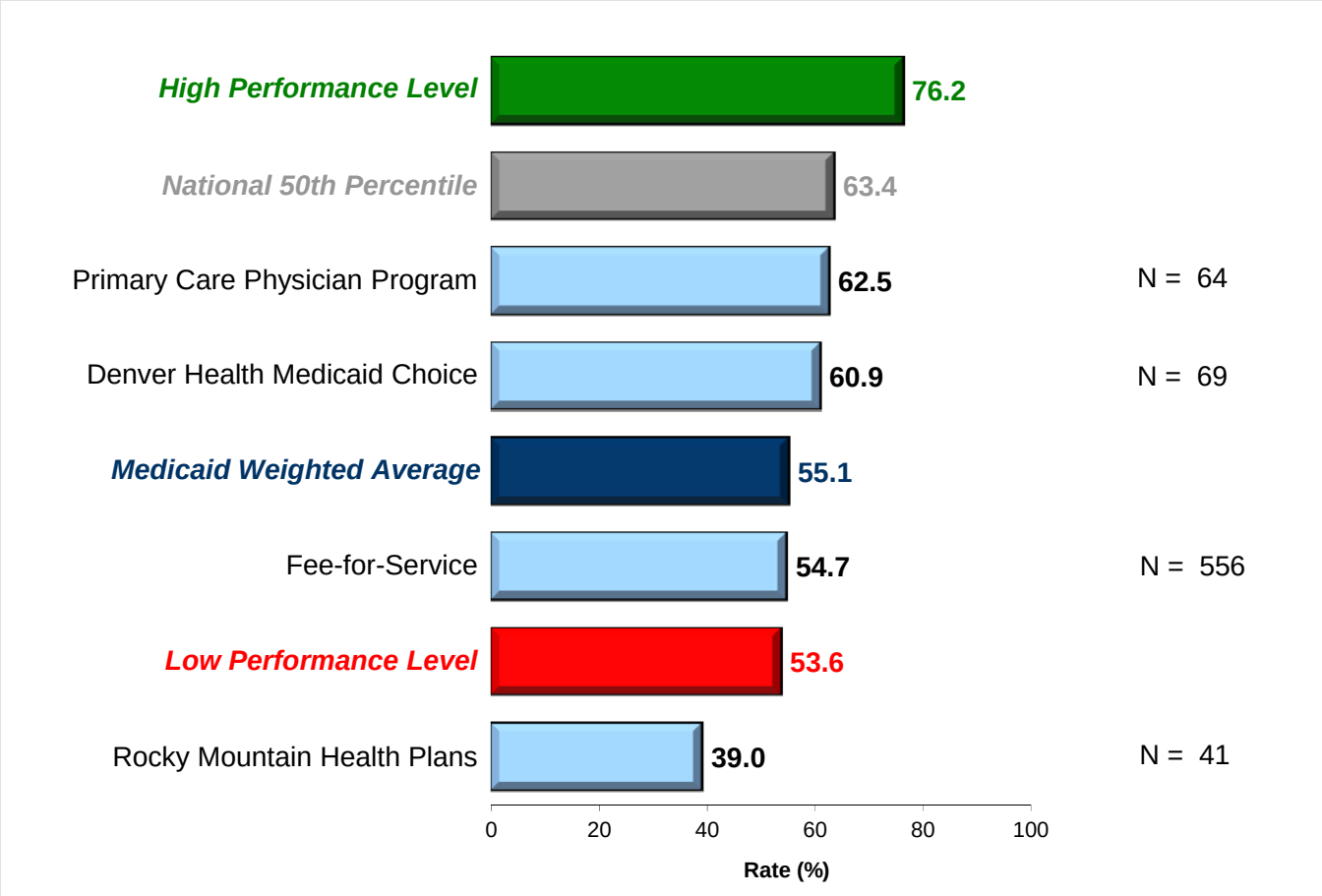
None of the health plans exceeded the HPL of 90.0 percent, and all four of the plans fell below the LPL of 76.5 percent. The 2011 Colorado Medicaid weighted average of 68.2 percent fell below the national HEDIS 2010 Medicaid 50th percentile by 15.9 percentage points and scored 8.3 percentage points below the LPL.

Figure 5-9—Pharmacotherapy Management of COPD Exacerbation—Systemic Corticosteroid
Colorado Medicaid Weighted Averages



Pharmacotherapy Management of COPD Exacerbation—Systemic Corticosteroid was a new measure for HEDIS 2010; therefore, only two years of results were presented in Figure 5-9. The 2011 Colorado Medicaid weighted average increased 31.3 percentage points over the 2010 weighted average. The observed improvement was statistically significant.

Figure 5-10—Pharmacotherapy Management of COPD Exacerbation—Systemic Corticosteroid



None of the health plans exceeded the HPL of 76.2 percent or the national HEDIS 2010 Medicaid 50th percentile of 63.4 percent. One of the plans fell below the LPL of 53.6 percent. The 2011 Colorado Medicaid weighted average of 55.1 percent fell below the national HEDIS 2010 Medicaid 50th percentile by 8.3 percentage points.

Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis

Measure Definition

The *Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis* measure assesses the percentage of members 18 to 64 years of age with a primary diagnosis of acute bronchitis and who were not dispensed an antibiotic prescription.

Importance

Acute bronchitis is the ninth most common illness in patients seen in U.S. office and outpatient settings.[5-23] Less than 10 percent of acute bronchitis cases are caused by bacteria; therefore, prescribing antibiotics for the treatment of this condition is usually inappropriate. Evidence shows that approximately 80 percent of antibiotics prescribed for adults are unnecessary. This misuse contributes to antibiotic resistance, which is a serious public health concern.[5-24]

The symptoms of acute bronchitis usually last for about three weeks, and the presence or absence of colored sputum is not a reliable indicator for distinguishing between viral and bacterial infections.[5-25] The evaluation of patients with acute bronchitis should focus on ruling out severe illness, such as pneumonia. Meta-analyses of randomized, controlled trials focusing on this issue have determined that routine antibiotic treatment is not recommended or justified.[5-26]

Public perception of antibiotics in relation to acute bronchitis continues to be a challenge for practitioners. However, when physicians educate patients on the proper treatment of acute bronchitis, studies show that patient satisfaction does not decrease.[5-27] Furthermore, this type of educational intervention does not result in increased duration of illness or greater utilization of services.

5-23 National Committee for Quality Assurance. *The State of Health Care Quality 2010*. Washington, D.C.: NCQA; 2010. Available at: http://www.ncqa.org/portals/0/state%20of%20health%20care/2010/sohc%202010%20-%20full2.pdf. Accessed on August 5, 2011.

5-24 Ibid.

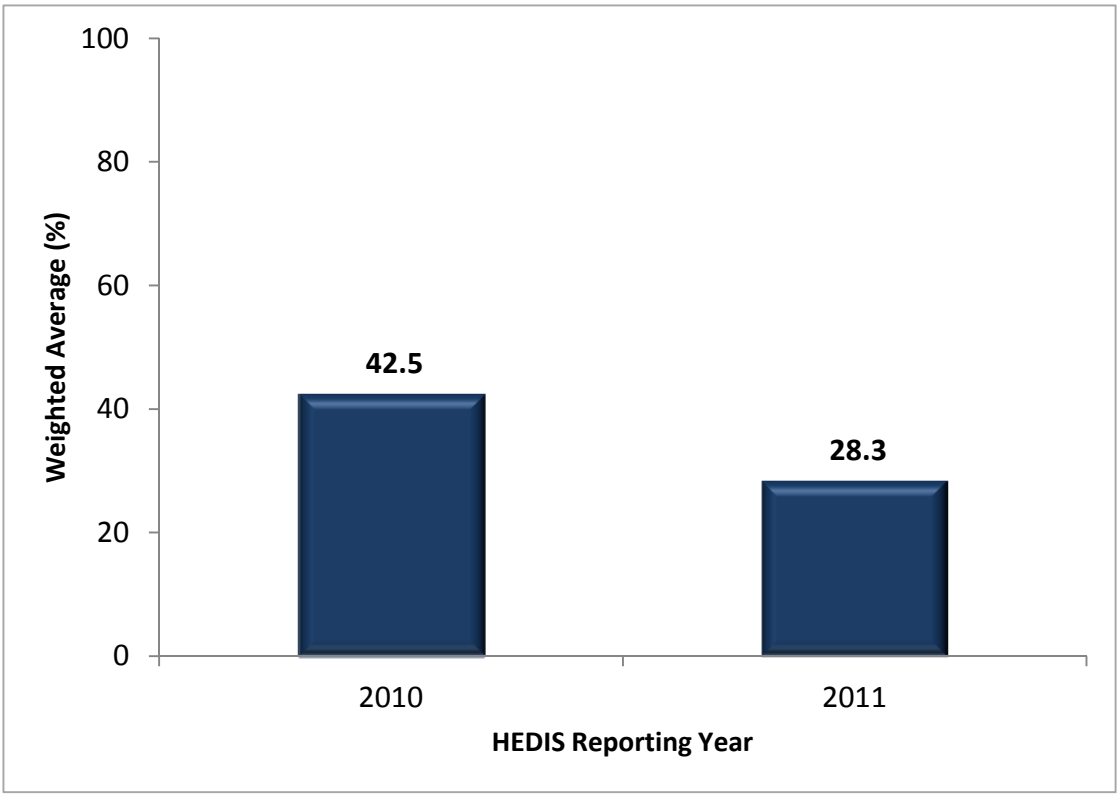
5-25 Albert RH. Diagnosis and Treatment of Acute Bronchitis. *American Family Physician.* 2010; 82(11):1345-50.

5-26 Centers for Disease Control and Prevention. Acute Cough Illness (Acute Bronchitis) Fact Sheet. Available at: http://www.cdc.gov/getsmart/campaign-materials/info-sheets/adult-acute-cough-illness.pdf. Accessed on August 8, 2011.

5-27 California Department of Health Care Services. DUR: Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis. Available at: http://files.medi-cal.ca.gov/pubsdoco/dur/articles/dured_9003.asp. Accessed on August 8, 2011.

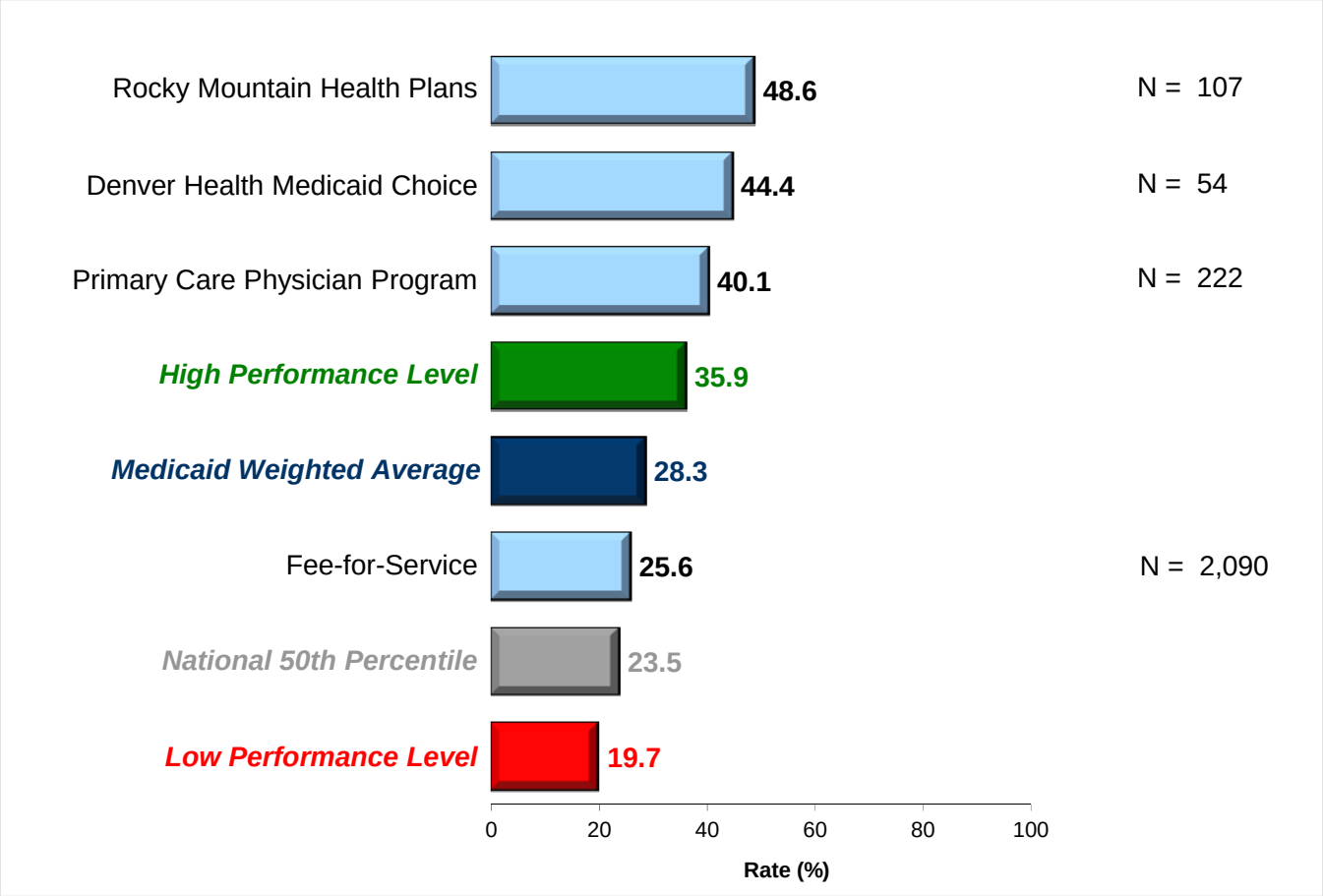
Performance Results

Figure 5-11—Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis
Colorado Medicaid Weighted Averages



Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis was a new measure for HEDIS 2010; therefore, only two years of results were presented in Figure 5-11. The 2011 Colorado Medicaid weighted average decreased 14.2 percentage points compared to the 2010 weighted average. This decline was statistically significant.

Figure 5-12—Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis



Three of the health plans exceeded the HPL of 35.9 percent, and all health plans exceeded the national HEDIS 2010 Medicaid 50th percentile of 23.5 percent. The 2011 Colorado Medicaid weighted average of 28.3 percent exceeded the national HEDIS 2010 Medicaid 50th percentile by 4.8 percentage points.

Summary of Findings

Table 5-1 presents a summary of the health plans' overall performance (in rank order from highest-to-lowest performing health plan) on the Living With Illness dimension.

Table 5-1—Overall Living With Illness Performance Summary by Plan	
Health Plan Name	**Star Rating Results**
DHMC	★★★
RMHP	★★★
PCPP	★★★
FFS	★★★

Although all health plans received three stars in this dimension, there were minor differences in their performance. DHMC was the highest performing health plan and FFS was the lowest in the Living With Illness dimension.

Table 5-2 presents a summary of the health plans' performance for each of the measures in the Living With Illness dimension.

Table 5-2—Living With Illness Performance Summary by Measure				
Measure	**FFS**	**PCPP**	**DHMC**	**RMHP**
Annual Monitoring for Patients on Persistent Medications—Total	★★★	★★★	★★★	★★★
Use of Imaging Studies for Low Back Pain	★★	★★	★★★	★
Controlling High Blood Pressure	★★	★★	★★★★	★★★★★
Pharmacotherapy Management of COPD Exacerbation—Bronchodilator	★★	★★	★★	★★
Pharmacotherapy Management of COPD Exacerbation—Systemic Corticosteroid	★★★	★★★	★★★	★
Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis	★★★	★★★★★	★★★★★	★★★★★

Table 5-3 presents a summary of the number of measures that fell into each star rating category for the Living With Illness dimension.

Table 5-3—Living With Illness Star Ratings Summary

Health Plan Name	5 Stars	4 Stars	3 Stars	2 Stars	1 Star	NA/NR
FFS	0	0	3	3	0	0
PCPP	1	0	2	3	0	0
DHMC	1	1	3	1	0	0
RMHP	2	0	1	1	2	0

Plan performance in this dimension varied across measures. FFS' performance on all Living With Illness measures was below the 75th percentiles, whereas the other health plans' performance was more diverse. For RMHP, two measures received a 5-star rating (rates at or above the national HEDIS 2010 Medicaid 90th percentiles) but two other measures performed below 10th percentiles. Overall, most of the health plans' performance was fair (★★★) or poor (★★) within the Living With Illness dimension.

Best Practices

Annual Monitoring for Patients on Persistent Medications

Clinical Practice Guidelines for the Use of ACE Inhibitors and ARBs

The National Kidney Foundation developed clinical practice guidelines on hypertension and antihypertensive agents in chronic kidney disease (CKD), including the use of angiotensin converting enzyme (ACE) inhibitors and angiotensin receptor blockers (ARBs) in treating CKD. ACE inhibitors and ARBs can be used safely in most patients with CKD. They should be used at moderate to high doses and should be used as alternatives to each other, if the preferred class cannot be used. These drugs can be used in combination to lower blood pressure or reduce proteinuria. Patients treated with these medications should be monitored for hypotension, decreased glomerular filtration rate (GFR), and hyperkalemia.

General principles should be followed when initiating treatment with ACE inhibitors or ARBs. First, physicians should measure a patient's blood pressure to obtain a baseline measurement, GFR, and serum potassium levels. Second, they should determine an interval for follow-up measurements. Furthermore, physicians should provide counseling to reduce the risk of hypotension, early GFR decrease, hyperkalemia, and allergic reactions. They should also provide counseling to women of child-bearing potential about adverse effects on the fetus.[5-28]

Therapeutic Drug Monitoring

Psychiatrics are involved in the monitoring of anticonvulsant medication used to treat a wide range of disorders. Therapeutic drug monitoring is the use of serum drug measurement which helps in the management of patients receiving drugs that have a low therapeutic index. The low therapeutic index of anticonvulsants means they may become toxic to patients. Individuals may experience wide variations in serum levels at the same dosage due to the timing of doses, individual differences, age, body weight, and several other factors. Better medication management may be aided by serum level measurements.[5-29]

Mail Reminders

Certain members with Anthem Blue Cross Blue Shield plans in Indiana, Kentucky, Missouri, Ohio, and Wisconsin received mail reminders about their annual blood tests to ensure patient safety and appropriate medication dosage. Medications that require annual blood tests are angiotensin

[5-28] National Kidney Foundation. K/DOQI Clinical Practice Guidelines on Hypertension and Antihypertensive Agents in Chronic Kidney Disease. Available at: http://www.kidney.org/professionals/KDOQI/guidelines_bp/guide_11.htm. Accessed on: June 18, 2010.
[5-29] Nelson D, Gray D. Anticonvulsant monitoring in psychiatric practice. *Psychiatric Bulletin*. 2001; 25: 356–358.

converting enzyme (ACE) inhibitors, angiotensin receptor blockers (ARBs), digoxin, diuretics, and anticonvulsants.[5-30]

Use of Imaging Studies for Low Back Pain

Implement Pain Intensity and Pain Affect Tools

How much a person hurts (pain intensity) and how much a person suffers (pain affect) are two key measures of pain experience. Traditional methods or tools such as visual analogue scales (VAS), verbal rating scales (VRS) and numerical rating scales (NRS) are used to assess both pain intensity and affect as well as record frequency and location. These data could be used to assess the patient's pain prior to performing any imaging studies for low back pain.[5-31]

Publish and Provide Low Back Pain Handbooks

Providing to patients a handbook or pamphlet outlining how injuries to the back eventually result in deterioration of the spine and cause low back pain can be beneficial. Additionally, providing patients with an easy-to-read anatomy of the spine, symptoms of back pain, and how low back pain is diagnosed and treated can also be helpful. Physicians can also play a pivotal role in educating patients by advising them to stay as active as possible and to return to work and normal activities as soon as possible. [5-32]

Controlling High Blood Pressure

Healthy Eating and Weight-Loss Programs

Healthy eating programs teach clients how to efficiently adjust and monitor their own diet. Dietary changes such as increasing the amount of whole grains, fruit, vegetables, and low-fat dairy, as well as minimizing saturated fat and cholesterol, can lower blood pressure by up to 14 mm Hg.[5-33]

Approximately 64 percent of overweight Americans and 72 percent of obese Americans have hypertension.[5-34] For those who are overweight, losing 15 pounds or more can reduce the long-term risk of developing hypertension by 28 percent. Weight reduction can also reduce elevated triglycerides, serum glucose levels, and total cholesterol.

[5-30] Anthem. Network Rapid Update: Persistent Medication Monitoring Update. Available at: http://www.anthem.com/provider/noapplication/f1/s0/t0/pw_ad093796.pdf?refer=ahpprovider&state=in. Accessed on: June 22, 2010.

[5-31] Medscape Education. Pain Measurement in Patients with Low Back Pain: The Available Tools. Available at: http://www.medscape.org/viewarticle/564545_4. Accessed on September 7, 2011.

[5-32] Ibid.

[5-33] Mayo Foundation for Medical Education and Research. 10 ways to control high blood pressure without medication. Available at: http://www.mayoclinic.com/health/high-blood-pressure/HI00027. Accessed on: August 9, 2011.

[5-34] Centers for Disease Control and Prevention. National Center for Chronic Disease Prevention and Health Promotion. Can Lifestyle Modifications Using Therapeutic Lifestyle Changes (TLC) Reduce Weight and the Risk for Chronic Disease? Available at: http://www.cdc.gov/nutrition/downloads/R2P_life_change.pdf. Accessed on: August 9, 2011.

Physician and Patient Communication/Education for Medication Compliance

The effect of medication greatly increases if the patient complies with the prescribed medication; however, compliance is typically only at 50 percent. Therefore, the physician should explain the drug to the patient, as well as how the drug works and why it is needed. Knowing this essential information will increase compliance.

An effective strategy for improving communication regarding medication compliance is to provide formal training to practitioners. This training can be completed by either an in-house program or an outside organization. While the mandatory completion of a communication program is ideal, depending on resources, the program should target, at a minimum, those providers who consistently receive low scores in the area of communication. The purpose of the training program is to improve providers' effectiveness as both managers of health and as educators of patients. It is also thought that trained physicians will allocate a greater percent of the clinic-visit time to patient education, which leads to greater patient knowledge, better compliance with treatment, and improved health outcomes.

The most effective and efficient way of offering physician-patient communication training is in the form of a workshop or seminar. With this method, many strategies can be covered for improved communication in a short period of time. Workshops also have the advantage of using case studies to illustrate the importance of communication and suggest approaches to improving the relationship between the physician and patient. [5-35]

Support Groups

Support groups are programs which operate under the idea that patients can learn to take responsibility for day-to-day disease management. These meetings may be face-to-face or via the Internet. These programs teach patients with chronic health problems to manage their own care (i.e., self-care), provide emotional support, and offer other types of support (e.g., getting groceries, medical transportation).

Using support groups can increase the knowledge of patients about their condition, as well as assist in improving compliance with prescribed treatment. Additionally, patients that use these sources have been shown to have improved health status while using fewer resources. Anecdotal evidence shows such programs may also have a positive correlation on long-term health outcomes. The following improvements have been seen with support groups:

- Increased communication with physician
- Improved self-reported health
- Enhancements in social/role activities
- Reduced need for hospitalizations

Evidence further suggests that other areas such as pain management and psychological well-being have shown significant long-term improvements with the help of support groups. Support groups

[5-35] AHRQ. The CAHPS Improvement Guide. Available at: http://www.cahps.ahrq.gov/qiguide/. Accessed on September 7, 2011.

also have significant correlation with cost savings. There is a considerable amount of evidence that shows patients who join support groups have fewer hospitalizations and overall days spent in a hospital. These groups allow patients to become more confident in caring for themselves.

Participants in self-care programs and support groups typically find the programs through referrals, fliers in physicians' offices, program announcements posted at senior citizen centers, or in patient or member newsletters. Cost savings can also come from holding meetings at a health care facility or low-cost sites in the community (e.g., churches, senior centers, and libraries). [5-36]

Pharmacotherapy Management of COPD Exacerbation

COPD Prevention Programs

One strategy that can be implemented to improve outcomes for patients with COPD involves the prevention of the chronic disease. Health plans can implement prevention programs to decrease risk factors associated with COPD. For example, smoking cessation programs can be offered in an effort to decrease the severity of symptoms. In addition, education can be provided to members about environmental triggers associated with COPD symptoms, such as dust, mold, and allergens. [5-37]

Patient Support Groups

Offering patient support groups for patients with COPD and their families can provide an opportunity to learn more about the disease and share stories with others who have the same illness. These support groups also provide an additional avenue for education, such as providing educational classes or lectures. In addition, these groups can offer leisurely activities to promote appropriate exercise. [5-38]

Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis

Create a Get Smart Campaign

For over a decade, a national campaign managed by the CDC has aimed to reduce the rate of antibiotic resistance. This campaign focuses on promoting adherence to appropriate prescribing guidelines among providers, decreasing the demand for antibiotics for viral upper respiratory infections, and increasing adherence to prescribed antibiotics for upper respiratory infections. The CDC offers brochures, posters, question and answer fact sheets for parents, tools for physicians such as checklists to describe symptomatic relief for viral illnesses, and additional online tools such as featured stories, podcasts, and health-e-cards. [5-39]

[5-36] Ibid
[5-37] Tiep B. Disease Management of COPD with Pulmonary Rehabilitation. *American College of Chest Physicians*. 1997; 112: 1630–1656.
[5-38] Ibid.
[5-39] Centers for Disease Control and Prevention. About the Get Smart Campaign. Available at: http://www.cdc.gov/getsmart/campaign-materials/about-campaign.html. Accessed on: September 7, 2011.

Patient Education

There is a need to increase patient awareness about not only the dangers of antibiotic use for treating acute bronchitis, but also the lack of effectiveness. Patient education should emphasize that antibiotic treatment is not recommended, nor is it effective. In one study, 44 percent of patients thought that antibiotics were important for recovery from acute bronchitis, as opposed to 11 percent for chest colds. [5-40] For those patients who smoke, smoking cessation advice/tools can help to reduce the symptoms of acute bronchitis caused by smoking.

Provider Education

Educational interventions for providers should focus on describing the appropriate diagnosis and treatment of acute bronchitis. Methods that can be used to target providers include educational newsletters, seminars, workshops, and written materials. Mass media campaigns that target all clinicians, such as e-cards and billboards, have also been found to be effective. Another method of ensuring appropriate prescribing practices would be to conduct a medical audit on antibiotic prescribing and provide feedback to the provider. [5-41]

One study noted the effectiveness of local project leaders serving as physician champions of patient and physician educational interventions designed to modify antibiotic prescribing behavior. [5-42] In this case, the perceived effectiveness of the local leader was strongly linked to the effectiveness of an intervention.

Decision Support Systems

Decision support systems are used to help providers make clinical decisions (e.g., an algorithm for antibiotic prescribing).[5-43] Systems based on evidence-based guidelines can improve the effectiveness and efficiency of prescribing decisions. Many prescribing applications include information on pathogens, diagnosis, medication, and treatment. There is evidence that the use of such applications can lead to more appropriate antibiotic prescribing and increase adherence to clinical guidelines.[5-44, 5-45]

[5-40] Braman SS. Chronic Cough Due to Acute Bronchitis: ACCP Evidence-Based Clinical Practice Guidelines. *Chest*. 2006; 129: 95S–103S.

[5-41] Razon Y, Ashkenazi S, Cohen A, et al. Effect of Educational Intervention on Antibiotic Prescription Practices for Upper Respiratory Infections in Children: A Multicentre Study. *Journal of Antimicrobial Chemotherapy*. 2005; 56: 937–940.

[5-42] Aagaard, EM, Gonzales, R, Camargo CA, et al. Physician Champions Are Key to Improving Antibiotic Prescribing Quality. *Joint Commission Journal on Quality and Patient Safety*. 2010; 36: 109–116.

[5-43] Ranji SR, Steinman MA, Shojania, KG, et al. Interventions to Reduce Unnecessary Antibiotic Prescribing: A Systematic Review and Quantitative Analysis. *Medical Care*. 2008; 46: 847–862.

[5-44] Sintchenko V, Coiera E, Gilbert GL. Decision Support Systems for Antibiotic Prescribing. *Current Opinion in Infectious Disease.* 2008; 21:573–579.

[5-45] Agency for Healthcare Research and Quality. Real-Time Decision and Documentation Support Increases Adherence to Recommended Care for Respiratory Infections, Diabetes, and Heart Disease. *AHRQ Health Care Innovations Exchange.* Available at: http://www.innovations.ahrq.gov/content.aspx?id=2431. Accessed on August 17, 2011.

Introduction

Preventive screenings are a cost-effective part of the effort to promote health and identify potential problems before they develop or worsen.[6-1] Preventive care is significantly underused in the United States, leading to unnecessary poor health, inefficient use of health care dollars, and lost lives.[6-2] Expanding the delivery of preventive services has the potential to give millions of U.S. residents longer, healthier lives.

The Preventive Screening dimension encompasses the following measures:

- *Chlamydia Screening in Women—Total*
- *Adult BMI Assessment*

6-1 Centers for Disease Control and Prevention. Selected Preventative Screening Recommendations. Available at: http://www.cdc.gov/nccdphp/dnpao/hwi/resources/preventative_screening.htm. Accessed on: August 16, 2011.

6-2 Partnership for Prevention. Preventive Care: A National Profile on Use, Disparities, and Health Benefits. Available at: http://www.rwjf.org/files/publications/other/PreventiveCareReportFinal080707.pdf. Accessed on: August 16, 2011.

Chlamydia Screening in Women

Measure Definition

The *Chlamydia Screening in Women* measure is reported using the administrative method only. This measure reports the percentage of women 16 through 24 years of age who were identified as sexually active, who were continuously enrolled during the measurement year, and who had at least one test for chlamydia during the measurement year. The measure is reported using three separate rates: *Chlamydia Screening in Women—Ages 16 to 20 Years; Chlamydia Screening in Women—Ages 21 to 24 Years;* and *Chlamydia Screening in Women—Total* (the total of both age groups, 16 to 24 years). In this section, *Total* rates are presented. The results for each age group are displayed in Appendix A.

Importance

With approximately 1.2 million U.S. cases in 2009, chlamydia is the most frequently reported sexually transmitted disease (STD).[6-3] In Colorado, 404.9 cases of chlamydia cases per 100,000 population were reported in 2009.[6-4] Chlamydia is most prevalent in young women. About 5 to 14 percent of women from 16 to 20 years of age who are routinely screened for the disease are infected. Chlamydia is sometimes referred to as a "silent" disease, since most infected women do not show any symptoms.[6-5]

Chlamydia can easily be cured with antibiotics; however, if left untreated, it can cause permanent damage to reproductive organs and even lead to infertility.[6-6] Chlamydia can also increase a woman's chances of contracting an HIV infection in the event of an exposire.[6-7] If all women under 25 years of age were screened for chlamydia, an annual cost savings of $45 per woman could be realized.[6-8] However, fewer than half of sexually active women under 25 years of age are screened for the disease.[6-9]

6-3 Centers for Disease Control and Prevention. Chlamydia—CDC Fact Sheet. Available at: http://www.cdc.gov/std/Chlamydia/STDFact-Chlamydia.htm. Accessed on: August 9, 2011.

6-4 Kaiser Health Facts. Available at: http://www.statehealthfacts.org/profileind.jsp?rgn=7&ind=100&cat=2. Accessed August 9, 2011.

6-5 National Committee for Quality Assurance. *The State of Health Care Quality 2010*. Washington, D.C.: NCQA; 2010. Available at: http://www.ncqa.org/portals/0/state%20of%20health%20care/2010/sohc%202010%20-%20full2.pdf. Accessed on August 9, 2011.

6-6 Ibid.

6-7 Centers for Disease Control and Prevention. Chlamydia—CDC Fact Sheet. Available at: http://www.cdc.gov/std/Chlamydia/STDFact-Chlamydia.htm.. Accessed on: August 9, 2011.

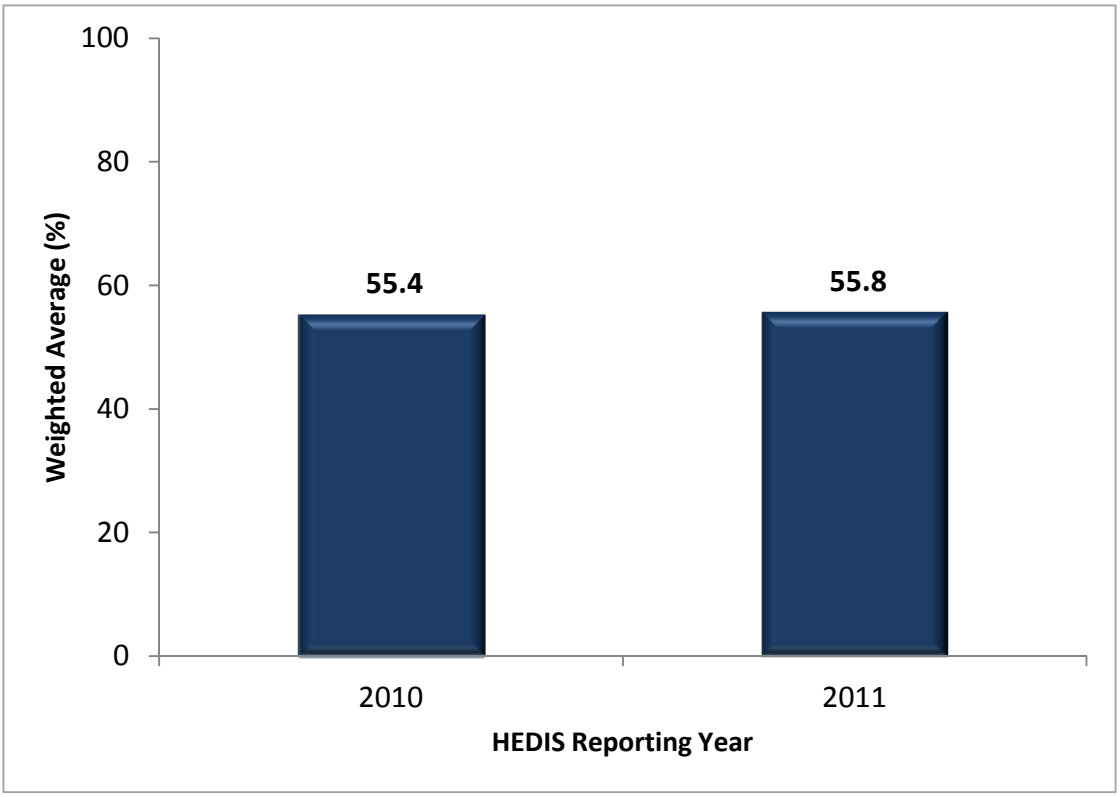
6-8 National Committee for Quality Assurance. *The State of Health Care Quality 2010*. Washington, D.C.: NCQA; 2010. Available at: http://www.ncqa.org/portals/0/state%20of%20health%20care/2010/sohc%202010%20-%20full2.pdf. Accessed on August 9, 2011.

6-9 Ibid.

The number needed to screen (NNS) for chlamydia screening varies among different populations. For a low at-risk population, the NNS to prevent a case of pelvic inflammatory disease (PID) is 3,846; however, in a high-risk population, the NNS to prevent a case of PID is 38.3.[6-10, 6-11]

Performance Results

Figure 6-1—Chlamydia Screening in Women—Total
Colorado Medicaid Weighted Averages

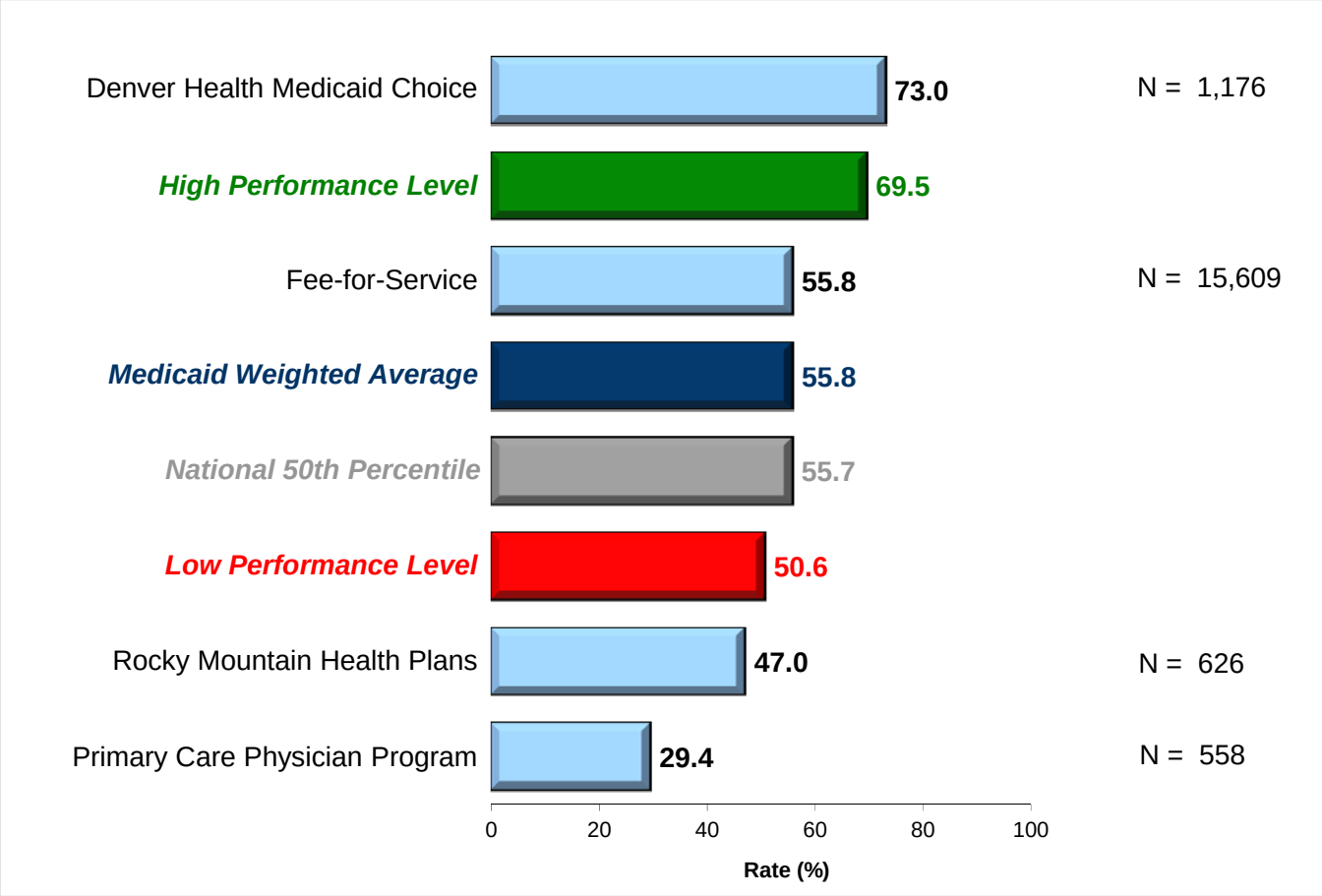


Chlamydia Screening in Women—Total was a new measure for HEDIS 2010; therefore, only two years of results were presented in Figure 6-1. The 2011 weighted average increased 0.4 percentage point over the 2010 weighted average. The observed improvement was not statistically significant.

6-10 Meyers DS, Halvorson H, Luckhaupt S. Screening for Chlamydia Infection: A Focused Evidence Update for the United States Preventive Services Task Force. *Evidence Synthesis.* 2007. Available at: http://www.ahrq.gov/clinic/uspstf07/chlamydia/chlamydiasyn.pdf. Accessed on: August 9, 2011.

6-11 The NNS is used to determine how many screenings are necessary in order to prevent one bad outcome (or one case of PID, in this example).

Figure 6-2—Chlamydia Screening in Women—Total



One health plan exceeded the HPL of 69.5 percent, and two health plans fell below the LPL of 50.6 percent. Two health plans, including the one above the HPL, reported a rate above the national HEDIS 2010 Medicaid 50th percentile. The 2011 Colorado Medicaid weighted average of 55.8 percent slightly outperformed the national HEDIS 2010 Medicaid 50th percentile by 0.1 percentage points.

Adult BMI Assessment

Measure Definition

The *Adult BMI Assessment* measure assesses the percentage of members 18 to 74 years of age, who were continuously enrolled in the measurement year and the year prior to the measurement year, who had an outpatient visit, and who had their BMI documented during the measurement year or the year prior the measurement year.

Importance

The current epidemic of obesity in the United States continues to pose a major public health challenge. The number of obese Americans has increased dramatically in recent years, and today almost 34 percent of U.S. adults are obese.[6-12] In 2010, no U.S. state had an obesity prevalence less than 20 percent. Twenty-one percent of Colorado adults were obese in 2010, which was the lowest rate in the country.[6-13]

The rapid growth of obesity in the United States has resulted in an increasing impact on individual overall health. Obesity, defined as a BMI of 30 or higher, is correlated with excess mortality. Those who have grade 2+ obesity (BMI of 35 or higher) are at significantly higher risk of death. Obesity also increases the risk of heart disease, stroke, some cancers, osteoarthritis, and disability, and is the most important risk factor for Type 2 diabetes.[6-14] Obesity is the second leading cause of preventable death behind smoking, and affects every ethnic group, socioeconomic class, and geographic region in the United States.[6-15]

Obesity and its related health problems also have substantial economic consequences for the U.S. health care system. According to one study, medical spending across all payers (i.e., Medicare, Medicaid, and private insurers) for someone who is obese was $1,429 greater per year, or approximately 42 percent higher, than for someone of normal weight.[6-16] In terms of overall spending in the United States, obesity costs around $92 billion per year in medical care and disability.[6-17]

Determining a patient's BMI is usually the first step in weight management and treatment. Studies have shown that for the majority of patients, BMI provides an acceptable approximation of total

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6-12 Centers for Disease Control and Prevention. U.S. Obesity Trends. Available at: http://www.cdc.gov/obesity/data/trends.html. Accessed on: August 10, 2011.

6-13 Ibid.

6-14 U.S. Department of Health and Human Services. Centers for Disease Control and Prevention. *Health, United States, 2010*. Atlanta, GA: DHHS; 2011.

6-15 National Committee for Quality Assurance. *The State of Health Care Quality 2010*. Washington, D.C.: NCQA; 2010. Available at: http://www.ncqa.org/portals/0/state%20of%20health%20care/2010/sohc%202010%20-%20full2.pdf. Accessed on August 10, 2011.

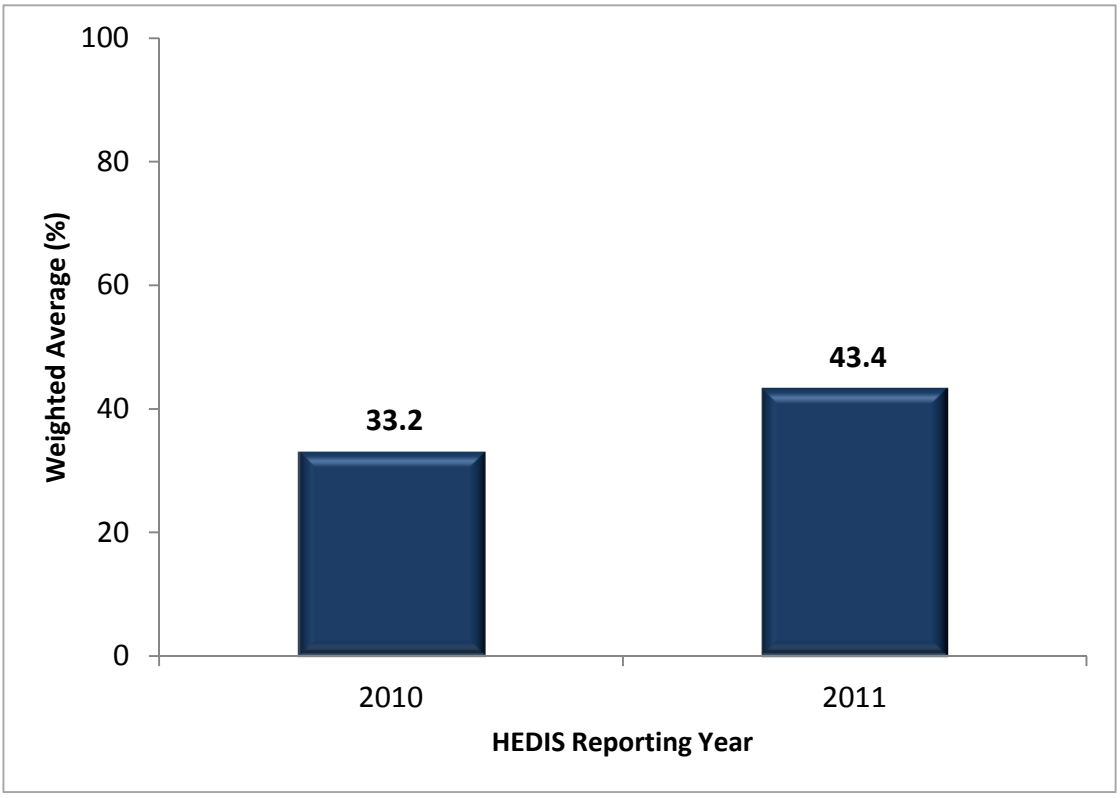
6-16 Finkelstein EA, Trogdon JG, Cohen JW, et al. Annual Medical Spending Attributable to Obesity: Payer-and Service-Specific Estimates. *Health Affairs*. 2009; 28: w822-w831. Available at http://www.npr.org/blogs/thetwo-way/obesity%20costs%20study.pdf. Accessed on: August 10, 2011.

6-17 National Committee for Quality Assurance. *The State of Health Care Quality 2010*. Washington, D.C.: NCQA; 2010. Available at: http://www.ncqa.org/portals/0/state%20of%20health%20care/2010/sohc%202010%20-%20full2.pdf. Accessed on August 10, 2011.

body fat. In epidemiological studies, BMI is also the favored measure of excess body weight to estimate relative risk of disease.[6-18]

Performance Results

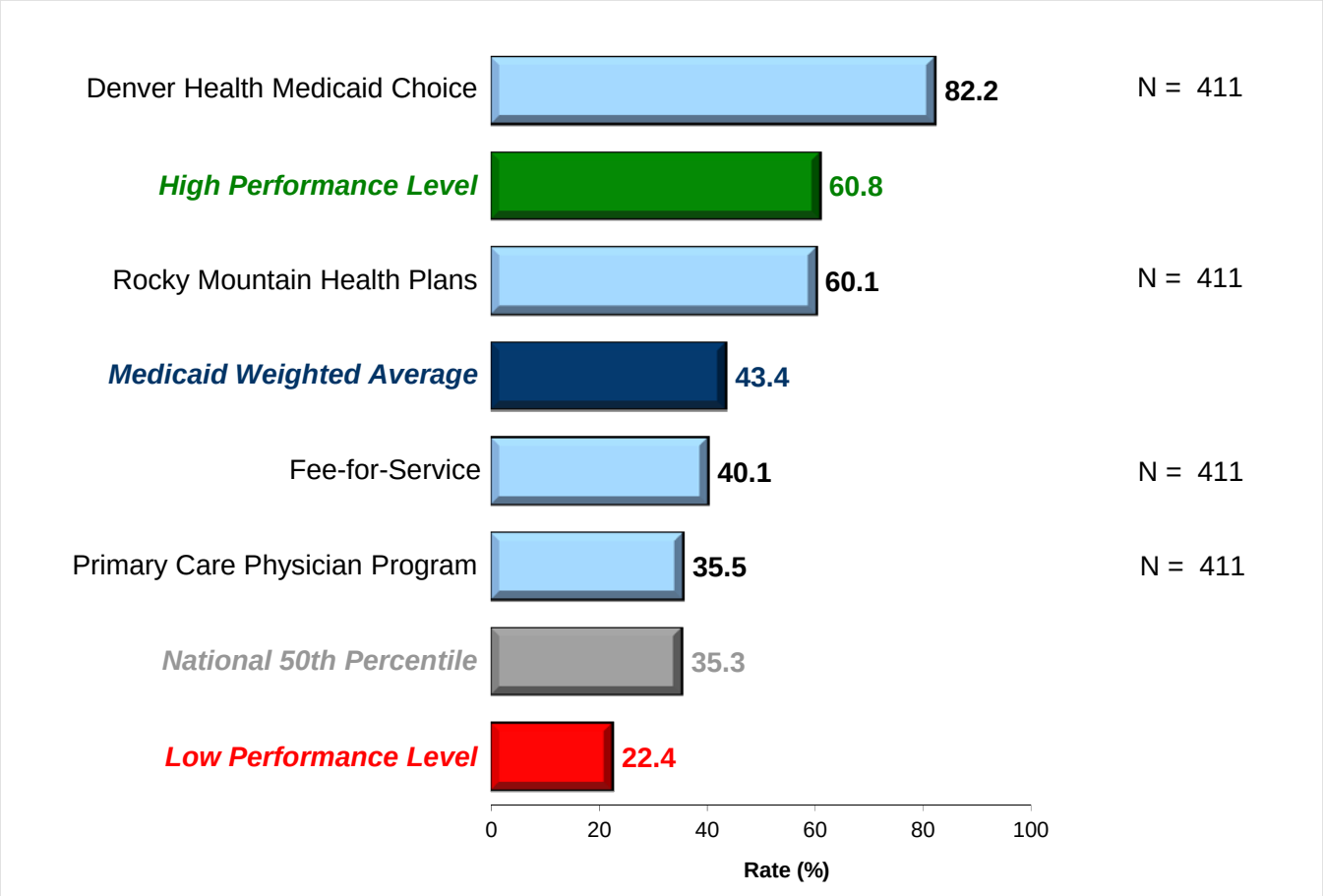
Figure 6-3—Adult BMI Assessment
Colorado Medicaid Weighted Averages



Adult BMI Assessment was a new measure for HEDIS 2010; therefore, only two years of results were presented in Figure 6-3. The 2011 Colorado Medicaid weighted average increased 10.2 percentage points over the 2010 weighted average. The observed improvement was statistically significant.

[6-18] National Institutes of Health. Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults. Available at: http://www.nhlbi.nih.gov/guidelines/obesity/ob_gdlns.pdf. Accessed on August 16, 2011.

Figure 6-4—Adult BMI Assessment



One health plan exceeded the HPL of 60.8 percent, and none of the health plans fell below the LPL of 22.4 percent. All four of the health plans, including the one that exceeded the HPL, reported a higher rate than the national HEDIS 2010 Medicaid 50th percentile. The 2011 Colorado Medicaid weighted average of 43.4 percent exceeded the national HEDIS 2010 Medicaid 50th percentile by 8.1 percentage points.

Summary of Findings

Table 6-1 presents a summary of the health plans' overall performance (in rank order from highest-to-lowest performing health plan) on the Preventive Screening dimension.

Table 6-1—Overall Preventive Screening Performance Summary by Plan	
Health Plan Name	**Star Rating Results**
DHMC	★★★★★
RMHP	★★★
FFS	★★★
PCPP	★★

Table 6-2 presents a summary of the health plans' performance for each of the measures in the Preventive Screening dimension.

Table 6-2—Preventive Screening Performance Summary by Measure				
Measure	**FFS**	**PCPP**	**DHMC**	**RMHP**
Chlamydia Screening in Women—Total	★★★	★	★★★★★	★★
Adult BMI Assessment	★★★	★★★	★★★★★	★★★★

Table 6-3 presents a summary of the number of measures that fell into each star rating category for the Preventive Screening dimension.

Table 6-3—Preventive Screening Star Ratings Summary						
Health Plan Name	**5 Stars**	**4 Stars**	**3 Stars**	**2 Stars**	**1 Star**	**NA/NR**
FFS	0	0	2	0	0	0
PCPP	0	0	1	0	1	0
DHMC	2	0	0	0	0	0
RMHP	0	1	0	1	0	0

DHMC was the top performing plan in this dimension, with both measures receiving a 5-star rating. PCPP, on the other hand, had one measure which fell below the national HEDIS 2010 Medicaid 10th percentile. Overall, performance in the Preventive Screening dimension was fair with the majority of plans scoring at least three stars (★★★).

Best Practices

Chlamydia Screening in Women

Physician Training

Case studies have shown that providing interventions targeted toward PCPs and OB/GYNs can increase chlamydia screening rates. Examples include one-on-one training sessions, letters to providers with lists of patients who are eligible for screening, sharing screening rates with providers, and tracking progress.[6-19] Since physicians report difficulty in discussing chlamydia with their patients, plans may also choose to provide guidance to their PCPs about initiating conversations about STD prevention.

Health Education Materials

Written and electronic health education materials have been shown to be useful as long as the patient can understand them. These health education materials can include topics such as the benefits of smoking cessation, STDs, and cervical cancer risks. The health plan or physician can mail or submit electronically materials explaining risks associated with cervical cancer to identified females. [6-20, 6-21]

Health Plans Focusing on Data Collection

Some health plans have focused on improving their ability to capture the number of screening tests performed and collect data on and identify members who have been screened by revising laboratory coding and reporting processes. Actions include:

- Consolidating laboratory vendors and laboratory claims.
- Using LOINC codes.
- Requiring labs to report tests directly to health plans in addition to usual reports sent to providers.
- Developing capitated lab arrangements with most claims coming from central laboratory data vendors.[22]

6-19 National Committee for Quality Assurance. Improving Chlamydia Screening: Strategies From Top Performing Health Plans. Available at: http://www.ncqa.org/tabid/385/Default.aspx. Accessed on: August 10, 2011.

6-20 AHRQ. The CAHPS Improvement Guide. Available at: http://www.cahps.ahrq.gov/qiguide/. Accessed on September 8, 2011.

6-21 Select Health. HEDIS 2009. Available at: http://selecthealth.org/Static/Files/hedisreport.pdf Accessed on September 8, 2011.

6-22 National Committee for Quality Assurance. 2007. Improving Chlamydia Screening: Strategies From Top Performing Health Plans. Available at: http://www.ncqa.org/Portals/0/Publications/Resource%20Library/Improving_Chlamydia_Screening_08.pdf. Accessed on: September 8, 2011.

Adult BMI Assessment

Opportunities for Community Collaboration

Due to the increased health care costs associated with overweight and obesity, many employers are becoming more aware of the need to address risk factors associated with poor nutrition and physical inactivity through workplace initiatives. Research has shown that implementing health promotion programs in the workplace can be cost effective and well worth the ongoing costs of these programs. Thus, there are more opportunities for health care organizations and providers to partner with local companies and businesses to help them create healthy work sites and further promote a culture of wellness among the community. Through these collaborative efforts health care professionals can ensure they are providing another avenue of support for their patients to achieve and maintain a healthy weight, as well as educate people on the importance of annual BMI assessments.

Similarly, health care providers can work with local community groups such as community coalitions to become active partners in health promotion efforts.

Educate Health Care Professionals

Educating health care professionals and providing them with the tools necessary to manage obesity in a primary care setting are crucial. When health professionals receive training on techniques of weight reduction, particularly behavioral therapy and dietary principles, this can facilitate patients' weight loss.[6-23] Physicians should also be trained on how to accurately calculate patients' BMI, the classification of overweight and obese patients based on BMI, potential risk factors associated with increased BMI, and assessing patients' level of risk for developing obesity-associated diseases.

Improve and/or establish a BMI system

Establishing a system for clinical staff to efficiently calculate BMI can be helpful. For example, the calculation of a patient's BMI can be built into the rooming protocol. In addition, BMI charts could be placed by each scale in the clinic as a reminder to staff to assess and document a patient's BMI during annual office visits. Physicians can use tools such as posters and brochures throughout their facility to promote a healthy lifestyle around nutrition and activity, while encouraging patient knowledge of their BMI.

A review of randomized, controlled trials using behavioral weight loss interventions showed that current evidence does not support the use of low- to moderate-intensity physician counseling for obesity (by itself) in order to achieve meaningful weight loss.[6-24] However, including pharmacotherapy with physician counseling, or intensive counseling from a dietitian or nurse with meal replacements, showed better results.

[6-23] National Institutes of Health. Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults. Available at: http://www.nhlbi.nih.gov/guidelines/obesity/ob_gdlns.pdf. Accessed on August 16, 2011.

[6-24] Tsai AG, Wadden TA. Treatment of Obesity in Primary Care Practice in the United States: A Systematic Review. *Journal of General Internal Medicine*. 2009: 24(9): 1073–9.

Introduction

A CDC survey revealed that during 2009, approximately 25 percent of all children in the United States did not have an office visit to a doctor or other health professional in the previous six months. The survey also revealed that children whose parent had more than a high school diploma were more likely to have had contact with a doctor or other health professional in the past six months (78 percent) than children whose parent had less education (72 percent/less than high school diploma and 68 percent/high school diploma or GED). Over 75 percent of children with private health insurance or Medicaid had contact with a doctor or other health professional in the past six months compared with over one-half of children with no insurance coverage. Thirteen percent of uninsured children had not had contact with a doctor or other health professional in more than two years (including those who never had a contact) compared with 2 percent for children with private insurance coverage.[7-1]

Approximately 10.4 million, or 14 percent of, children living in the United States had visits to an emergency department in the past 12 months; and of those, 5.0 million children had two or more emergency department visits. The Summary Health Statistics for U.S. Children report also revealed that children with Medicaid or other public coverage were more likely to have had two or more emergency room visits in the past 12 months (10 percent) than children with no health insurance (6 percent) or children with private health insurance (4 percent).[7-2]

For all measures in this dimension, HEDIS methodology requires that the rates be derived using only the administrative method. While the national HEDIS 2010 Medicaid 50th percentiles are provided for reference, it is important to assess utilization based on the characteristics of each health plan's population.

The Use of Services dimension encompasses the following measures:

- *Inpatient Utilization: General Hospital/Acute Care—Total Inpatient*
- *Inpatient Utilization: General Hospital/Acute Care—Medicine*
- *Inpatient Utilization: General Hospital/Acute Care—Surgery*
- *Inpatient Utilization: General Hospital/Acute Care—Maternity*
- *Ambulatory Care—Outpatient Visits*
- *Ambulatory Care—ED Visits*
- *Frequency of Selected Procedures—Bariatric Weight Loss Surgery*
- *Frequency of Selected Procedures—Tonsillectomy*
- *Frequency of Selected Procedures—Abdominal Hysterectomy*

[7-1] Centers for Disease Control and Prevention. Summary Health Statistics for U.S. Children: National Health Interview Survey, 2009. Available at: http://www.cdc.gov/nchs/data/series/sr_10/sr10_247.pdf. Accessed on: August 10, 2011.

[7-2] Ibid.

- *Frequency of Selected Procedures—Vaginal Hysterectomy*
- *Frequency of Selected Procedures—Open Cholecystectomy*
- *Frequency of Selected Procedures—Closed Cholecystectomy*
- *Frequency of Selected Procedures—Back Surgery*
- *Frequency of Selected Procedures—Mastectomy*
- *Frequency of Selected Procedures—Lumpectomy*
- *Antibiotic Utilization—Average Number of Prescriptions PMPY for Antibiotics*
- *Antibiotic Utilization—Average Days Supplied per Antibiotic Prescription*
- *Antibiotic Utilization—Average Number of Prescriptions PMPY for Antibiotics of Concern*
- *Antibiotic Utilization—Percentage of Antibiotics of Concern of All Antibiotic Prescriptions*

Inpatient Utilization: General Hospital/Acute Care

Measure Definitions

The *General Hospital/Acute Care—Total Inpatient* measure summarizes the utilization of acute inpatient services for total inpatient stays for discharges per 1,000 member months (MM), days per 1,000 MM, and average length of stay.

The *General Hospital/Acute Care—Medicine* measure summarizes the utilization of acute inpatient services for medicine.

The *General Hospital/Acute Care—Surgery* measure summarizes the utilization of acute inpatient services for surgery.

The *General Hospital/Acute Care—Maternity* measure summarizes the utilization of acute inpatient services for maternity.

In this section, discharges per 1,000 MM and average length of stay results for the total age group were presented. The results for each age group and the days per 1,000 MM can be found in Appendix A.

Importance

In 2007, according to the CDC, there were an estimated 34.4 million hospital discharges, not including newborns. From 2005 to 2007 there was a leveling off of hospitalization rates following a decline from 1980 to 1995. Throughout the period from 1970 to 2007 the rates for those 65 years of age and over were significantly higher than the rates for the younger groups.[7-3]

Although those 65 years of age and over accounted for only 13 percent of the total population, they comprised 37 percent of hospital discharges and 43 percent of hospital days. One-quarter of inpatients under age 15 years were hospitalized for respiratory diseases. There were 45 million inpatient procedures during 2007 and 15 percent of these were cardiovascular. Males aged 45–64 and 65 years and older had higher cardiac catheterization rates than females in these age groups each year from 1997 to 2007.[7-4]

[7-3] National Health Statistics Reports. Hospital Discharge Survey: 2007 Summary. Available at: http://www.cdc.gov/nchs/data/nhsr/nhsr029.pdf. Accessed on: August 10, 2011.
[7-4] Ibid.

Performance Results

Table 7-1 shows the total inpatient, medicine, surgery and maternity discharges per 1,000 MM for the total age group.

Table 7-1—Inpatient Utilization: General Hospital/Acute Care Discharges Per 1,000 MM				
Health Plan Name	**Total Inpatient**	**Medicine**	**Surgery**	**Maternity**
Fee-for-Service	12.2	5.3	2.2	9.1
Primary Care Physician Program	11.5	7.0	3.0	2.6
Denver Health Medicaid Choice	9.9	5.9	1.5	5.3
Rocky Mountain Health Plans	11.6	3.8	2.6	10.3
2011 Colorado Medicaid Weighted Average	11.9	5.3	2.2	8.6
2010 Colorado Medicaid Weighted Average	13.1	5.7	2.2	10.7
2009 Colorado Medicaid Weighted Average	11.3	4.0	1.6	11.6
HEDIS 2010 Medicaid 50th Percentile	8.6	3.4	1.4	6.0

Overall, the 2011 Colorado Medicaid weighted average for three of the four types of services showed a decline in the number of discharges from last year's rates. Almost all the rates for all health plans and all the weighted averages were higher than the national HEDIS 2010 Medicaid 50th percentile.

Table 7-2 displays the total inpatient, medicine, surgery and maternity average length of stay for the total age group.

Table 7-2—Inpatient Utilization: General Hospital/Acute Care Average Length of Stay				
Health Plan Name	**Total Inpatient**	**Medicine**	**Surgery**	**Maternity**
Fee-for-Service	4.5	4.4	8.8	2.5
Primary Care Physician Program	4.9	4.2	7.7	2.6
Denver Health Medicaid Choice	3.7	3.1	8.1	2.5
Rocky Mountain Health Plans	2.9	3.0	4.7	1.9
2011 Colorado Medicaid Weighted Average	4.4	4.2	8.6	2.5
2010 Colorado Medicaid Weighted Average	4.1	3.9	8.2	2.5
2009 Colorado Medicaid Weighted Average	3.9	4.3	7.6	2.5
HEDIS 2010 Medicaid 50th Percentile	3.7	3.6	6.2	2.7

Overall, the 2011 Colorado Medicaid weighted average for average length of stay for three of the four types of services showed an increase in the number of days from last year. Three of the four 2011 weighted averages exceeded the national HEDIS 2010 Medicaid 50th percentiles.

Ambulatory Care

Measure Definitions

The *Ambulatory Care—Outpatient Visits* measure summarizes utilization of ambulatory care for outpatient visits.

The *Ambulatory Care—ED Visits* measure summarizes utilization of ambulatory care for ED visits.

In this section, the results for the total age group were presented. The results for each age group can be found in Appendix A.

Importance

Unlike outpatient visits, which include office visits or routine visits to hospital outpatient departments, emergency rooms are intended to provide emergency care. Often, emergency departments provide nonemergency care as a result of barriers to appropriate care. Health plans and organizations that promote the effective and appropriate use of ambulatory care should be able to significantly reduce the number of emergency room visits.[7-5]

Ambulatory care is the largest, as well as the most widely used, portion of the health care system in the United States. Approximately 27 percent of health care spending is on ambulatory care. Physician offices deliver approximately 80 percent of all ambulatory care. In 2005, it was estimated that 963.5 million visits were made to physicians, which is an average of about 3.31 visits per person. Additionally, about 25 percent of all visits were made to general and family practice physicians, and an additional 38 percent were made to physicians that specialize in internal medicine, pediatrics, or OB/GYN.

From 1997 to 2007, ambulatory care provided in the physician's office steadily increased 25 percent and continues to be the most used method of receiving services.[7-6] In 2009 children ages 18 and younger who had a usual place of health care visited a physician's office 78 percent of the time and the emergency room 12 percent of the time.[7-7] Infants under 1 year of age (781.6 per 1,000 persons) had the highest visit rates to physician offices.[7-8]

ED visit rates have continued to rise annually. In 2006, there were 119.2 million visits to hospital EDs (or 40.5 visits per 100 persons), an increase of 3.9 million from 2005.

[7-5] National Quality Measures Clearinghouse.

[7-6] U.S. Department of Health and Human Services. Centers for Disease Control and Prevention. National Center for Health Statistics. Vital and Health Statistics Series 13, Number 169. April 2011. Ambulatory Medical Care Utilization Estimates for 2007. Available at: http://www.cdc.gov/nchs/data/series/sr_13/sr13_169.pdf. Accessed on: August 3, 2011.

[7-7] U.S. Department of Health and Human Services. Vital and Health Statistics. Summary of Health Statistics for U.S. Children: National Health Interview Survey, 2009. Available at: http://www.cdc.gov/nchs/data/series/sr_10/sr10_247.pdf. Accessed on: August 3, 2011.

[7-8] Cherry, D.K., Woodwell, D.A., Rechtsteiner, E.A., Division of Health Care Statistics. National Ambulatory Medical Care Survey: 2005 Summary. *Advance Data.* 2007. Available at: http://www.cdc.gov/nchs/data/ad/ad387.pdf. Accessed on: August 3, 2011.

Performance Results

Table 7-3 shows outpatient and emergency department visits per 1,000 MM for ambulatory care for the total age group.

Table 7-3—Ambulatory Care		
Health Plan Name	Outpatient Visits Per 1,000 MM	Emergency Department Visits Per 1,000 MM
Fee-for-Service	353.4	64.7
Primary Care Physician Program	410.0	63.9
Denver Health Medicaid Choice	264.5	47.3
Rocky Mountain Health Plans	437.8	56.9
2011 Colorado Medicaid Weighted Average	351.4	63.0
2010 Colorado Medicaid Weighted Average	383.6	69.8
2009 Colorado Medicaid Weighted Average	358.1	58.8
HEDIS 2010 Medicaid 50th Percentile	365.9	67.7

For both outpatient and emergency department, the Colorado Medicaid weighted averages for 2011 demonstrated a decline in the number of visits from 2010. Both 2011 weighted averages were below the national HEDIS 2010 Medicaid 50th percentiles.

Frequency of Selected Procedures

The following measures have shown wide regional variation and have generated concern regarding potential inappropriate utilization.

Measure Definitions

The *Frequency of Selected Procedures—Bariatric Weight Loss Surgery* measure summarizes bariatric weight loss surgery utilization for individuals between the ages of 0 and 19, 20 and 44, and 45 and 64.

The *Frequency of Selected Procedures—Tonsillectomy* measure summarizes tonsillectomy utilization for children between the ages of 0 and 9, and 10 and 19.

The *Frequency of Selected Procedures—Abdominal Hysterectomy* measure summarizes abdominal hysterectomy utilization for females between the ages of 15 and 44, and 45 and 64.

The *Frequency of Selected Procedures—Vaginal Hysterectomy* measure summarizes vaginal hysterectomy utilization for females between the ages of 15 and 44, and 45 and 64.

The *Frequency of Selected Procedures—Open Cholecystectomy* measure summarizes open cholecystectomy utilization for females between the ages of 15 and 44, and 45 and 64, and for males between the ages of 30 and 64.

The *Frequency of Selected Procedures—Closed Cholecystectomy* measure summarizes closed cholecystectomy utilization for females between the ages of 15 and 44, and 45 and 64, and for males between the ages of 30 and 64.

The *Frequency of Selected Procedures—Back Surgery* measure summarizes back surgery utilization for males and females between the ages of 20 and 44, and 45 and 64.

The *Frequency of Selected Procedures—Mastectomy* measure summarizes mastectomy utilization for females between the ages of 15 and 44, and 45 and 64.

The *Frequency of Selected Procedures—Lumpectomy* measure summarizes lumpectomy utilization for females between the ages of 15 and 44, and 45 and 64.

Importance

Examining the rates can help organizations manage care for their members as well as help eliminate unwarranted variation in the delivery of medical care. Services reviewed under the *Frequency of Selected Procedures* measure can help identify which services contribute to overall cost and overall utilization patterns.[7-9]

[7-9] Agency for Healthcare Research and Quality. National Quality Measures Clearinghouse. Measure Summary – Frequency of Selected Procedures: summary of utilization of fourteen frequency performed procedures. Available at: http://www.qualitymeasures.ahrq.gov/content.aspx?id=34129&search=Operative+procedure+on+digestive+system+. Accessed on: September 8, 2011.

Performance Results

Table 7-4 shows the frequency of bariatric weight loss surgery procedures per 1,000 MM for individuals between 0 and 19 years of age, between 20 and 44 years of age, and between 45 and 64 years of age. Since this is a newly added procedure for HEDIS 2011, previous year weighted averages and HEDIS 2010 percentiles were not available.

Table 7-4—Frequency of Selected Procedures
Bariatric Weight Loss Surgery Procedures Per 1,000 MM

Health Plan Name	Ages 0–19 Years	Ages 20–44 Years	Ages 45–64 Years
Fee-for-Service	0.0	0.1	0.1
Primary Care Physician Program	0.0	0.1	0.1
Denver Health Medicaid Choice	0.0	0.1	0.1
Rocky Mountain Health Plans	0.0	0.2	0.1
2011 Colorado Medicaid Weighted Average	0.0	0.1	0.1
2010 Colorado Medicaid Weighted Average	—	—	—
2009 Colorado Medicaid Weighted Average	—	—	—
HEDIS 2010 Medicaid 50th Percentile	—	—	—

The health plans' frequency of bariatric weight loss surgery procedures per 1,000 MM for individuals between 0 and 19 years of age, and between 45 and 64 years remained the same (at 0.0 and 0.1 respectively), while the frequency for individuals between 20 and 44 years of age ranged from 0.1 to 0.2. The 2011 Colorado Medicaid weighted average frequency of bariatric weight loss surgery procedures per 1,000 MM was lowest for children between 0 and 19 years of age.

Table 7-5 shows the frequency of tonsillectomy procedures per 1,000 MM for children between 0 and 9 years of age, and between 10 and 19 years of age.

Table 7-5—Frequency of Selected Procedures
Tonsillectomy Procedures Per 1,000 MM

Health Plan Name	Ages 0–9 Years	Ages 10–19 Years
Fee-for-Service	0.8	0.6
Primary Care Physician Program	1.0	0.7
Denver Health Medicaid Choice	0.4	0.2
Rocky Mountain Health Plans	1.4	1.1
2011 Colorado Medicaid Weighted Average	0.8	0.6
2010 Colorado Medicaid Weighted Average	0.8	0.6
2009 Colorado Medicaid Weighted Average	0.7	0.4
HEDIS 2010 Medicaid 50th Percentile	0.7	0.4

The health plans' frequency of tonsillectomy procedures per 1,000 MM for children 0 to 9 years of age ranged from 0.4 to 1.4, while the frequency of tonsillectomy procedures per 1,000 MM for children 10 to 19 years of age ranged from 0.2 to 1.1. The 2011 Colorado Medicaid weighted average frequency of tonsillectomy procedures per 1,000 MM was lower for children between 10 and 19 years of age.

Table 7-6 shows the frequency of abdominal hysterectomy procedures per 1,000 MM for females between 15 and 44 years of age, and between 45 and 64 years of age.

Table 7-6—Frequency of Selected Procedures
Abdominal Hysterectomy Procedures Per 1,000 MM

Health Plan Name	Ages 15–44 Years	Ages 45–64 Years
Fee-for-Service	0.3	0.4
Primary Care Physician Program	0.4	0.2
Denver Health Medicaid Choice	0.1	0.2
Rocky Mountain Health Plans	0.2	0.3
2011 Colorado Medicaid Weighted Average	0.3	0.4
2010 Colorado Medicaid Weighted Average	0.4	0.5
2009 Colorado Medicaid Weighted Average	0.3	0.4
HEDIS 2010 Medicaid 50th Percentile	0.3	0.5

The health plans' frequency of abdominal hysterectomy procedures per 1,000 MM for females 15 to 44 years of age ranged from 0.1 to 0.4, while the frequency of abdominal hysterectomy procedures per 1,000 MM for females 45 to 64 years of age ranged from 0.2 to 0.4. The 2011 Colorado Medicaid weighted average frequency of abdominal hysterectomy procedures per 1,000 MM was lower for females between 15 and 44 years of age.

Table 7-7 shows the frequency of vaginal hysterectomy procedures per 1,000 MM for females between 15 and 44 years of age, and between 45 and 64 years of age.

Table 7-7—Frequency of Selected Procedures
Vaginal Hysterectomy Procedures Per 1,000 MM

Health Plan Name	Ages 15–44 Years	Ages 45–64 Years
Fee-for-Service	0.3	0.3
Primary Care Physician Program	0.3	0.1
Denver Health Medicaid Choice	0.1	0.2
Rocky Mountain Health Plans	1.3	0.6
2011 Colorado Medicaid Weighted Average	0.4	0.3
2010 Colorado Medicaid Weighted Average	0.4	0.3
2009 Colorado Medicaid Weighted Average	0.4	0.4
HEDIS 2010 Medicaid 50th Percentile	0.1	0.2

The health plans' frequency of vaginal hysterectomy procedures per 1,000 MM for females 15 to 44 years of age ranged from 0.1 to 1.3, while the frequency of vaginal hysterectomy procedures per 1,000 MM for females 45 to 64 years of age ranged from 0.1 to 0.6. The 2011 Colorado Medicaid weighted average frequency of vaginal hysterectomy procedures per 1,000 MM was lower for females between 45 and 64 years of age.

Table 7-8 shows the frequency of open cholecystectomy procedures per 1,000 MM for females between the ages of 15 and 44, and 45 and 64, and for males between the ages of 30 and 64.

Table 7-8—Frequency of Selected Procedures
Open Cholecystectomy Procedures Per 1,000 MM

Health Plan Name	Females Ages 15–44 Years	Females Ages 45–64 Years	Males Ages 30–64 Years
Fee-for-Service	0.0	0.1	0.1
Primary Care Physician Program	0.1	0.0	0.0
Denver Health Medicaid Choice	0.0	0.1	0.1
Rocky Mountain Health Plans	0.0	0.2	0.0
2011 Colorado Medicaid Weighted Average	0.0	0.1	0.1
2010 Colorado Medicaid Weighted Average	0.0	0.1	0.1
2009 Colorado Medicaid Weighted Average	0.0	0.1	0.2
HEDIS 2010 Medicaid 50th Percentile	0.0	0.0	0.0

The 2011 Colorado Medicaid weighted average of open cholecystectomy procedures per 1,000 MM was lowest for females between 15 and 44 years of age, and highest for females between 45 and 64 years of age and males between 30 and 64 years of age.

Table 7-9 shows the frequency of closed cholecystectomy procedures per 1,000 MM for females between the ages of 15 and 44, and 45 and 64, and for males between the ages of 30 and 64.

Table 7-9—Frequency of Selected Procedures
Closed Cholecystectomy Procedures Per 1,000 MM

Health Plan Name	Females Ages 15–44 Years	Females Ages 45–64 Years	Males Ages 30–64 Years
Fee-for-Service	1.1	0.6	0.4
Primary Care Physician Program	1.1	0.7	0.3
Denver Health Medicaid Choice	0.6	0.4	0.2
Rocky Mountain Health Plans	1.6	1.4	0.8
2011 Colorado Medicaid Weighted Average	1.1	0.7	0.4
2010 Colorado Medicaid Weighted Average	1.2	0.9	0.4
2009 Colorado Medicaid Weighted Average	1.2	1.0	0.5
HEDIS 2010 Medicaid 50th Percentile	0.8	0.7	0.3

The 2011 Colorado Medicaid weighted average of closed cholecystectomy procedures per 1,000 MM was lowest for males between 30 and 64 years of age, and highest for females between 15 and 44 years of age.

Table 7-10 shows the frequency of back surgery procedures per 1,000 MM for females and males between the ages of 20 and 44, and 45 and 64.

Table 7-10—Frequency of Selected Procedures
Back Surgery Procedures Per 1,000 MM

Health Plan Name	Females Ages 20–44 Years	Females Ages 45–64 Years	Males Ages 20–44 Years	Males Ages 45–64 Years
Fee-for-Service	0.3	0.8	0.5	0.6
Primary Care Physician Program	0.2	0.7	0.2	0.6
Denver Health Medicaid Choice	0.0	0.3	0.1	0.3
Rocky Mountain Health Plans	0.5	1.2	0.8	0.7
2011 Colorado Medicaid Weighted Average	0.2	0.7	0.4	0.6
2010 Colorado Medicaid Weighted Average	0.4	1.0	0.6	1.1
2009 Colorado Medicaid Weighted Average	0.3	0.9	0.6	0.9
HEDIS 2010 Medicaid 50th Percentile	0.2	0.6	0.3	0.6

The 2011 Colorado Medicaid weighted average of back surgery procedures per 1,000 MM was lowest for females between 20 and 44 years of age, and highest for females between 45 and 64 years of age.

Table 7-11 shows the frequency of mastectomy procedures per 1,000 MM for females between the ages of 15 and 44, and 45 and 64.

Table 7-11—Frequency of Selected Procedures
Mastectomy Procedures Per 1,000 MM

Health Plan Name	Ages 15–44 Years	Ages 45–64 Years
Fee-for-Service	0.0	0.5
Primary Care Physician Program	0.0	0.1
Denver Health Medicaid Choice	0.0	0.2
Rocky Mountain Health Plans	0.0	0.3
2011 Colorado Medicaid Weighted Average	0.0	0.5
2010 Colorado Medicaid Weighted Average	0.0	0.6
2009 Colorado Medicaid Weighted Average	0.1	0.3
HEDIS 2010 Medicaid 50th Percentile	0.0	0.1

The health plans' frequency of mastectomy procedures per 1,000 MM for females 15 to 44 years of age was 0.0 for all plans, while the frequency of mastectomy procedures per 1,000 MM for females 45 to 64 years of age ranged from 0.1 to 0.5. The 2011 Colorado Medicaid weighted average frequency of mastectomy procedures per 1,000 MM was lower for females between 15 and 44 years of age.

Table 7-12 shows the frequency of lumpectomy procedures per 1,000 MM for females between the ages of 15 and 44, and 45 and 64.

Table 7-12—Frequency of Selected Procedures Lumpectomy Procedures Per 1,000 MM

Health Plan Name	Ages 15–44 Years	Ages 45–64 Years
Fee-for-Service	0.1	0.8
Primary Care Physician Program	0.2	0.1
Denver Health Medicaid Choice	0.0	0.3
Rocky Mountain Health Plans	0.2	0.4
2011 Colorado Medicaid Weighted Average	0.1	0.7
2010 Colorado Medicaid Weighted Average	0.2	0.8
2009 Colorado Medicaid Weighted Average	0.1	0.6
HEDIS 2010 Medicaid 50th Percentile	0.2	0.5

The health plans' frequency of lumpectomy procedures per 1,000 MM for females 15 to 44 years of age ranged from 0.0 to 0.2, while the frequency of lumpectomy procedures per 1,000 MM for females 45 to 64 years of age ranged from 0.1 to 0.8. The 2011 Colorado Medicaid weighted average frequency of lumpectomy procedures per 1,000 MM was lower for females between 15 and 44 years of age.

Antibiotic Utilization

Measure Definitions

The *Antibiotic Utilization—Average Number of Prescriptions PMPY for Antibiotics* measure summarizes outpatient utilization of antibiotic prescriptions during the measurement year for the average number of antibiotic prescriptions PMPY.

The *Antibiotic Utilization—Average Days Supplied per Antibiotic Prescription* measure summarizes outpatient utilization of antibiotic prescriptions during the measurement year for the average days supplied per antibiotic prescription.

The *Antibiotic Utilization—Average Number of Prescriptions PMPY for Antibiotics of Concern* measure summarizes outpatient utilization of antibiotic prescriptions during the measurement year for the average prescriptions PMPY for antibiotics of concern.

The *Antibiotic Utilization—Percentage of Antibiotics of Concern of All Antibiotic Prescriptions* measure summarizes outpatient utilization of antibiotic prescriptions during the measurement year for the percentage of antibiotics of concern of all antibiotic prescriptions.

In this section, the results for the total age group were presented. The results for each age group can be found in Appendix A.

Importance

Antibiotic resistance is regarded by many as one of the world's most serious public health concerns. The improper use of antibiotics is a primary factor in the increasing emergence of drug-resistant bacteria. Antibiotic resistance is among the CDC's top concerns; its Get Smart: Know When Antibiotics Work campaign seeks to address this issue in the following ways:

- Help providers adhere to appropriate prescribing guidelines.
- Decrease demand for antibiotics in the case of viral upper respiratory infections among healthy adults and parents of young children.
- Promote adherence to antibiotics that are prescribed for upper respiratory infections.[7-10]

This campaign specifically targets the five respiratory conditions that in 1992 accounted for more than 75 percent of all office-based prescribing for all ages combined: otitis media, sinusitis, pharyngitis, bronchitis, and the common cold. There is some evidence that the campaign is helping to make progress—it has contributed to a reduction of 25 percent in antimicrobial use per ambulatory office visit for presumed viral infections.[7-11]

[7-10] Centers for Disease Control and Prevention. Get Smart: Know When Antibiotics Work. Available at: http://www.cdc.gov/getsmart/campaign-materials/about-campaign.html. Accessed on: August 11, 2011.

[7-11] Centers for Disease Control and Prevention. Facts About Antibiotic Resistance. Available at: http://www.cdc.gov/getsmart/antibiotic-use/fast-facts.html. Accessed on: August 11, 2011.

Performance Results

Table 7-13 shows the antibiotic utilization results for the total age group. Overall, with the exception of the *Percentage of Antibiotics of Concern of All Antibiotic Prescriptions*, all other antibiotic utilization measures reported the same rates as last year. There has been a decreased use of antibiotics of concerns from all antibiotic prescriptions. Compared to the national HEDIS 2010 Medicaid percentiles, three of the four 2011 weighted averages were below the 50th percentiles.

Table 7-13—Antibiotic Utilization

Health Plan Name	Average Number of Prescriptions PMPY for Antibiotics	Average Days Supplied per Antibiotic Prescription	Average Number of Prescriptions PMPY for Antibiotics of Concern	Percentage of Antibiotics of Concern of All Antibiotic Prescriptions
Fee-for-Service	0.9	9.6	0.4	37.5%
Primary Care Physician Program	1.2	10.6	0.5	37.9%
Denver Health Medicaid Choice	0.5	9.9	0.1	25.8%
Rocky Mountain Health Plans	1.1	9.9	0.4	36.7%
2011 Colorado Medicaid Weighted Average	0.9	9.7	0.3	37.0%
2010 Colorado Medicaid Weighted Average	0.9	9.7	0.3	37.5%
2009 Colorado Medicaid Weighted Average	0.8	9.8	0.3	38.3%
HEDIS 2010 Medicaid 50th Percentile	1.2	9.1	0.5	42.4%

Best Practices

This report presents rates for measures in the Use of Services section for informational purposes only. The rates do not indicate the quality and timeliness of, and access to, care and services. The reader should exercise caution in connecting these data to the efficacy of the program because many factors influence these data.

National benchmarks for the Use of Services measures rank health plans for their utilization of services. For example, if a health plan's ED visits rate (for the *Ambulatory Care* measure) ranks lower than the 50th percentile, its members are accessing the ED less than other health plans nationwide. If the health plan ranks above the 50th percentile, ED utilization is higher than other health plans nationwide. Therefore, if the goal is to keep members out of the ED for unnecessary services, health plans should research the reasons for ED visits to identify ways to cut down on unnecessary use. For some health plans, however, high ED utilization may not indicate that members are accessing unnecessary services. In these cases, high rates of ED use may not indicate a problem with utilization of services. Each health plan has to make this determination based upon its population.

HSAG recommends that health plans review their results for Use of Services and identify whether a rate is higher or lower than expected. Focused analysis related to Use of Services could help identify the key drivers associated with the rates.

Automated Telephone Reminders

Automated telephone reminders have been used to improve ambulatory care rates. This reminder method has also been shown to be cost effective as telephone reminders are typically inexpensive. Additionally, telephone reminders have been shown to reduce costs and improve quality of care.

Telephone reminders can be used to remind individuals who have not had routine checkups to set up an appointment. Reminders may also include a brief message regarding why these checkups and routine visits are important. Therefore, while increasing ambulatory care, they can also be used to increase rates of another measure, such as breast cancer screening.[7-12]

Measuring High- and Low-Utilization Patterns

There has been a great deal of research regarding methods to measure patterns of high- and low-utilization in health care. Utilization measures are difficult to interpret for a number of reasons as utilization can vary greatly depending on the population. Methods used to measure utilization include analyzing the costs associated with the population being studied. A popular method of analyzing utilization is by using an ordinary least squares (OLS) regression analysis. These analyses have found that, typically, young children have high utilization, and males and females have similar

[7-12] Leirer, T.O., Tanke, E.D., Morrow, D.G. Automated Telephone Reminders for Improving Ambulatory Care Services. *Journal of Ambulatory Care Management.* 1992. Available at: http://www.ncbi.nlm.nih.gov/pubmed/10122098. Accessed on: September 8, 2011.

utilization until puberty. After puberty, however, women tend to have higher utilization rates during childbearing age, while men typically have lower utilization until around age 40.

Another method that has been proposed is using the Cox proportional hazards model for cost analysis. This method has been shown to be beneficial for identifying costs if the data are not censored. Censoring in health care data occurs when there are issues in estimating the average lifetime cost for treating a particular disease, cost until cure, or cost in a specific time frame. There are times in which complete costs for some patients cannot be completely captured due to patients being lost to follow-up.[7-13]

Ambulatory Care Case-Mix Methodology

The Ambulatory Care Group (ACG) system can track a person based on demographics and pattern of disease over a specific time frame. Additionally, the scheme does not depend on the presence of specific diagnoses that can change over time, but rather on broad clusters of diagnoses and conditions. Members are classified into one of 51 ACG categories. The ACG system has been shown to be able to explain over 50 percent of variance in ambulatory resource use if it is used retrospectively, and over 20 percent of variance in ambulatory resource use if used prospectively. This is compared with 6 percent when age and gender are used standalone. The ACG system has been used for various activities including quality assurance, utilization review, and provider payments.[7-14]

[7-13] Diehr P, Yanez D, Ash A, et al. Methods for Analyzing Health Care Utilization and Costs. *Annual Reviews.* 1999; 20:125-144. Available at: http://works.bepress.com/cgi/viewcontent.cgi?article=1019&context=paula_diehr. Accessed on: August 3, 2011.

[7-14] Weiner JP, Starfield BH, Steinwachs DM, et al. Development and Application of a Population-Oriented Measure of Ambulatory Care Case-Mix. *Medical Care.* 1991; 29(5): 452-472. Available at: http://www.ncbi.nlm.nih.gov/pubmed/1902278. Accessed on: August 3, 2011.

Appendix A. Tabular Results for Measures by Health Plan

Appendix A presents tables showing results for the measures by health plan. Where applicable, the results provided for each measure include the eligible population and rate for each health plan; the 2009, 2010, and 2011 Colorado Medicaid weighted averages; and the national HEDIS 2010 Medicaid 50th percentile. The following is a list of the tables and the measures presented in this appendix.

- Table A-1—*Childhood Immunization Status—Antigens*
- Table A-2—*Childhood Immunization Status—Combinations*
- Table A-3—*Well-Child Visits in the First 15 Months of Life*
- Table A-4—*Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life*
- Table A-5—*Adolescent Well-Care Visits*
- Table A-6—*Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents*
- Table A-7—*Prenatal and Postpartum Care*
- Table A-8—*Children's and Adolescents' Access to Primary Care Practitioners*
- Table A-9—*Adults' Access to Preventive/Ambulatory Health Services*
- Table A-10—*Annual Monitoring for Patients on Persistent Medications*
- Table A-11—*Use of Imaging Studies for Low Back Pain*
- Table A-12—*Controlling High Blood Pressure*
- Table A-13—*Pharmacotherapy Management of COPD Exacerbation*
- Table A-14—*Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis*
- Table A-15—*Chlamydia Screening in Women*
- Table A-16—*Adult BMI Assessment*
- Table A-17—*Inpatient Utilization: General Hospital/Acute Care—Total Inpatient Discharges Per 1,000 MM*
- Table A-18—*Inpatient Utilization: General Hospital/Acute Care—Total Inpatient Days Per 1,000 MM*
- Table A-19—*Inpatient Utilization: General Hospital/Acute Care—Total Inpatient Average Length of Stay*
- Table A-20—*Inpatient Utilization: General Hospital/Acute Care—Medicine Discharges Per 1,000 MM*
- Table A-21—*Inpatient Utilization: General Hospital/Acute Care—Medicine Days Per 1,000 MM*
- Table A-22—*Inpatient Utilization: General Hospital/Acute Care—Medicine Average Length of Stay*
- Table A-23—*Inpatient Utilization: General Hospital/Acute Care—Surgery Discharges Per 1,000 MM*
- Table A-24—*Inpatient Utilization: General Hospital/Acute Care—Surgery Days Per 1,000 MM*

- Table A-25—*Inpatient Utilization: General Hospital/Acute Care—Surgery Average Length of Stay*
- Table A-26—*Inpatient Utilization: General Hospital/Acute Care—Maternity Discharges Per 1,000 MM*
- Table A-27— *Inpatient Utilization: General Hospital/Acute Care—Maternity Days Per 1,000 MM*
- Table A-28—*Inpatient Utilization: General Hospital/Acute Care—Maternity Average Length of Stay*
- Table A-29—*Ambulatory Care: Outpatient Visits Per 1,000 MM*
- Table A-30—*Ambulatory Care: Emergency Department Visits Per 1,000 MM*
- Table A-31—*Frequency of Selected Procedures: Bariatric Weight Loss Surgery Procedures Per 1,000 MM*
- Table A-32—*Frequency of Selected Procedures: Tonsillectomy Procedures Per 1,000 MM*
- Table A-33—*Frequency of Selected Procedures: Abdominal Hysterectomy Procedures Per 1,000 MM*
- Table A-34—*Frequency of Selected Procedures: Vaginal Hysterectomy Procedures Per 1,000 MM*
- Table A-35—*Frequency of Selected Procedures: Open Cholecystectomy Procedures Per 1,000 MM*
- Table A-36—*Frequency of Selected Procedures: Closed Cholecystectomy Procedures Per 1,000 MM*
- Table A-37—*Frequency of Selected Procedures: Back Surgery Procedures Per 1,000 MM*
- Table A-38—*Frequency of Selected Procedures: Mastectomy Procedures Per 1,000 MM*
- Table A-39—*Frequency of Selected Procedures: Lumpectomy Procedures Per 1,000 MM*
- Table A-40—*Antibiotic Utilization: Average Number of Prescriptions PMPY for Antibiotics*
- Table A-41—*Antibiotic Utilization: Average Days Supplied per Antibiotic Prescription*
- Table A-42—*Antibiotic Utilization: Average Number of Prescriptions PMPY for Antibiotics of Concern*
- Table A-43—*Antibiotic Utilization: Percentage of Antibiotics of Concern of All Antibiotic Prescriptions*

Table A-1—Childhood Immunization Status—Antigens											
Health Plan Name	Eligible Population	DTaP	IPV	MMR	HiB	Hepatitis B	VZV	Pneumococcal Conjugate	Hepatitis A	Rotavirus	Influenza
Fee-for-Service	15,038	73.2%	85.2%	84.7%	86.9%	87.6%	85.9%	75.2%	30.4%	48.9%	45.7%
Primary Care Physician Program	414	86.4%	95.6%	94.2%	97.3%	93.7%	95.4%	93.2%	47.2%	72.0%	50.6%
Denver Health Medicaid Choice	1,576	86.9%	95.9%	93.7%	95.4%	96.8%	92.7%	89.5%	56.4%	82.5%	81.8%
Rocky Mountain Health Plans	551	86.6%	95.4%	93.9%	95.1%	95.4%	93.9%	84.9%	24.3%	73.5%	61.6%
2011 Colorado Medicaid Weighted Average	—	75.2%	86.7%	86.0%	88.1%	88.8%	87.0%	77.2%	33.0%	53.2%	49.6%
2010 Colorado Medicaid Weighted Average	—	82.8%	92.3%	91.9%	92.5%	93.1%	91.3%	81.3%	33.6%	43.6%	43.0%
2009 Colorado Medicaid Weighted Average	—	76.5%	86.7%	87.8%	93.1%	85.6%	87.4%	73.1%	—	—	—
HEDIS 2010 Medicaid 50th Percentile	—	81.8%	90.7%	91.7%	95.4%	91.8%	91.3%	79.3%	34.8%	49.9%	40.0%

Table A-2—Childhood Immunization Status—Combinations										
Health Plan Name	Eligible Population	Combo 2	Combo 3	Combo 4	Combo 5	Combo 6	Combo 7	Combo 8	Combo 9	Combo 10
Fee-for-Service	15,038	67.6%	64.5%	27.0%	38.7%	38.4%	18.0%	17.8%	26.5%	12.7%
Primary Care Physician Program	414	81.8%	80.8%	45.7%	62.5%	46.5%	35.3%	26.5%	37.7%	21.4%
Denver Health Medicaid Choice	1,576	86.1%	85.6%	55.2%	78.1%	76.9%	50.9%	51.8%	70.8%	47.9%
Rocky Mountain Health Plans	551	82.2%	78.6%	22.1%	63.5%	55.0%	20.2%	18.0%	47.4%	17.0%
2011 Colorado Medicaid Weighted Average	—	70.1%	67.2%	29.8%	43.6%	42.6%	21.4%	21.0%	31.4%	16.2%
2010 Colorado Medicaid Weighted Average	—	76.4%	71.9%	30.1%	37.4%	36.4%	18.7%	18.0%	21.3%	11.6%
2009 Colorado Medicaid Weighted Average	—	71.9%	65.8%	—	—	—	—	—	—	—
HEDIS 2010 Medicaid 50th Percentile	—	76.6%	71.0%	29.5%	42.0%	32.9%	19.7%	16.0%	21.1%	11.7%

Table A-3—Well-Child Visits in the First 15 Months of Life			
Health Plan Name	**Eligible Population**	**Zero Visits**	**Six or More Visits**
Fee-for-Service	16,021	2.2%	65.5%
Primary Care Physician Program	154	1.3%	57.1%
Denver Health Medicaid Choice	1,098	1.0%	67.7%
Rocky Mountain Health Plans	384	0.9%	81.2%
2011 Colorado Medicaid Weighted Average	—	2.1%	65.9%
2010 Colorado Medicaid Weighted Average	—	5.6%	57.2%
2009 Colorado Medicaid Weighted Average	—	30.1%	31.6%
HEDIS 2010 Medicaid 50th Percentile	—	1.4%	60.1%

Table A-4—Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life		
Health Plan Name	**Eligible Population**	**Rate**
Fee-for-Service	56,742	61.1%
Primary Care Physician Program	1,898	70.1%
Denver Health Medicaid Choice	5,931	68.4%
Rocky Mountain Health Plans	2,294	68.1%
2011 Colorado Medicaid Weighted Average	—	62.2%
2010 Colorado Medicaid Weighted Average	—	60.6%
2009 Colorado Medicaid Weighted Average	—	47.7%
HEDIS 2010 Medicaid 50th Percentile	—	71.8%

Table A-5—Adolescent Well-Care Visits		
Health Plan Name	**Eligible Population**	**Rate**
Fee-for-Service	53,412	41.8%
Primary Care Physician Program	3,041	47.7%
Denver Health Medicaid Choice	4,718	49.1%
Rocky Mountain Health Plans	2,145	49.9%
2011 Colorado Medicaid Weighted Average	—	42.9%
2010 Colorado Medicaid Weighted Average	—	37.1%
2009 Colorado Medicaid Weighted Average	—	29.2%
HEDIS 2010 Medicaid 50th Percentile	—	46.8%

Table A-6—Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents												
	Ages 3–11 Years				**Ages 12–17 Years**				**Total**			
Health Plan Name	**Eligible Population**	**BMI**	**Nutrition**	**Physical Activity**	**Eligible Population**	**BMI**	**Nutrition**	**Physical Activity**	**Eligible Population**	**BMI**	**Nutrition**	**Physical Activity**
Fee-for-Service	81,739	31.6%	47.0%	28.1%	28,594	25.4%	30.2%	31.7%	110,333	29.7%	41.8%	29.2%
Primary Care Physician Program	3,774	48.3%	56.6%	45.5%	1,970	44.4%	44.4%	45.0%	5,744	46.7%	51.6%	45.3%
Denver Health Medicaid Choice	7,816	78.6%	79.2%	55.3%	2,674	75.5%	66.3%	57.1%	10,490	77.9%	76.2%	55.7%
Rocky Mountain Health Plans	3,504	64.8%	61.5%	48.0%	1,335	56.1%	54.2%	55.1%	4,839	62.5%	59.6%	49.9%
2011 Colorado Medicaid Weighted Average	—	37.2%	50.5%	31.7%	—	31.5%	34.7%	35.4%	—	35.5%	45.7%	32.8%
2010 Colorado Medicaid Weighted Average	—	32.8%	51.0%	28.1%	—	29.5%	43.5%	40.4%	—	31.9%	49.0%	31.4%
2009 Colorado Medicaid Weighted Average	—	—	—	—	—	—	—	—	—	—	—	—
HEDIS 2010 Medicaid 50th Percentile	—	27.8%	49.6%	33.0%	—	27.1%	41.1%	37.2%	—	29.3%	46.2%	35.3%

Table A-7—Prenatal and Postpartum Care				
	Timeliness of Prenatal Care		Postpartum Care	
Health Plan Name	Eligible Population	Rate	Eligible Population	Rate
Fee-for-Service	17,091	73.7%	17,091	53.5%
Primary Care Physician Program	346	84.0%	346	70.3%
Denver Health Medicaid Choice	937	82.9%	937	61.0%
Rocky Mountain Health Plans	881	97.0%	881	77.4%
2011 Colorado Medicaid Weighted Average	—	75.4%	—	55.3%
2010 Colorado Medicaid Weighted Average	—	65.1%	—	60.1%
2009 Colorado Medicaid Weighted Average	—	67.1%	—	54.2%
HEDIS 2010 Medicaid 50th Percentile	—	86.0%	—	65.5%

Table A-8—Children's and Adolescents' Access to Primary Care Practitioners								
	Ages 12 to 24 Months		Ages 25 Months to 6 Years		Ages 7 to 11 Years		Ages 12 to 19 Years	
Health Plan Name	Eligible Population	Rate	Eligible Population	Rate	Eligible Population	Rate	Eligible Population	Rate
Fee-for-Service	18,515	95.5%	71,857	83.5%	34,480	85.3%	32,138	84.8%
Primary Care Physician Program	392	96.9%	2,324	88.4%	1,965	90.4%	2,182	91.7%
Denver Health Medicaid Choice	1,646	93.9%	7,493	80.0%	3,493	81.5%	2,832	85.3%
Rocky Mountain Health Plans	687	99.3%	2,848	90.0%	1,205	92.4%	1,214	93.4%
2011 Colorado Medicaid Weighted Average	—	95.6%	—	83.5%	—	85.4%	—	85.5%
2010 Colorado Medicaid Weighted Average	—	93.2%	—	81.1%	—	83.0%	—	82.6%
2009 Colorado Medicaid Weighted Average	—	55.6%	—	44.6%	—	43.2%	—	43.9%
HEDIS 2010 Medicaid 50th Percentile	—	96.8%	—	89.8%	—	91.3%	—	88.9%

Table A-9—Adults' Access to Preventive/Ambulatory Health Services								
	Ages 20 to 44 Years		Ages 45 to 64 Years		Ages 65 Years and Older		Total	
Plan Name	Eligible Population	Rate	Eligible Population	Rate	Eligible Population	Rate	Eligible Population	Rate
Fee-for-Service	62,899	78.0%	28,040	81.3%	29,195	75.5%	120,134	78.1%
Primary Care Physician Program	3,617	83.6%	3,340	88.0%	2,834	86.0%	9,791	85.8%
Denver Health Medicaid Choice	4,492	73.2%	3,195	78.7%	2,266	70.2%	9,953	74.3%
Rocky Mountain Health Plans	2,229	87.7%	1,245	91.8%	1,033	96.1%	4,507	90.8%
2011 Colorado Medicaid Weighted Average	—	78.2%	—	82.0%	—	76.6%	—	78.8%
2010 Colorado Medicaid Weighted Average	—	79.6%	—	83.8%	—	78.0%	—	80.2%
2009 Colorado Medicaid Weighted Average	—	76.7%	—	79.8%	—	71.3%	—	75.9%*
HEDIS 2010 Medicaid 50th Percentile	—	82.9%	—	88.1%	—	86.8%	—	84.4%

*The 'Total' age group was not a reported age group for HEDIS 2009; the weighted average for 2009 was calculated based on the three reported age groups from all plans.

Table A-10—Annual Monitoring for Patients on Persistent Medications										
	ACE Inhibitors or ARBs		Anticonvulsants		Digoxin		Diuretics		Total	
Plan Name	Eligible Population	Rate	Eligible Population	Rate	Eligible Population	Rate	Eligible Population	Rate	Eligible Population	Rate
Fee-for-Service	5,173	87.7%	2,022	67.6%	137	89.1%	3,905	88.3%	11,237	84.3%
Primary Care Physician Program	704	89.5%	531	70.6%	22	NA	554	87.4%	1,811	83.2%
Denver Health Medicaid Choice	1,381	88.5%	350	61.7%	29	NA	1,155	87.0%	2,915	84.7%
Rocky Mountain Health Plans	358	86.0%	182	69.2%	24	NA	341	89.4%	905	84.1%
2011 Colorado Medicaid Weighted Average	—	87.9%	—	67.6%	—	87.7%	—	88.1%	—	84.2%
2010 Colorado Medicaid Weighted Average	—	86.4%	—	69.2%	—	86.5%	—	86.7%	—	83.0%
2009 Colorado Medicaid Weighted Average	—	86.5%	—	67.5%	—	87.1%	—	84.7%	—	81.8%
HEDIS 2010 Medicaid 50th Percentile	—	86.3%	—	68.6%	—	90.0%	—	86.1%	—	84.3%

Table A-11—Use of Imaging Studies for Low Back Pain		
Health Plan Name	**Eligible Population**	**Rate**
Fee-for-Service	4,099	71.6%
Primary Care Physician Program	232	71.1%
Denver Health Medicaid Choice	212	75.5%
Rocky Mountain Health Plans	118	66.9%
2011 Colorado Medicaid Weighted Average	—	71.6%
2010 Colorado Medicaid Weighted Average	—	78.1%
2009 Colorado Medicaid Weighted Average	—	—
HEDIS 2010 Medicaid 50th Percentile	—	76.2%

Table A-12—Controlling High Blood Pressure		
Health Plan Name	**Eligible Population**	**Rate**
Fee-for-Service	12,201	43.6%
Primary Care Physician Program	1,722	43.3%
Denver Health Medicaid Choice	1,973	66.2%
Rocky Mountain Health Plans	700	80.1%
2011 Colorado Medicaid Weighted Average	—	47.8%
2010 Colorado Medicaid Weighted Average	—	44.6%
2009 Colorado Medicaid Weighted Average	—	—
HEDIS 2010 Medicaid 50th Percentile	—	57.1%

Table A-13—Pharmacotherapy Management of COPD Exacerbation			
Health Plan Name	**Eligible Population**	**Bronchodilator**	**Systemic Corticosteroid**
Fee-for-Service	556	67.3%	54.7%
Primary Care Physician Program	64	75.0%	62.5%
Denver Health Medicaid Choice	69	71.0%	60.9%
Rocky Mountain Health Plans	41	65.9%	39.0%
2011 Colorado Medicaid Weighted Average	—	68.2%	55.1%
2010 Colorado Medicaid Weighted Average	—	32.0%	23.8%
2009 Colorado Medicaid Weighted Average	—	—	—
HEDIS 2010 Medicaid 50th Percentile	—	84.1%	63.4%

Table A-14—Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis		
Health Plan Name	**Eligible Population**	**Rate**
Fee-for-Service	2,090	25.6%
Primary Care Physician Program	222	40.1%
Denver Health Medicaid Choice	54	44.4%
Rocky Mountain Health Plans	107	48.6%
2011 Colorado Medicaid Weighted Average	—	28.3%
2010 Colorado Medicaid Weighted Average	—	42.5%
2009 Colorado Medicaid Weighted Average	—	—
HEDIS 2010 Medicaid 50th Percentile	—	23.5%

Table A-15—Chlamydia Screening in Women						
	Ages 16 to 20 Years		Ages 21 to 24 Years		Total	
Plan Name	Eligible Population	Rate	Eligible Population	Rate	Eligible Population	Rate
Fee-for-Service	7,663	53.7%	7,946	57.8%	15,609	55.8%
Primary Care Physician Program	334	30.5%	224	27.7%	558	29.4%
Denver Health Medicaid Choice	640	73.1%	536	72.8%	1,176	73.0%
Rocky Mountain Health Plans	325	47.4%	301	46.5%	626	47.0%
2011 Colorado Medicaid Weighted Average	—	54.0%	—	57.6%	—	55.8%
2010 Colorado Medicaid Weighted Average	—	53.6%	—	57.4%	—	55.4%
2009 Colorado Medicaid Weighted Average	—	—	—	—	—	—
HEDIS 2010 Medicaid 50th Percentile	—	53.0%	—	62.4%	—	55.7%

Table A-16—Adult BMI Assessment		
Health Plan Name	Eligible Population	Rate
Fee-for-Service	59,656	40.1%
Primary Care Physician Program	6,063	35.5%
Denver Health Medicaid Choice	5,178	82.2%
Rocky Mountain Health Plans	2,522	60.1%
2011 Colorado Medicaid Weighted Average	—	43.4%
2010 Colorado Medicaid Weighted Average	—	33.2%
2009 Colorado Medicaid Weighted Average	—	—
HEDIS 2010 Medicaid 50th Percentile	—	35.3%

Table A-17—Inpatient Utilization: General Hospital/Acute Care—Total Inpatient Discharges Per 1,000 MM									
Health Plan Name	**Age <1 Year**	**Ages 1–9 Years**	**Ages 10–19 Years**	**Ages 20–44 Years**	**Ages 45–64 Years**	**Ages 65–74 Years**	**Ages 75–84 Years**	**Ages 85+ Years**	**Total**
Fee-for-Service	15.6	2.4	5.8	23.9	24.3	22.6	24.7	24.4	12.2
Primary Care Physician Program	5.1	2.3	4.1	16.0	20.6	25.1	26.7	30.3	11.5
Denver Health Medicaid Choice	9.7	2.4	4.1	18.7	28.5	27.2	25.4	26.7	9.9
Rocky Mountain Health Plans	7.9	1.8	6.0	27.0	23.3	23.9	26.1	25.4	11.6
2011 Colorado Medicaid Weighted Average	14.6	2.4	5.6	23.3	24.3	23.2	24.9	24.7	11.9
2010 Colorado Medicaid Weighted Average	12.0	2.6	6.9	28.8	26.5	21.6	23.4	22.6	13.1
2009 Colorado Medicaid Weighted Average	6.0	1.1	7.0	28.9	19.9	14.1	15.9	17.7	11.3
HEDIS 2010 Medicaid 50th Percentile	10.3	2.1	3.9	19.3	20.1	15.3	18.2	20.1	8.6

Table A-18—Inpatient Utilization: General Hospital/Acute Care—Total Inpatient Days Per 1,000 MM									
Health Plan Name	**Age <1 Year**	**Ages 1–9 Years**	**Ages 10–19 Years**	**Ages 20–44 Years**	**Ages 45–64 Years**	**Ages 65–74 Years**	**Ages 75–84 Years**	**Ages 85+ Years**	**Total**
Fee-for-Service	137.7	8.8	19.6	78.1	154.3	126.7	123.6	109.1	54.6
Primary Care Physician Program	36.8	8.1	19.6	63.2	118.6	134.5	142.0	131.3	56.4
Denver Health Medicaid Choice	40.2	6.3	10.2	51.6	148.6	110.7	148.5	122.1	37.2
Rocky Mountain Health Plans	22.1	5.4	13.2	61.4	105.7	95.1	92.3	91.5	33.8
2011 Colorado Medicaid Weighted Average	124.0	8.4	18.6	75.2	149.2	125.4	125.8	109.9	52.6
2010 Colorado Medicaid Weighted Average	53.9	9.0	22.0	92.0	160.0	122.1	122.7	102.7	53.4
2009 Colorado Medicaid Weighted Average	27.2	4.3	20.9	89.0	121.5	76.3	79.2	82.2	43.8
HEDIS 2010 Medicaid 50th Percentile	50.3	6.2	12.0	62.4	103.5	82.0	91.0	102.8	31.4

Table A-19—Inpatient Utilization: General Hospital/Acute Care—Total Inpatient Average Length of Stay									
Health Plan Name	Age <1 Year	Ages 1–9 Years	Ages 10–19 Years	Ages 20–44 Years	Ages 45–64 Years	Ages 65–74 Years	Ages 75–84 Years	Ages 85+ Years	Total
Fee-for-Service	8.8	3.7	3.4	3.3	6.4	5.6	5.0	4.5	4.5
Primary Care Physician Program	7.1	3.5	4.8	3.9	5.8	5.4	5.3	4.3	4.9
Denver Health Medicaid Choice	4.1	2.6	2.5	2.8	5.2	4.1	5.8	4.6	3.7
Rocky Mountain Health Plans	2.8	3.1	2.2	2.3	4.5	4.0	3.5	3.6	2.9
2011 Colorado Medicaid Weighted Average	8.5	3.6	3.3	3.2	6.1	5.4	5.0	4.4	4.4
2010 Colorado Medicaid Weighted Average	4.5	3.4	3.2	3.2	6.0	5.7	5.2	4.5	4.1
2009 Colorado Medicaid Weighted Average	4.5	3.8	3.0	3.1	6.1	5.4	5.0	4.6	3.9
HEDIS 2010 Medicaid 50th Percentile	4.6	3.0	3.0	3.1	4.9	5.2	5.6	5.5	3.7

Table A-20—Inpatient Utilization: General Hospital/Acute Care—Medicine Discharges Per 1,000 MM									
Health Plan Name	Age <1 Year	Ages 1–9 Years	Ages 10–19 Years	Ages 20–44 Years	Ages 45–64 Years	Ages 65–74 Years	Ages 75–84 Years	Ages 85+ Years	Total
Fee-for-Service	13.5	1.9	1.3	4.2	15.9	15.6	18.8	19.5	5.3
Primary Care Physician Program	4.1	1.9	1.7	6.4	14.4	18.2	18.4	23.9	7.0
Denver Health Medicaid Choice	9.1	1.9	1.1	6.1	22.3	20.8	19.9	22.3	5.9
Rocky Mountain Health Plans	6.2	1.2	0.9	3.5	11.9	13.4	18.0	20.2	3.8
2011 Colorado Medicaid Weighted Average	12.7	1.9	1.3	4.4	16.2	16.1	18.8	19.8	5.3
2010 Colorado Medicaid Weighted Average	10.4	2.1	1.4	5.1	18.1	15.0	17.2	18.4	5.7
2009 Colorado Medicaid Weighted Average	5.3	0.8	0.9	4.3	13.9	9.6	11.8	14.4	4.0
HEDIS 2010 Medicaid 50th Percentile	8.6	1.8	1.0	3.8	12.2	10.1	13.7	15.4	3.4

Table A-21—Inpatient Utilization: General Hospital/Acute Care—Medicine Days Per 1,000 MM									
Health Plan Name	Age <1 Year	Ages 1–9 Years	Ages 10–19 Years	Ages 20–44 Years	Ages 45–64 Years	Ages 65–74 Years	Ages 75–84 Years	Ages 85+ Years	Total
Fee-for-Service	94.4	5.2	4.6	15.4	70.0	75.7	79.2	78.6	23.2
Primary Care Physician Program	9.5	5.3	6.3	27.1	65.2	80.6	79.9	88.9	29.2
Denver Health Medicaid Choice	34.2	4.4	2.2	14.9	83.4	61.3	70.3	86.9	18.4
Rocky Mountain Health Plans	15.1	2.9	1.8	9.8	43.4	43.1	53.8	69.8	11.5
2011 Colorado Medicaid Weighted Average	85.2	5.0	4.4	15.7	69.9	74.2	78.0	79.0	22.7
2010 Colorado Medicaid Weighted Average	37.5	6.0	5.2	19.0	79.9	69.5	75.8	74.4	22.4
2009 Colorado Medicaid Weighted Average	21.4	2.4	4.0	17.0	65.9	43.5	51.6	60.4	17.2
HEDIS 2010 Medicaid 50th Percentile	31.0	4.4	2.9	13.9	49.9	42.4	52.8	61.4	12.7

Table A-22—Inpatient Utilization: General Hospital/Acute Care—Medicine Average Length of Stay									
Health Plan Name	Age <1 Year	Ages 1–9 Years	Ages 10–19 Years	Ages 20–44 Years	Ages 45–64 Years	Ages 65–74 Years	Ages 75–84 Years	Ages 85+ Years	Total
Fee-for-Service	7.0	2.7	3.6	3.7	4.4	4.9	4.2	4.0	4.4
Primary Care Physician Program	2.3	2.7	3.7	4.3	4.5	4.4	4.3	3.7	4.2
Denver Health Medicaid Choice	3.8	2.3	1.9	2.4	3.7	2.9	3.5	3.9	3.1
Rocky Mountain Health Plans	2.4	2.4	2.0	2.8	3.7	3.2	3.0	3.5	3.0
2011 Colorado Medicaid Weighted Average	6.7	2.7	3.5	3.6	4.3	4.6	4.1	4.0	4.2
2010 Colorado Medicaid Weighted Average	3.6	2.8	3.7	3.7	4.4	4.6	4.4	4.0	3.9
2009 Colorado Medicaid Weighted Average	4.1	3.0	4.3	3.9	4.7	4.5	4.4	4.2	4.3
HEDIS 2010 Medicaid 50th Percentile	3.7	2.5	3.0	3.5	4.0	4.2	4.3	4.5	3.6

Table A-23—Inpatient Utilization: General Hospital/Acute Care—Surgery Discharges Per 1,000 MM									
Health Plan Name	**Age <1 Year**	**Ages 1–9 Years**	**Ages 10–19 Years**	**Ages 20–44 Years**	**Ages 45–64 Years**	**Ages 65–74 Years**	**Ages 75–84 Years**	**Ages 85+ Years**	**Total**
Fee-for-Service	2.1	0.5	0.8	2.7	8.2	7.0	5.9	4.9	2.2
Primary Care Physician Program	1.1	0.4	1.1	3.6	6.1	6.9	8.2	6.5	3.0
Denver Health Medicaid Choice	0.7	0.5	0.5	1.6	6.1	6.3	5.4	4.4	1.5
Rocky Mountain Health Plans	1.7	0.5	0.8	3.3	11.1	10.5	8.1	5.3	2.6
2011 Colorado Medicaid Weighted Average	1.9	0.5	0.8	2.7	8.0	7.0	6.1	4.9	2.2
2010 Colorado Medicaid Weighted Average	1.5	0.5	0.8	2.7	8.3	6.5	6.2	4.2	2.2
2009 Colorado Medicaid Weighted Average	0.7	0.3	0.5	2.2	5.9	4.5	4.1	3.3	1.6
HEDIS 2010 Medicaid 50th Percentile	1.5	0.4	0.5	2.3	6.5	5.1	3.9	2.5	1.4

Table A-24—Inpatient Utilization: General Hospital/Acute Care—Surgery Days Per 1,000 MM									
Health Plan Name	**Age <1 Year**	**Ages 1–9 Years**	**Ages 10–19 Years**	**Ages 20–44 Years**	**Ages 45–64 Years**	**Ages 65–74 Years**	**Ages 75–84 Years**	**Ages 85+ Years**	**Total**
Fee-for-Service	43.3	3.7	5.1	20.1	83.9	51.0	44.4	30.5	19.5
Primary Care Physician Program	27.2	2.8	9.2	21.1	53.2	53.8	62.0	42.4	23.2
Denver Health Medicaid Choice	6.0	1.9	1.3	9.5	64.6	49.3	78.1	35.2	12.4
Rocky Mountain Health Plans	6.9	2.5	2.7	13.6	61.3	52.0	38.5	21.7	12.5
2011 Colorado Medicaid Weighted Average	38.7	3.4	4.9	19.2	78.9	51.1	47.8	30.9	18.9
2010 Colorado Medicaid Weighted Average	15.9	3.0	4.8	21.4	79.8	52.5	46.9	28.3	18.0
2009 Colorado Medicaid Weighted Average	5.8	1.9	3.0	15.3	55.4	32.7	27.6	21.8	12.4
HEDIS 2010 Medicaid 50th Percentile	13.9	1.8	2.4	11.5	43.7	30.6	26.7	15.3	8.4

Table A-25—Inpatient Utilization: General Hospital/Acute Care—Surgery Average Length of Stay									
Health Plan Name	Age <1 Year	Ages 1–9 Years	Ages 10–19 Years	Ages 20–44 Years	Ages 45–64 Years	Ages 65–74 Years	Ages 75–84 Years	Ages 85+ Years	Total
Fee-for-Service	20.7	7.2	6.6	7.4	10.2	7.3	7.5	6.3	8.8
Primary Care Physician Program	25.7	7.0	8.0	5.9	8.7	7.8	7.6	6.6	7.7
Denver Health Medicaid Choice	9.2	3.9	2.7	5.8	10.7	7.8	14.4	8.0	8.1
Rocky Mountain Health Plans	4.1	4.5	3.4	4.1	5.5	4.9	4.8	4.1	4.7
2011 Colorado Medicaid Weighted Average	20.0	6.8	6.4	7.1	9.9	7.3	7.8	6.3	8.6
2010 Colorado Medicaid Weighted Average	10.4	6.1	6.3	7.8	9.6	8.0	7.6	6.7	8.2
2009 Colorado Medicaid Weighted Average	7.7	5.9	5.4	6.9	9.4	7.3	6.7	6.7	7.6
HEDIS 2010 Medicaid 50th Percentile	9.5	4.8	4.7	5.0	6.7	7.4	7.9	8.0	6.2

Table A-26—Inpatient Utilization: General Hospital/Acute Care—Maternity Discharges Per 1,000 MM				
Health Plan Name	Ages 10–19 Years	Ages 20–44 Years	Ages 45–64 Years	Total
Fee-for-Service	3.8	17.0	0.1	9.1
Primary Care Physician Program	1.2	6.1	0.1	2.6
Denver Health Medicaid Choice	2.5	11.0	0.1	5.3
Rocky Mountain Health Plans	4.3	20.3	0.3	10.3
2011 Colorado Medicaid Weighted Average	3.6	16.3	0.1	8.6
2010 Colorado Medicaid Weighted Average	4.7	20.9	0.1	10.7
2009 Colorado Medicaid Weighted Average	5.5	22.4	0.0	11.6
HEDIS 2010 Medicaid 50th Percentile	2.2	11.9	0.1	6.0

Table A-27—Inpatient Utilization: General Hospital/Acute Care—Maternity Days Per 1,000 MM				
Health Plan Name	**Ages 10–19 Years**	**Ages 20–44 Years**	**Ages 45–64 Years**	**Total**
Fee-for-Service	10.0	42.6	0.3	23.1
Primary Care Physician Program	4.1	15.1	0.2	6.9
Denver Health Medicaid Choice	6.7	27.2	0.6	13.3
Rocky Mountain Health Plans	8.6	38.0	1.0	19.6
2011 Colorado Medicaid Weighted Average	9.4	40.3	0.4	21.4
2010 Colorado Medicaid Weighted Average	11.9	51.5	0.3	26.5
2009 Colorado Medicaid Weighted Average	13.9	56.7	0.2	29.3
HEDIS 2010 Medicaid 50th Percentile	5.8	31.5	0.2	15.3

Table A-28—Inpatient Utilization: General Hospital/Acute Care—Maternity Average Length of Stay				
Health Plan Name	**Ages 10–19 Years**	**Ages 20–44 Years**	**Ages 45–64 Years**	**Total**
Fee-for-Service	2.6	2.5	3.1	2.5
Primary Care Physician Program	3.4	2.5	3.7	2.6
Denver Health Medicaid Choice	2.6	2.5	4.0	2.5
Rocky Mountain Health Plans	2.0	1.9	3.0	1.9
2011 Colorado Medicaid Weighted Average	2.6	2.5	3.2	2.5
2010 Colorado Medicaid Weighted Average	2.5	2.5	3.0	2.5
2009 Colorado Medicaid Weighted Average	2.5	2.5	3.7	2.5
HEDIS 2010 Medicaid 50th Percentile	2.6	2.7	2.9	2.7

Table A-29—Ambulatory Care Outpatient Visits Per 1,000 MM									
Health Plan Name	**Age <1 Year**	**Ages 1–9 Years**	**Ages 10–19 Years**	**Ages 20–44 Years**	**Ages 45–64 Years**	**Ages 65–74 Years**	**Ages 75–84 Years**	**Ages 85+ Years**	**Total**
Fee-for-Service	765.3	272.0	238.3	341.6	555.3	554.9	557.8	537.8	353.4
Primary Care Physician Program	612.3	286.6	277.6	398.2	617.3	650.6	604.4	562.2	410.0
Denver Health Medicaid Choice	175.4	190.5	188.2	318.6	498.6	613.7	602.9	536.7	264.5
Rocky Mountain Health Plans	778.5	321.7	274.2	459.1	804.5	791.0	802.5	739.5	437.8
2011 Colorado Medicaid Weighted Average	715.1	266.5	237.2	345.9	563.4	573.2	571.4	544.9	351.4
2010 Colorado Medicaid Weighted Average	708.4	283.1	261.7	396.5	624.4	606.3	597.5	547.1	383.6
2009 Colorado Medicaid Weighted Average	694.4	262.7	248.6	369.1	561.1	498.5	477.6	401.8	358.1
HEDIS 2010 Medicaid 50th Percentile	743.2	311.6	241.7	428.8	625.6	534.2	480.5	395.4	365.9

Table A-30—Ambulatory Care Emergency Department Visits Per 1,000 MM									
Health Plan Name	**Age <1 Year**	**Ages 1–9 Years**	**Ages 10–19 Years**	**Ages 20–44 Years**	**Ages 45–64 Years**	**Ages 65–74 Years**	**Ages 75–84 Years**	**Ages 85+ Years**	**Total**
Fee-for-Service	103.2	49.9	44.9	96.8	81.9	45.3	41.4	36.6	64.7
Primary Care Physician Program	94.4	49.3	45.4	92.9	81.3	58.5	49.5	41.2	63.9
Denver Health Medicaid Choice	32.3	48.0	32.2	67.0	55.1	33.7	35.3	37.0	47.3
Rocky Mountain Health Plans	61.2	35.3	38.1	99.9	90.5	62.7	53.6	46.8	56.9
2011 Colorado Medicaid Weighted Average	95.9	49.2	43.7	94.8	79.8	46.0	42.0	37.1	63.0
2010 Colorado Medicaid Weighted Average	103.3	57.1	50.6	101.4	87.9	53.3	51.3	49.1	69.8
2009 Colorado Medicaid Weighted Average	90.5	43.5	41.8	87.6	79.3	45.3	45.8	44.1	58.8
HEDIS 2010 Medicaid 50th Percentile	99.3	56.6	46.2	107.7	82.9	35.2	23.1	21.9	67.7

Table A-31—Frequency of Selected Procedures Bariatric Weight Loss Surgery Procedures Per 1,000 MM			
Health Plan Name	**Ages 0–19 Years**	**Ages 20–44 Years**	**Ages 45–64 Years**
Fee-for-Service	0.0	0.1	0.1
Primary Care Physician Program	0.0	0.1	0.1
Denver Health Medicaid Choice	0.0	0.1	0.1
Rocky Mountain Health Plans	0.0	0.2	0.1
2011 Colorado Medicaid Weighted Average	0.0	0.1	0.1
2010 Colorado Medicaid Weighted Average	—	—	—
2009 Colorado Medicaid Weighted Average	—	—	—
HEDIS 2010 Medicaid 50th Percentile	—	—	—

Note: This is a newly added procedure under *Frequency of Selected Procedures* in HEDIS 2011. Therefore, weighted averages from previous years and HEDIS 2010 percentiles were not available.

Table A-32—Frequency of Selected Procedures Tonsillectomy Procedures Per 1,000 MM		
Health Plan Name	**Ages 0–9 Years**	**Ages 10–19 Years**
Fee-for-Service	0.8	0.6
Primary Care Physician Program	1.0	0.7
Denver Health Medicaid Choice	0.4	0.2
Rocky Mountain Health Plans	1.4	1.1
2011 Colorado Medicaid Weighted Average	0.8	0.6
2010 Colorado Medicaid Weighted Average	0.8	0.6
2009 Colorado Medicaid Weighted Average	0.7	0.4
HEDIS 2010 Medicaid 50th Percentile	0.7	0.4

Table A-33—Frequency of Selected Procedures Abdominal Hysterectomy Procedures Per 1,000 MM		
Health Plan Name	**Ages 15–44 Years**	**Ages 45–64 Years**
Fee-for-Service	0.3	0.4
Primary Care Physician Program	0.4	0.2
Denver Health Medicaid Choice	0.1	0.2
Rocky Mountain Health Plans	0.2	0.3
2011 Colorado Medicaid Weighted Average	0.3	0.4
2010 Colorado Medicaid Weighted Average	0.4	0.5
2009 Colorado Medicaid Weighted Average	0.3	0.4
HEDIS 2010 Medicaid 50th Percentile	0.3	0.5

Table A-34—Frequency of Selected Procedures Vaginal Hysterectomy Procedures Per 1,000 MM		
Health Plan Name	**Ages 15–44 Years**	**Ages 45–64 Years**
Fee-for-Service	0.3	0.3
Primary Care Physician Program	0.3	0.1
Denver Health Medicaid Choice	0.1	0.2
Rocky Mountain Health Plans	1.3	0.6
2011 Colorado Medicaid Weighted Average	0.4	0.3
2010 Colorado Medicaid Weighted Average	0.4	0.3
2009 Colorado Medicaid Weighted Average	0.4	0.4
HEDIS 2010 Medicaid 50th Percentile	0.1	0.2

Table A-35—Frequency of Selected Procedures Open Cholecystectomy Procedures Per 1,000 MM			
Health Plan Name	**Females Ages 15–44 Years**	**Females Ages 45–64 Years**	**Males Ages 30–64 Years**
Fee-for-Service	0.0	0.1	0.1
Primary Care Physician Program	0.1	0.0	0.0
Denver Health Medicaid Choice	0.0	0.1	0.1
Rocky Mountain Health Plans	0.0	0.2	0.0
2011 Colorado Medicaid Weighted Average	0.0	0.1	0.1
2010 Colorado Medicaid Weighted Average	0.0	0.1	0.1
2009 Colorado Medicaid Weighted Average	0.0	0.1	0.2
HEDIS 2010 Medicaid 50th Percentile	0.0	0.0	0.0

Table A-36—Frequency of Selected Procedures Closed Cholecystectomy Procedures Per 1,000 MM			
Health Plan Name	**Females Ages 15–44 Years**	**Females Ages 45–64 Years**	**Males Ages 30–64 Years**
Fee-for-Service	1.1	0.6	0.4
Primary Care Physician Program	1.1	0.7	0.3
Denver Health Medicaid Choice	0.6	0.4	0.2
Rocky Mountain Health Plans	1.6	1.4	0.8
2011 Colorado Medicaid Weighted Average	1.1	0.7	0.4
2010 Colorado Medicaid Weighted Average	1.2	0.9	0.4
2009 Colorado Medicaid Weighted Average	1.2	1.0	0.5
HEDIS 2010 Medicaid 50th Percentile	0.8	0.7	0.3

Table A-37—Frequency of Selected Procedures Back Surgery Procedures Per 1,000 MM				
Health Plan Name	Females Ages 20–44 Years	Females Ages 45–64 Years	Males Ages 20–44 Years	Males Ages 45–64 Years
Fee-for-Service	0.3	0.8	0.5	0.6
Primary Care Physician Program	0.2	0.7	0.2	0.6
Denver Health Medicaid Choice	0.0	0.3	0.1	0.3
Rocky Mountain Health Plans	0.5	1.2	0.8	0.7
2011 Colorado Medicaid Weighted Average	0.2	0.7	0.4	0.6
2010 Colorado Medicaid Weighted Average	0.4	1.0	0.6	1.1
2009 Colorado Medicaid Weighted Average	0.3	0.9	0.6	0.9
HEDIS 2010 Medicaid 50th Percentile	0.2	0.6	0.3	0.6

Table A-38—Frequency of Selected Procedures Mastectomy Procedures Per 1,000 MM		
Health Plan Name	Ages 15–44 Years	Ages 45–64 Years
Fee-for-Service	0.0	0.5
Primary Care Physician Program	0.0	0.1
Denver Health Medicaid Choice	0.0	0.2
Rocky Mountain Health Plans	0.0	0.3
2011 Colorado Medicaid Weighted Average	0.0	0.5
2010 Colorado Medicaid Weighted Average	0.0	0.6
2009 Colorado Medicaid Weighted Average	0.1	0.3
HEDIS 2010 Medicaid 50th Percentile	0.0	0.1

Table A-39—Frequency of Selected Procedures Lumpectomy Procedures Per 1,000 MM		
Health Plan Name	**Ages 15–44 Years**	**Ages 45–64 Years**
Fee-for-Service	0.1	0.8
Primary Care Physician Program	0.2	0.1
Denver Health Medicaid Choice	0.0	0.3
Rocky Mountain Health Plans	0.2	0.4
2011 Colorado Medicaid Weighted Average	0.1	0.7
2010 Colorado Medicaid Weighted Average	0.2	0.8
2009 Colorado Medicaid Weighted Average	0.1	0.6
HEDIS 2010 Medicaid 50th Percentile	0.2	0.5

Table A-40—Antibiotic Utilization Average Number of Prescriptions PMPY for Antibiotics										
Health Plan Name	**Ages 0–9 Years**	**Ages 10–17 Years**	**Ages 18–34 Years**	**Ages 35–49 Years**	**Ages 50–64 Years**	**Ages 65–74 Years**	**Ages 75–84 Years**	**Ages 85+ Years**	**Total**	**Unknown**
Fee-for-Service	0.9	0.6	1.2	1.1	1.3	0.7	0.6	0.8	0.9	NA
Primary Care Physician Program	1.0	0.9	1.7	1.7	2.0	1.5	1.1	1.2	1.2	NA
Denver Health Medicaid Choice	0.4	0.2	0.8	0.8	0.9	0.7	0.6	0.4	0.5	NA
Rocky Mountain Health Plans	1.0	0.7	1.5	1.4	1.3	0.7	0.8	0.6	1.1	NA
2011 Colorado Medicaid Weighted Average	0.9	0.6	1.2	1.1	1.3	0.7	0.6	0.6	0.9	—
2010 Colorado Medicaid Weighted Average	0.9	0.7	1.3	1.0	1.0	0.2	0.1	0.1	0.9	0.0
2009 Colorado Medicaid Weighted Average	0.9	0.7	1.1	1.0	1.0	0.2	0.1	0.1	0.8	0.0
HEDIS 2010 Medicaid 50th Percentile	—	—	—	—	—	—	—	—	1.2	—

Table A-41—Antibiotic Utilization Average Days Supplied per Antibiotic Prescription										
Health Plan Name	Ages 0–9 Years	Ages 10–17 Years	Ages 18–34 Years	Ages 35–49 Years	Ages 50–64 Years	Ages 65–74 Years	Ages 75–84 Years	Ages 85+ Years	Total	Unknown
Fee-for-Service	9.5	11.0	9.0	9.4	10.1	9.6	8.4	11.9	9.6	NA
Primary Care Physician Program	9.8	11.3	11.0	10.6	10.6	9.6	10.4	7.7	10.6	NA
Denver Health Medicaid Choice	9.7	10.3	8.5	11.0	11.5	11.8	9.1	7.2	9.9	NA
Rocky Mountain Health Plans	9.5	10.7	9.5	9.8	10.2	11.7	15.1	13.2	9.9	NA
2011 Colorado Medicaid Weighted Average	9.5	11.0	9.1	9.7	10.3	10.4	9.8	11.1	9.7	—
2010 Colorado Medicaid Weighted Average	9.5	10.8	9.1	9.6	10.1	10.3	10.1	9.9	9.7	—
2009 Colorado Medicaid Weighted Average	9.6	10.9	9.3	9.9	10.4	10.3	10.1	9.5	9.8	—
HEDIS 2010 Medicaid 50th Percentile	—	—	—	—	—	—	—	—	9.1	—

Table A-42—Antibiotic Utilization Average Number of Prescriptions PMPY for Antibiotics of Concern										
Health Plan Name	Ages 0–9 Years	Ages 10–17 Years	Ages 18–34 Years	Ages 35–49 Years	Ages 50–64 Years	Ages 65–74 Years	Ages 75–84 Years	Ages 85+ Years	Total	Unknown
Fee-for-Service	0.3	0.2	0.4	0.5	0.6	0.4	0.3	0.4	0.4	NA
Primary Care Physician Program	0.3	0.3	0.6	0.7	0.9	0.6	0.5	0.7	0.5	NA
Denver Health Medicaid Choice	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.1	0.1	NA
Rocky Mountain Health Plans	0.4	0.2	0.5	0.6	0.6	0.3	0.3	0.2	0.4	NA
2011 Colorado Medicaid Weighted Average	0.3	0.2	0.4	0.5	0.6	0.3	0.3	0.3	0.3	—
2010 Colorado Medicaid Weighted Average	0.3	0.2	0.4	0.4	0.5	0.1	0.1	0.0	0.3	0.0
2009 Colorado Medicaid Weighted Average	0.3	0.2	0.4	0.5	0.5	0.1	0.1	0.0	0.3	0.0
HEDIS 2010 Medicaid 50th Percentile	—	—	—	—	—	—	—	—	0.5	—

Table A-43—Antibiotic Utilization Percentage of Antibiotics of Concern of All Antibiotic Prescriptions										
Health Plan Name	Ages 0–9 Years	Ages 10–17 Years	Ages 18–34 Years	Ages 35–49 Years	Ages 50–64 Years	Ages 65–74 Years	Ages 75–84 Years	Ages 85+ Years	Total	Unknown
Fee-for-Service	38.2%	33.8%	34.0%	43.1%	46.6%	49.9%	53.1%	43.4%	37.5%	NA
Primary Care Physician Program	35.8%	35.3%	35.3%	39.3%	46.4%	41.0%	43.2%	57.9%	37.9%	NA
Denver Health Medicaid Choice	19.4%	22.8%	24.7%	28.2%	34.7%	41.9%	47.1%	34.3%	25.8%	NA
Rocky Mountain Health Plans	35.1%	30.9%	35.7%	44.3%	48.2%	44.3%	32.9%	34.4%	36.7%	NA
2011 Colorado Medicaid Weighted Average	37.2%	33.4%	33.7%	41.8%	45.6%	46.6%	47.5%	40.2%	37.0%	—
2010 Colorado Medicaid Weighted Average	36.8%	35.9%	33.8%	43.1%	47.9%	48.6%	50.4%	46.5%	37.5%	—
2009 Colorado Medicaid Weighted Average	37.3%	35.4%	34.5%	44.7%	49.1%	50.8%	53.9%	50.2%	38.3%	—
HEDIS 2010 Medicaid 50th Percentile	—	—	—	—	—	—	—	—	42.4%	—

Appendix B includes trend tables for each of the Colorado Medicaid health plans. Where applicable, each measure's rate for 2009, 2010, and 2011 is presented along with trend analysis results. For purposes of the trend analysis, the 2011 rates were compared to the 2010 rates to determine if there were any statistically significant differences using Pearson's Chi-square tests. The trends are shown in the following example with specific notations:

Change from 2010–2011	Interpretation
+2.5	The 2011 rate is 2.5 percentage points ***higher*** than the 2010 rate.
-2.5	The 2011 rate is 2.5 percentage points ***lower*** than the 2010 rate.
+2.5	The 2011 rate is 2.5 percentage points ***statistically significantly higher*** than the 2010 rate.
-2.5	The 2011 rate is 2.5 percentage points ***statistically significantly lower*** than the 2010 rate.

Please note that since some utilization measures under *Inpatient Utilization—General Hospital/Acute Care*, *Ambulatory Care*, *Frequency of Selected Procedures*, and *Antibiotic Utilization* report rate per 1,000 member months are averages instead of percentages, statistical tests across years were not performed due to lack of variances reported in the IDSS file for those measures. Differences in the reported rates for these measures were reported without statistical test results.

The health plan trend tables are presented as follows:

- Table B-1—Fee-for-Service
- Table B-2—Primary Care Physician Program
- Table B-3—Denver Health Medicaid Choice
- Table B-4—Rocky Mountain Health Plans

Table B-1—Fee-for-Service Trend Table				
Measure	**2009**	**2010**	**2011**	**Change from 2010–2011**
Pediatric Care				
Childhood Immunization Status—DTaP	74.9%	82.0%	73.2%	**-8.8**
Childhood Immunization Status—IPV	85.4%	91.7%	85.2%	**-6.5**
Childhood Immunization Status—MMR	86.6%	91.5%	84.7%	**-6.8**
Childhood Immunization Status—HiB	92.2%	91.7%	86.9%	**-4.8**
Childhood Immunization Status—Hepatitis B	84.2%	92.7%	87.6%	**-5.1**
Childhood Immunization Status—VZV	86.1%	90.8%	85.9%	**-4.9**
Childhood Immunization Status—Pneumococcal Conjugate	70.6%	80.0%	75.2%	**-4.8**
Childhood Immunization Status—Combination 2	70.1%	74.7%	67.6%	**-7.1**
Childhood Immunization Status—Combination 3	63.3%	69.8%	64.5%	**-5.3**
*Well-Child Visits in the First 15 Months of Life—Zero Visits**	31.6%	6.1%	2.2%	**-3.9**
Well-Child Visits in the First 15 Months of Life—Six or More Visits	29.7%	55.0%	65.5%	**+10.5**
Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life	45.5%	59.9%	61.1%	**+1.2**
Adolescent Well-Care Visits	27.5%	35.0%	41.8%	**+6.8**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—BMI Assessment: Ages 3 to 11 Years	—	22.2%	31.6%	**+9.4**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Nutrition Counseling: Ages 3 to 11 Years	—	46.0%	47.0%	**+1.0**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Physical Activity Counseling: Ages 3 to 11 Years	—	22.2%	28.1%	**+5.9**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—BMI Assessment: Ages 12 to 17 Years	—	19.3%	25.4%	**+6.1**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Nutrition Counseling: Ages 12 to 17 Years	—	39.4%	30.2%	**-9.2**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Physical Activity Counseling: Ages 12 to 17 Years	—	37.6%	31.7%	**-5.9**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—BMI Assessment: Total	—	21.4%	29.7%	**+8.3**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Nutrition Counseling: Total	—	44.3%	41.8%	**-2.5**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Physical Activity Counseling: Total	—	26.3%	29.2%	**+2.9**

Table B-1—Fee-for-Service Trend Table				
Measure	**2009**	**2010**	**2011**	**Change from 2010–2011**
Access to Care				
Prenatal and Postpartum Care—Timeliness of Prenatal Care	64.7%	62.5%	73.7%	**+11.2**
Prenatal and Postpartum Care—Postpartum Care	53.0%	59.6%	53.5%	**-6.1**
Children's and Adolescents' Access to Primary Care Practitioners—Ages 12 to 24 Months	51.5%	92.9%	95.5%	**+2.6**
Children's and Adolescents' Access to Primary Care Practitioners—Ages 25 Months to 6 Years	40.4%	80.8%	83.5%	**+2.7**
Children's and Adolescents' Access to Primary Care Practitioners—Ages 7 to 11 Years	39.3%	82.1%	85.3%	**+3.2**
Children's and Adolescents' Access to Primary Care Practitioners—Ages 12 to 19 Years	39.7%	81.4%	84.8%	**+3.4**
Adults' Access to Preventive/Ambulatory Health Services—Ages 20 to 44 Years	76.6%	79.4%	78.0%	**-1.4**
Adults' Access to Preventive/Ambulatory Health Services—Ages 45 to 64 Years	79.5%	83.4%	81.3%	**-2.1**
Adults' Access to Preventive/Ambulatory Health Services—Ages 65 Years and Older	70.1%	77.3%	75.5%	**-1.8**
Adults' Access to Preventive/Ambulatory Health Services—Total	75.3%**	79.7%	78.1%	**-1.6**
Living With Illness				
Annual Monitoring for Patients on Persistent Medications—ACE Inhibitors or ARBs	87.2%	86.4%	87.7%	**+1.3**
Annual Monitoring for Patients on Persistent Medications—Anticonvulsants	67.3%	69.7%	67.6%	**-2.1**
Annual Monitoring for Patients on Persistent Medications—Digoxin	88.4%	88.6%	89.1%	**+0.5**
Annual Monitoring for Patients on Persistent Medications—Diuretics	86.0%	87.4%	88.3%	**+0.9**
Annual Monitoring for Patients on Persistent Medications—Total	82.8%	83.5%	84.3%	**+0.8**
Use of Imaging Studies for Low Back Pain	—	78.1%	71.6%	**-6.5**
Controlling High Blood Pressure	—	40.1%	43.6%	**+3.5**
Pharmacotherapy Management of COPD Exacerbation—Bronchodilator	—	25.6%	67.3%	**+41.7**
Pharmacotherapy Management of COPD Exacerbation—Systemic Corticosteroid	—	17.5%	54.7%	**+37.2**
Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis	—	41.1%	25.6%	**-15.5**
Preventive Screening				
Chlamydia Screening in Women—Ages 16 to 20 Years	—	53.0%	53.7%	**+0.7**
Chlamydia Screening in Women—Ages 21 to 24 Years	—	56.7%	57.8%	**+1.1**
Chlamydia Screening in Women—Total	—	54.8%	55.8%	**+1.0**
Adult BMI Assessment	—	27.7%	40.1%	**+12.4**

Table B-1—Fee-for-Service Trend Table				
Measure	**2009**	**2010**	**2011**	**Change from 2010–2011**
Utilization of Services* **				
Inpatient Utilization: General Hospital/Acute Care-Total Inpatient—Discharges Per 1,000 MM: Total	12.0	13.3	12.2	**-1.1**
Inpatient Utilization: General Hospital/Acute Care-Total Inpatient—Average Length of Stay: Total	3.8	3.9	4.5	**+0.6**
Inpatient Utilization: General Hospital/Acute Care-Medicine—Discharges Per 1,000 MM: Total	4.1	5.4	5.3	**-0.1**
Inpatient Utilization: General Hospital/Acute Care-Medicine—Average Length of Stay: Total	4.3	3.8	4.4	**+0.6**
Inpatient Utilization: General Hospital/Acute Care-Surgery—Discharges Per 1,000 MM: Total	1.6	2.2	2.2	**0.0**
Inpatient Utilization: General Hospital/Acute Care-Surgery—Average Length of Stay: Total	7.7	8.0	8.8	**+0.8**
Inpatient Utilization: General Hospital/Acute Care-Maternity—Discharges Per 1,000 MM: Total	13.0	11.6	9.1	**-2.5**
Inpatient Utilization: General Hospital/Acute Care-Maternity—Average Length of Stay: Total	2.6	2.5	2.5	**0.0**
Ambulatory Care—Outpatient Visits Per 1,000 MM: Total	364.2	385.0	353.4	**-31.6**
Ambulatory Care—Emergency Department Visits Per 1,000 MM: Total	63.9	71.0	64.7	**-6.3**
Frequency of Selected Procedures—Bariatric Weight Loss Surgery Procedures Per 1,000 MM: Ages 0–19 Years	—	—	0.0	—
Frequency of Selected Procedures—Bariatric Weight Loss Surgery Procedures Per 1,000 MM: Ages 20–44 Years	—	—	0.1	—
Frequency of Selected Procedures—Bariatric Weight Loss Surgery Procedures Per 1,000 MM: Ages 45–64 Years	—	—	0.1	—
Frequency of Selected Procedures—Tonsillectomy Procedures Per 1,000 MM: Ages 0–9 Years	0.8	0.8	0.8	**0.0**
Frequency of Selected Procedures—Tonsillectomy Procedures Per 1,000 MM: Ages 10–19 Years	0.5	0.5	0.6	**+0.1**
Frequency of Selected Procedures—Abdominal Hysterectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.3	0.4	0.3	**-0.1**
Frequency of Selected Procedures—Abdominal Hysterectomy Procedures Per 1,000 MM: Ages 45–64 Years	0.4	0.6	0.4	**-0.2**
Frequency of Selected Procedures—Vaginal Hysterectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.4	0.4	0.3	**-0.1**
Frequency of Selected Procedures—Vaginal Hysterectomy Procedures Per 1,000 MM: Ages 45–64 Years	0.4	0.4	0.3	**-0.1**
Frequency of Selected Procedures—Open Cholecystectomy Procedures Per 1,000 MM: Females—Ages 15–44 Years	0.0	0.0	0.0	**0.0**

Table B-1—Fee-for-Service Trend Table				
Measure	**2009**	**2010**	**2011**	**Change from 2010–2011**
Frequency of Selected Procedures—Open Cholecystectomy Procedures Per 1,000 MM: Females—Ages 45–64 Years	0.1	0.1	0.1	**0.0**
Frequency of Selected Procedures—Open Cholecystectomy Procedures Per 1,000 MM: Males-Ages 30–64 Years	0.2	0.1	0.1	**0.0**
Frequency of Selected Procedures—Closed Cholecystectomy Procedures Per 1,000 MM: Females—Ages 15–44 Years	1.3	1.2	1.1	**-0.1**
Frequency of Selected Procedures—Closed Cholecystectomy Procedures Per 1,000 MM: Females—Ages 45–64 Years	1.0	1.0	0.6	**-0.4**
Frequency of Selected Procedures—Closed Cholecystectomy Procedures Per 1,000 MM: Males—Ages 30–64 Years	0.5	0.4	0.4	**0.0**
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Females—Ages 20–44 Years	0.3	0.4	0.3	**-0.1**
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Females—Ages 45–64 Years	1.0	1.1	0.8	**-0.3**
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Males—Ages 20–44 Years	0.6	0.7	0.5	**-0.2**
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Males—Ages 45–64 Years	1.1	1.3	0.6	**-0.7**
Frequency of Selected Procedures—Mastectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.1	0.0	0.0	**0.0**
Frequency of Selected Procedures—Mastectomy Procedures Per 1,000 MM: Ages 45–64 Years	0.4	0.7	0.5	**-0.2**
Frequency of Selected Procedures—Lumpectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.1	0.2	0.1	**-0.1**
Frequency of Selected Procedures—Lumpectomy Procedures Per 1,000 MM: Ages 45–64 Years	0.7	0.9	0.8	**-0.1**
Antibiotic Utilization—Average Number of Prescriptions PMPY for Antibiotics: Total	0.9	0.9	0.9	**0.0**
Antibiotic Utilization—Average Days Supplied per Antibiotic Prescription: Total	9.7	9.6	9.6	**0.0**
Antibiotic Utilization—Average Number of Prescriptions PMPY for Antibiotics of Concern: Total	0.3	0.3	0.4	**+0.1**
Antibiotic Utilization—Percentage of Antibiotics of Concern of All Antibiotic Prescriptions: Total	38.6%	37.8%	37.5%	**-0.3**

*For the *Well-Child Visits in the First 15 Months of Life—Zero Visits* measure, a lower rate indicates better performance.

The 'Total' age group was not a reported age group for HEDIS 2009;** it was calculated based on the three reported age group**s**.

***For these measures except *Antibiotic Utilization—Percentage of Antibiotics of Concern of All Antibiotic Prescriptions: Total*, statistical tests across years were not performed due to lack of variances reported in the IDSS file; differences in rates were reported without statistical test results.

Table B-2—Primary Care Physician Program Trend Table				
Measure	**2009**	**2010**	**2011**	**Change from 2010–2011**
Pediatric Care				
Childhood Immunization Status—DTaP	78.8%	84.8%	86.4%	**+1.6**
Childhood Immunization Status—IPV	89.3%	91.5%	95.6%	**+4.1**
Childhood Immunization Status—MMR	92.2%	94.9%	94.2%	**-0.7**
Childhood Immunization Status—HiB	97.1%	96.9%	97.3%	**+0.4**
Childhood Immunization Status—Hepatitis B	84.4%	93.8%	93.7%	**-0.1**
Childhood Immunization Status—VZV	92.2%	94.1%	95.4%	**+1.3**
Childhood Immunization Status—Pneumococcal Conjugate	80.3%	87.3%	93.2%	**+5.9**
Childhood Immunization Status—Combination 2	70.1%	81.1%	81.8%	**+0.7**
Childhood Immunization Status—Combination 3	65.5%	78.0%	80.8%	**+2.8**
*Well-Child Visits in the First 15 Months of Life—Zero Visits**	63.8%	4.1%	1.3%	**-2.8**
Well-Child Visits in the First 15 Months of Life—Six or More Visits	15.9%	62.2%	57.1%	**-5.1**
Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life	46.2%	63.5%	70.1%	**+6.6**
Adolescent Well-Care Visits	28.0%	50.1%	47.7%	**-2.4**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—BMI Assessment: Ages 3 to 11 Years	—	40.6%	48.3%	**+7.7**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Nutrition Counseling: Ages 3 to 11 Years	—	51.4%	56.6%	**+5.2**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Physical Activity Counseling: Ages 3 to 11 Years	—	41.0%	45.5%	**+4.5**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—BMI Assessment: Ages 12 to 17 Years	—	27.5%	44.4%	**+16.9**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Nutrition Counseling: Ages 12 to 17 Years	—	33.8%	44.4%	**+10.6**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Physical Activity Counseling: Ages 12 to 17 Years	—	33.1%	45.0%	**+11.9**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—BMI Assessment: Total	—	35.5%	46.7%	**+11.2**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Nutrition Counseling: Total	—	44.5%	51.6%	**+7.1**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Physical Activity Counseling: Total	—	38.0%	45.3%	**+7.3**

Table B-2—Primary Care Physician Program Trend Table				
Measure	**2009**	**2010**	**2011**	**Change from 2010–2011**
Access to Care				
Prenatal and Postpartum Care—Timeliness of Prenatal Care	70.2%	66.9%	84.0%	**+17.1**
Prenatal and Postpartum Care—Postpartum Care	58.2%	57.0%	70.3%	**+13.3**
Children's and Adolescents' Access to Primary Care Practitioners—Ages 12 to 24 Months	14.9%	97.5%	96.9%	**-0.6**
Children's and Adolescents' Access to Primary Care Practitioners—Ages 25 Months to 6 Years	22.8%	85.8%	88.4%	**+2.6**
Children's and Adolescents' Access to Primary Care Practitioners—Ages 7 to 11 Years	33.7%	86.9%	90.4%	**+3.5**
Children's and Adolescents' Access to Primary Care Practitioners—Ages 12 to 19 Years	38.7%	88.2%	91.7%	**+3.5**
Adults' Access to Preventive/Ambulatory Health Services—Ages 20 to 44 Years	81.8%	83.8%	83.6%	**-0.2**
Adults' Access to Preventive/Ambulatory Health Services—Ages 45 to 64 Years	86.7%	88.1%	88.0%	**-0.1**
Adults' Access to Preventive/Ambulatory Health Services—Ages 65 Years and Older	81.9%	85.4%	86.0%	**+0.6**
Adults' Access to Preventive/Ambulatory Health Services—Total	83.5%**	85.8%	85.8%	**0.0**
Living With Illness				
Annual Monitoring for Patients on Persistent Medications—ACE Inhibitors or ARBs	89.1%	87.4%	89.5%	**+2.1**
Annual Monitoring for Patients on Persistent Medications—Anticonvulsants	70.0%	71.3%	70.6%	**-0.7**
Annual Monitoring for Patients on Persistent Medications—Digoxin	90.9%	77.8%	NA	**—**
Annual Monitoring for Patients on Persistent Medications—Diuretics	86.2%	85.8%	87.4%	**+1.6**
Annual Monitoring for Patients on Persistent Medications—Total	82.2%	82.0%	83.2%	**+1.2**
Use of Imaging Studies for Low Back Pain	—	81.8%	71.1%	**-10.7**
Controlling High Blood Pressure	—	41.1%	43.3%	**+2.2**
Pharmacotherapy Management of COPD Exacerbation—Bronchodilator	—	31.6%	75.0%	**+43.4**
Pharmacotherapy Management of COPD Exacerbation—Systemic Corticosteroid	—	27.8%	62.5%	**+34.7**
Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis	—	50.2%	40.1%	**-10.1**
Preventive Screening				
Chlamydia Screening in Women—Ages 16 to 20 Years	—	33.6%	30.5%	**-3.1**
Chlamydia Screening in Women—Ages 21 to 24 Years	—	34.3%	27.7%	**-6.6**
Chlamydia Screening in Women—Total	—	33.9%	29.4%	**-4.5**
Adult BMI Assessment	—	28.5%	35.5%	**+7.0**

Table B-2—Primary Care Physician Program Trend Table				
Measure	**2009**	**2010**	**2011**	**Change from 2010–2011**
Utilization of Services* **				
Inpatient Utilization: General Hospital/Acute Care-Total Inpatient—Discharges Per 1,000 MM: Total	9.0	11.5	11.5	**0.0**
Inpatient Utilization: General Hospital/Acute Care-Total Inpatient—Average Length of Stay: Total	5.4	4.9	4.9	**0.0**
Inpatient Utilization: General Hospital/Acute Care-Medicine—Discharges Per 1,000 MM: Total	5.4	7.0	7.0	**0.0**
Inpatient Utilization: General Hospital/Acute Care-Medicine—Average Length of Stay: Total	4.8	4.1	4.2	**+0.1**
Inpatient Utilization: General Hospital/Acute Care-Surgery—Discharges Per 1,000 MM: Total	2.4	3.2	3.0	**-0.2**
Inpatient Utilization: General Hospital/Acute Care-Surgery—Average Length of Stay: Total	8.1	7.7	7.7	**0.0**
Inpatient Utilization: General Hospital/Acute Care-Maternity—Discharges Per 1,000 MM: Total	2.2	2.4	2.6	**+0.2**
Inpatient Utilization: General Hospital/Acute Care-Maternity—Average Length of Stay: Total	2.7	2.6	2.6	**0.0**
Ambulatory Care—Outpatient Visits Per 1,000 MM: Total	434.2	461.6	410.0	**-51.6**
Ambulatory Care—Emergency Department Visits Per 1,000 MM: Total	63.8	66.4	63.9	**-2.5**
Frequency of Selected Procedures—Bariatric Weight Loss Surgery Procedures Per 1,000 MM: Ages 0–19 Years	—	—	0.0	—
Frequency of Selected Procedures—Bariatric Weight Loss Surgery Procedures Per 1,000 MM: Ages 20–44 Years	—	—	0.1	—
Frequency of Selected Procedures—Bariatric Weight Loss Surgery Procedures Per 1,000 MM: Ages 45–64 Years	—	—	0.1	—
Frequency of Selected Procedures—Tonsillectomy Procedures Per 1,000 MM: Ages 0–9 Years	0.9	1.1	1.0	**-0.1**
Frequency of Selected Procedures—Tonsillectomy Procedures Per 1,000 MM: Ages 10–19 Years	0.6	0.6	0.7	**+0.1**
Frequency of Selected Procedures—Abdominal Hysterectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.3	0.4	0.4	**0.0**
Frequency of Selected Procedures—Abdominal Hysterectomy Procedures Per 1,000 MM: Ages 45–64 Years	0.4	0.4	0.2	**-0.2**
Frequency of Selected Procedures—Vaginal Hysterectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.4	0.2	0.3	**+0.1**
Frequency of Selected Procedures—Vaginal Hysterectomy Procedures Per 1,000 MM: Ages 45–64 Years	0.2	0.1	0.1	**0.0**
Frequency of Selected Procedures—Open Cholecystectomy Procedures Per 1,000 MM: Females—Ages 15–44 Years	0.0	0.1	0.1	**0.0**

Table B-2—Primary Care Physician Program Trend Table				
Measure	**2009**	**2010**	**2011**	**Change from 2010–2011**
Frequency of Selected Procedures—Open Cholecystectomy Procedures Per 1,000 MM: Females—Ages 45–64 Years	0.2	0.0	0.0	**0.0**
Frequency of Selected Procedures—Open Cholecystectomy Procedures Per 1,000 MM: Males—Ages 30–64 Years	0.0	0.1	0.0	**-0.1**
Frequency of Selected Procedures—Closed Cholecystectomy Procedures Per 1,000 MM: Females—Ages 15–44 Years	1.0	0.8	1.1	**+0.3**
Frequency of Selected Procedures—Closed Cholecystectomy Procedures Per 1,000 MM: Females—Ages 45–64 Years	1.0	0.6	0.7	**+0.1**
Frequency of Selected Procedures—Closed Cholecystectomy Procedures Per 1,000 MM: Males—Ages 30–64 Years	0.6	0.5	0.3	**-0.2**
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Females-Ages 20–44 Years	0.3	0.4	0.2	**-0.2**
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Females-Ages 45–64 Years	1.1	1.0	0.7	**-0.3**
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Males-Ages 20–44 Years	0.4	0.3	0.2	**-0.1**
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Males-Ages 45–64 Years	0.6	0.9	0.6	**-0.3**
Frequency of Selected Procedures—Mastectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.0	0.1	0.0	**-0.1**
Frequency of Selected Procedures—Mastectomy Procedures Per 1,000 MM: Ages 45–64 Years	0.0	0.3	0.1	**-0.2**
Frequency of Selected Procedures—Lumpectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.1	0.2	0.2	**0.0**
Frequency of Selected Procedures—Lumpectomy Procedures Per 1,000 MM: Ages 45–64 Years	0.4	0.5	0.1	**-0.4**
Antibiotic Utilization—Average Number of Prescriptions PMPY for Antibiotics: Total	1.1	1.2	1.2	**0.0**
Antibiotic Utilization—Average Days Supplied per Antibiotic Prescription: Total	10.7	10.6	10.6	**0.0**
Antibiotic Utilization—Average Number of Prescriptions PMPY for Antibiotics of Concern: Total	0.5	0.5	0.5	**0.0**
Antibiotic Utilization—Percentage of Antibiotics of Concern of All Antibiotic Prescriptions: Total	41.3%	40.7%	37.9%	**-2.8**

*For the *Well-Child Visits in the First 15 Months of Life—Zero Visits* measure, a lower rate indicates better performance.

The 'Total' age group was not a reported age group for HEDIS 2009;** it was calculated based on the three reported age group**s**.

***For these measures except *Antibiotic Utilization—Percentage of Antibiotics of Concern of All Antibiotic Prescriptions: Total*, statistical tests across years were not performed due to lack of variances reported in the IDSS file; differences in rates were reported without statistical test results.

Table B-3—Denver Health Medicaid Choice Trend Table				
Measure	**2009**	**2010**	**2011**	**Change from 2010–2011**
Pediatric Care				
Childhood Immunization Status—DTaP	88.1%	86.6%	86.9%	**+0.3**
Childhood Immunization Status—IPV	94.9%	95.6%	95.9%	**+0.3**
Childhood Immunization Status—MMR	96.1%	93.9%	93.7%	**-0.2**
Childhood Immunization Status—HiB	98.5%	96.6%	95.4%	**-1.2**
Childhood Immunization Status—Hepatitis B	96.4%	95.4%	96.8%	**+1.4**
Childhood Immunization Status—VZV	96.1%	93.7%	92.7%	**-1.0**
Childhood Immunization Status—Pneumococcal Conjugate	90.8%	88.6%	89.5%	**+0.9**
Childhood Immunization Status—Combination 2	87.6%	86.1%	86.1%	**0.0**
Childhood Immunization Status—Combination 3	87.1%	85.2%	85.6%	**+0.4**
*Well-Child Visits in the First 15 Months of Life—Zero Visits**	1.9%	0.7%	1.0%	**+0.3**
Well-Child Visits in the First 15 Months of Life—Six or More Visits	56.2%	86.1%	67.7%	**-18.4**
Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life	63.0%	63.3%	68.4%	**+5.1**
Adolescent Well-Care Visits	41.8%	46.0%	49.1%	**+3.1**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—BMI Assessment: Ages 3 to 11 Years	—	77.6%	78.6%	**+1.0**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Nutrition Counseling: Ages 3 to 11 Years	—	73.3%	79.2%	**+5.9**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Physical Activity Counseling: Ages 3 to 11 Years	—	46.0%	55.3%	**+9.3**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—BMI Assessment: Ages 12 to 17 Years	—	75.3%	75.5%	**+0.2**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Nutrition Counseling: Ages 12 to 17 Years	—	66.3%	66.3%	**0.0**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Physical Activity Counseling: Ages 12 to 17 Years	—	56.2%	57.1%	**+0.9**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—BMI Assessment: Total	—	77.1%	77.9%	**+0.8**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Nutrition Counseling: Total	—	71.8%	76.2%	**+4.4**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Physical Activity Counseling: Total	—	48.2%	55.7%	**+7.5**

Table B-3—Denver Health Medicaid Choice Trend Table				
Measure	**2009**	**2010**	**2011**	**Change from 2010–2011**
Access to Care				
Prenatal and Postpartum Care—Timeliness of Prenatal Care	86.1%	83.5%	82.9%	**-0.6**
Prenatal and Postpartum Care—Postpartum Care	59.1%	58.4%	61.0%	**+2.6**
Children's and Adolescents' Access to Primary Care Practitioners—Ages 12 to 24 Months	90.6%	93.6%	93.9%	**+0.3**
Children's and Adolescents' Access to Primary Care Practitioners—Ages 25 Months to 6 Years	77.6%	79.2%	80.0%	**+0.8**
Children's and Adolescents' Access to Primary Care Practitioners—Ages 7 to 11 Years	81.9%	85.1%	81.5%	**-3.6**
Children's and Adolescents' Access to Primary Care Practitioners—Ages 12 to 19 Years	83.6%	85.8%	85.3%	**-0.5**
Adults' Access to Preventive/Ambulatory Health Services—Ages 20 to 44 Years	68.9%	74.9%	73.2%	**-1.7**
Adults' Access to Preventive/Ambulatory Health Services—Ages 45 to 64 Years	70.7%	78.7%	78.7%	**0.0**
Adults' Access to Preventive/Ambulatory Health Services—Ages 65 Years and Older	59.9%	69.5%	70.2%	**+0.7**
Adults' Access to Preventive/Ambulatory Health Services—Total	67.1%**	74.8%	74.3%	**-0.5**
Living With Illness				
Annual Monitoring for Patients on Persistent Medications—ACE Inhibitors or ARBs	86.6%	88.8%	88.5%	**-0.3**
Annual Monitoring for Patients on Persistent Medications—Anticonvulsants	62.2%	60.2%	61.7%	**+1.5**
Annual Monitoring for Patients on Persistent Medications—Digoxin	NA	NA	NA	**—**
Annual Monitoring for Patients on Persistent Medications—Diuretics	83.1%	88.4%	87.0%	**-1.4**
Annual Monitoring for Patients on Persistent Medications—Total	80.8%	84.7%	84.7%	**0.0**
Use of Imaging Studies for Low Back Pain	—	79.4%	75.5%	**-3.9**
Controlling High Blood Pressure	—	64.7%	66.2%	**+1.5**
Pharmacotherapy Management of COPD Exacerbation—Bronchodilator	—	55.6%	71.0%	**+15.4**
Pharmacotherapy Management of COPD Exacerbation—Systemic Corticosteroid	—	49.6%	60.9%	**+11.3**
Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis	—	64.6%	44.4%	**-20.2**
Preventive Screening				
Chlamydia Screening in Women—Ages 16 to 20 Years	—	77.2%	73.1%	**-4.1**
Chlamydia Screening in Women—Ages 21 to 24 Years	—	80.0%	72.8%	**-7.2**
Chlamydia Screening in Women—Total	—	78.5%	73.0%	**-5.5**
Adult BMI Assessment	—	83.7%	82.2%	**-1.5**

Table B-3—Denver Health Medicaid Choice Trend Table				
Measure	**2009**	**2010**	**2011**	**Change from 2010–2011**
Utilization of Services* **				
Inpatient Utilization: General Hospital/Acute Care-Total Inpatient—Discharges Per 1,000 MM: Total	5.7	12.8	9.9	**-2.9**
Inpatient Utilization: General Hospital/Acute Care-Total Inpatient—Average Length of Stay: Total	3.8	5.4	3.7	**-1.7**
Inpatient Utilization: General Hospital/Acute Care-Medicine—Discharges Per 1,000 MM: Total	2.5	8.6	5.9	**-2.7**
Inpatient Utilization: General Hospital/Acute Care-Medicine—Average Length of Stay: Total	3.8	4.9	3.1	**-1.8**
Inpatient Utilization: General Hospital/Acute Care-Surgery—Discharges Per 1,000 MM: Total	0.9	1.3	1.5	**+0.2**
Inpatient Utilization: General Hospital/Acute Care-Surgery—Average Length of Stay: Total	6.8	15.3	8.1	**-7.2**
Inpatient Utilization: General Hospital/Acute Care-Maternity—Discharges Per 1,000 MM: Total	5.0	6.6	5.3	**-1.3**
Inpatient Utilization: General Hospital/Acute Care-Maternity—Average Length of Stay: Total	2.6	2.7	2.5	**-0.2**
Ambulatory Care—Outpatient Visits Per 1,000 MM: Total	219.9	296.8	264.5	**-32.3**
Ambulatory Care—Emergency Department Visits Per 1,000 MM: Total	9.4	63.1	47.3	**-15.8**
Frequency of Selected Procedures—Bariatric Weight Loss Surgery Procedures Per 1,000 MM: Ages 0–19 Years	—	—	0.0	—
Frequency of Selected Procedures—Bariatric Weight Loss Surgery Procedures Per 1,000 MM: Ages 20–44 Years	—	—	0.1	—
Frequency of Selected Procedures—Bariatric Weight Loss Surgery Procedures Per 1,000 MM: Ages 45–64 Years	—	—	0.1	—
Frequency of Selected Procedures—Tonsillectomy Procedures Per 1,000 MM: Ages 0–9 Years	0.0	0.3	0.4	**+0.1**
Frequency of Selected Procedures—Tonsillectomy Procedures Per 1,000 MM: Ages 10–19 Years	0.0	0.3	0.2	**-0.1**
Frequency of Selected Procedures—Abdominal Hysterectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.1	0.1	0.1	**0.0**
Frequency of Selected Procedures—Abdominal Hysterectomy Procedures Per 1,000 MM: Ages 45–64 Years	0.2	0.2	0.2	**0.0**
Frequency of Selected Procedures—Vaginal Hysterectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.1	0.0	0.1	**+0.1**
Frequency of Selected Procedures—Vaginal Hysterectomy Procedures Per 1,000 MM: Ages 45–64 Years	0.1	0.2	0.2	**0.0**
Frequency of Selected Procedures—Open Cholecystectomy Procedures Per 1,000 MM: Females—Ages 15–44 Years	0.0	0.0	0.0	**0.0**

Table B-3—Denver Health Medicaid Choice Trend Table				
Measure	**2009**	**2010**	**2011**	**Change from 2010–2011**
Frequency of Selected Procedures—Open Cholecystectomy Procedures Per 1,000 MM: Females—Ages 45–64 Years	0.0	0.0	0.1	**+0.1**
Frequency of Selected Procedures—Open Cholecystectomy Procedures Per 1,000 MM: Males—Ages 30–64 Years	0.0	0.1	0.1	**0.0**
Frequency of Selected Procedures—Closed Cholecystectomy Procedures Per 1,000 MM: Females—Ages 15–44 Years	0.3	0.6	0.6	**0.0**
Frequency of Selected Procedures—Closed Cholecystectomy Procedures Per 1,000 MM: Females—Ages 45–64 Years	0.1	0.3	0.4	**+0.1**
Frequency of Selected Procedures—Closed Cholecystectomy Procedures Per 1,000 MM: Males—Ages 30–64 Years	0.1	0.1	0.2	**+0.1**
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Females—Ages 20–44 Years	0.1	0.1	0.0	**-0.1**
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Females—Ages 45–64 Years	0.3	0.2	0.3	**+0.1**
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Males—Ages 20–44 Years	0.2	0.1	0.1	**0.0**
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Males—Ages 45–64 Years	0.2	0.1	0.3	**+0.2**
Frequency of Selected Procedures—Mastectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.0	0.0	0.0	**0.0**
Frequency of Selected Procedures—Mastectomy Procedures Per 1,000 MM: Ages 45–64 Years	0.1	0.0	0.2	**+0.2**
Frequency of Selected Procedures—Lumpectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.0	0.0	0.0	**0.0**
Frequency of Selected Procedures—Lumpectomy Procedures Per 1,000 MM: Ages 45–64 Years	0.0	0.4	0.3	**-0.1**
Antibiotic Utilization—Average Number of Prescriptions PMPY for Antibiotics: Total	0.4	0.4	0.5	**+0.1**
Antibiotic Utilization—Average Days Supplied per Antibiotic Prescription: Total	10.0	9.7	9.9	**+0.2**
Antibiotic Utilization—Average Number of Prescriptions PMPY for Antibiotics of Concern: Total	0.1	0.1	0.1	**0.0**
Antibiotic Utilization—Percentage of Antibiotics of Concern of All Antibiotic Prescriptions: Total	25.6%	26.3%	25.8%	**-0.5**

*For the *Well-Child Visits in the First 15 Months of Life—Zero Visits* measure, a lower rate indicates better performance.

The 'Total' age group was not a reported age group for HEDIS 2009;** it was calculated based on the three reported age group**s**.

***For these measures except *Antibiotic Utilization—Percentage of Antibiotics of Concern of All Antibiotic Prescriptions: Total*, statistical tests across years were not performed due to lack of variances reported in the IDSS file; differences in rates were reported without statistical test results.

Table B-4—Rocky Mountain Health Plans Trend Table				
Measure	2009	2010	2011	Change from 2010–2011
Pediatric Care				
Childhood Immunization Status—DTaP	82.9%	91.0%	86.6%	**-4.4**
Childhood Immunization Status—IPV	94.0%	97.6%	95.4%	**-2.2**
Childhood Immunization Status—MMR	91.9%	94.9%	93.9%	**-1.0**
Childhood Immunization Status—HiB	96.2%	97.8%	95.1%	**-2.7**
Childhood Immunization Status—Hepatitis B	93.8%	96.8%	95.4%	**-1.4**
Childhood Immunization Status—VZV	91.1%	95.6%	93.9%	**-1.7**
Childhood Immunization Status—Pneumococcal Conjugate	82.1%	89.8%	84.9%	**-4.9**
Childhood Immunization Status—Combination 2	78.3%	89.3%	82.2%	**-7.1**
Childhood Immunization Status—Combination 3	73.7%	85.9%	78.6%	**-7.3**
*Well-Child Visits in the First 15 Months of Life—Zero Visits**	0.0%	0.0%	0.9%	**+0.9**
Well-Child Visits in the First 15 Months of Life—Six or More Visits	77.3%	72.6%	81.2%	**+8.6**
Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life	63.5%	70.5%	68.1%	**-2.4**
Adolescent Well-Care Visits	45.5%	48.2%	49.9%	**+1.7**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—BMI Assessment: Ages 3 to 11 Years	—	58.6%	64.8%	**+6.2**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Nutrition Counseling: Ages 3 to 11 Years	—	62.6%	61.5%	**-1.1**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Physical Activity Counseling: Ages 3 to 11 Years	—	54.9%	48.0%	**-6.9**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—BMI Assessment: Ages 12 to 17 Years	—	57.0%	56.1%	**-0.9**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Nutrition Counseling: Ages 12 to 17 Years	—	53.5%	54.2%	**+0.7**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Physical Activity Counseling: Ages 12 to 17 Years	—	48.2%	55.1%	**+6.9**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—BMI Assessment: Total	—	58.2%	62.5%	**+4.3**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Nutrition Counseling: Total	—	60.1%	59.6%	**-0.5**
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Physical Activity Counseling: Total	—	53.0%	49.9%	**-3.1**

Table B-4—Rocky Mountain Health Plans Trend Table				
Measure	**2009**	**2010**	**2011**	**Change from 2010–2011**
Access to Care				
Prenatal and Postpartum Care—Timeliness of Prenatal Care	95.2%	95.0%	97.0%	**+2.0**
Prenatal and Postpartum Care—Postpartum Care	71.9%	73.7%	77.4%	**+3.7**
Children's and Adolescents' Access to Primary Care Practitioners—Ages 12 to 24 Months	98.3%	98.8%	99.3%	**+0.5**
Children's and Adolescents' Access to Primary Care Practitioners—Ages 25 Months to 6 Years	89.1%	91.8%	90.0%	**-1.8**
Children's and Adolescents' Access to Primary Care Practitioners—Ages 7 to 11 Years	92.3%	91.7%	92.4%	**+0.7**
Children's and Adolescents' Access to Primary Care Practitioners—Ages 12 to 19 Years	91.9%	92.7%	93.4%	**+0.7**
Adults' Access to Preventive/Ambulatory Health Services—Ages 20 to 44 Years	86.1%	87.7%	87.7%	**0.0**
Adults' Access to Preventive/Ambulatory Health Services—Ages 45 to 64 Years	87.6%	90.4%	91.8%	**+1.4**
Adults' Access to Preventive/Ambulatory Health Services—Ages 65 Years and Older	95.2%	95.6%	96.1%	**+0.5**
Adults' Access to Preventive/Ambulatory Health Services—Total	89.3%**	90.6%	90.8%	**+0.2**
Living With Illness				
Annual Monitoring for Patients on Persistent Medications—ACE Inhibitors or ARBs	71.3%	75.4%	86.0%	**+10.6**
Annual Monitoring for Patients on Persistent Medications—Anticonvulsants	69.6%	73.9%	69.2%	**-4.7**
Annual Monitoring for Patients on Persistent Medications—Digoxin	76.7%	NA	NA	—
Annual Monitoring for Patients on Persistent Medications—Diuretics	71.9%	75.1%	89.4%	**+14.3**
Annual Monitoring for Patients on Persistent Medications—Total	71.4%	75.3%	84.1%	**+8.8**
Use of Imaging Studies for Low Back Pain	—	72.6%	66.9%	**-5.7**
Controlling High Blood Pressure	—	74.1%	80.1%	**+6.0**
Pharmacotherapy Management of COPD Exacerbation—Bronchodilator	—	62.9%	65.9%	**+3.0**
Pharmacotherapy Management of COPD Exacerbation—Systemic Corticosteroid	—	34.3%	39.0%	**+4.7**
Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis	—	35.9%	48.6%	**+12.7**
Preventive Screening				
Chlamydia Screening in Women—Ages 16 to 20 Years	—	45.2%	47.4%	**+2.2**
Chlamydia Screening in Women—Ages 21 to 24 Years	—	45.8%	46.5%	**+0.7**
Chlamydia Screening in Women—Total	—	45.5%	47.0%	**+1.5**
Adult BMI Assessment	—	48.7%	60.1%	**+11.4**

Table B-4—Rocky Mountain Health Plans Trend Table				
Measure	**2009**	**2010**	**2011**	**Change from 2010–2011**
Utilization of Services* **				
Inpatient Utilization: General Hospital/Acute Care-Total Inpatient—Discharges Per 1,000 MM: Total	13.9	12.1	11.6	**-0.5**
Inpatient Utilization: General Hospital/Acute Care-Total Inpatient—Average Length of Stay: Total	3.3	2.8	2.9	**+0.1**
Inpatient Utilization: General Hospital/Acute Care-Medicine—Discharges Per 1,000 MM: Total	5.1	4.0	3.8	**-0.2**
Inpatient Utilization: General Hospital/Acute Care-Medicine—Average Length of Stay: Total	3.7	3.0	3.0	**0.0**
Inpatient Utilization: General Hospital/Acute Care-Surgery—Discharges Per 1,000 MM: Total	2.9	2.4	2.6	**+0.2**
Inpatient Utilization: General Hospital/Acute Care-Surgery—Average Length of Stay: Total	5.6	4.6	4.7	**+0.1**
Inpatient Utilization: General Hospital/Acute Care-Maternity—Discharges Per 1,000 MM: Total	12.2	11.6	10.3	**-1.3**
Inpatient Utilization: General Hospital/Acute Care-Maternity—Average Length of Stay: Total	1.9	1.8	1.9	**+0.1**
Ambulatory Care—Outpatient Visits Per 1,000 MM: Total	461.3	470.5	437.8	**-32.7**
Ambulatory Care—Emergency Department Visits Per 1,000 MM: Total	59.2	63.3	56.9	**-6.4**
Frequency of Selected Procedures—Bariatric Weight Loss Surgery Procedures Per 1,000 MM: Ages 0–19 Years	—	—	0.0	—
Frequency of Selected Procedures—Bariatric Weight Loss Surgery Procedures Per 1,000 MM: Ages 20–44 Years	—	—	0.2	—
Frequency of Selected Procedures—Bariatric Weight Loss Surgery Procedures Per 1,000 MM: Ages 45–64 Years	—	—	0.1	—
Frequency of Selected Procedures—Tonsillectomy Procedures Per 1,000 MM: Ages 0–9 Years	1.0	1.2	1.4	**+0.2**
Frequency of Selected Procedures—Tonsillectomy Procedures Per 1,000 MM: Ages 10–19 Years	0.9	1.5	1.1	**-0.4**
Frequency of Selected Procedures—Abdominal Hysterectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.3	0.3	0.2	**-0.1**
Frequency of Selected Procedures—Abdominal Hysterectomy Procedures Per 1,000 MM: Ages 45–64 Years	0.4	0.3	0.3	**0.0**
Frequency of Selected Procedures—Vaginal Hysterectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.9	1.1	1.3	**+0.2**
Frequency of Selected Procedures—Vaginal Hysterectomy Procedures Per 1,000 MM: Ages 45–64 Years	0.4	0.5	0.6	**+0.1**
Frequency of Selected Procedures—Open Cholecystectomy Procedures Per 1,000 MM: Females—Ages 15–44 Years	0.0	0.0	0.0	**0.0**

Table B-4—Rocky Mountain Health Plans Trend Table				
Measure	**2009**	**2010**	**2011**	**Change from 2010–2011**
Frequency of Selected Procedures—Open Cholecystectomy Procedures Per 1,000 MM: Females—Ages 45–64 Years	0.2	0.0	0.2	**+0.2**
Frequency of Selected Procedures—Open Cholecystectomy Procedures Per 1,000 MM: Males—Ages 30–64 Years	0.0	0.0	0.0	**0.0**
Frequency of Selected Procedures—Closed Cholecystectomy Procedures Per 1,000 MM: Females—Ages 15–44 Years	1.5	1.5	1.6	**+0.1**
Frequency of Selected Procedures—Closed Cholecystectomy Procedures Per 1,000 MM: Females—Ages 45–64 Years	1.3	1.5	1.4	**-0.1**
Frequency of Selected Procedures—Closed Cholecystectomy Procedures Per 1,000 MM: Males—Ages 30–64 Years	0.3	0.5	0.8	**+0.3**
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Females—Ages 20–44 Years	0.6	0.4	0.5	**+0.1**
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Females—Ages 45–64 Years	1.4	1.3	1.2	**-0.1**
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Males—Ages 20–44 Years	1.3	0.7	0.8	**+0.1**
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Males—Ages 45–64 Years	0.4	1.5	0.7	**-0.8**
Frequency of Selected Procedures—Mastectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.1	0.0	0.0	**0.0**
Frequency of Selected Procedures—Mastectomy Procedures Per 1,000 MM: Ages 45–64 Years	0.2	0.4	0.3	**-0.1**
Frequency of Selected Procedures—Lumpectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.3	0.4	0.2	**-0.2**
Frequency of Selected Procedures—Lumpectomy Procedures Per 1,000 MM: Ages 45–64 Years	0.7	1.1	0.4	**-0.7**
Antibiotic Utilization—Average Number of Prescriptions PMPY for Antibiotics: Total	1.1	1.1	1.1	**0.0**
Antibiotic Utilization—Average Days Supplied per Antibiotic Prescription: Total	10.3	9.9	9.9	**0.0**
Antibiotic Utilization—Average Number of Prescriptions PMPY for Antibiotics of Concern: Total	0.4	0.4	0.4	**0.0**
Antibiotic Utilization—Percentage of Antibiotics of Concern of All Antibiotic Prescriptions: Total	38.8%	37.1%	36.7%	**-0.4**

*For the *Well-Child Visits in the First 15 Months of Life—Zero Visits* measure, a lower rate indicates better performance.

The 'Total' age group was not a reported age group for HEDIS 2009;** it was calculated based on the three reported age group**s**.

***For these measures except *Antibiotic Utilization—Percentage of Antibiotics of Concern of All Antibiotic Prescriptions: Total*, statistical tests across years were not performed due to lack of variances reported in the IDSS file; differences in rates were reported without statistical test results.

Key Information Systems Findings

NCQA's IS standards are the guidelines used by NCQA-Certified-HEDIS compliance auditors to assess a health plan's HEDIS reporting capabilities. HSAG evaluated each health plan on seven IS standards. To assess a health plan's adherence to standards, HSAG reviewed several documents for FFS, PCPP, DHMC, and RMHP, which included the final audit reports (generated by an NCQA-licensed audit organization [LO]), IDSS files, and audit review tables. The findings indicated that, overall, the health plans were compliant with most of NCQA's IS standards. None of the issues resulted in a bias to any HEDIS results. All health plans were able to accurately report all of the Department-required HEDIS performance measures.

All health plans used NCQA-Certified software to produce the HEDIS measures. NCQA certification helps to ensure the validity of the results that are produced. Through certification, NCQA tests that software produces valid results and the calculations meet NCQA standards.

Each Colorado Medicaid health plan contracted with an LO to perform the NCQA HEDIS Compliance Audit™. HSAG audited the FFS and PCPP programs, while the other health plans contracted with different LOs to perform their audits. The following lists the IS standards' findings.

IS 1.0—Medical Service Data—Sound Coding Methods and Data Capture

This standard assesses whether:

- Industry standard codes are required and captured.
- Primary and secondary diagnosis codes are identified.
- Nonstandard codes (if used) are mapped to industry standard codes.
- Standard submission forms are used.
- Timely and accurate data entry processes and sufficient edit checks are used.
- Data completeness is continually assessed and all contracted vendors involved in medical claims processing are monitored.

The Colorado Medicaid health plans were completely compliant with IS 1.0. The FFS/PCPP was found to be substantially compliant with this standard, as it was not able to capture complete medical service data from the FQHCs and RHCs, and incomplete data from those sources could impact administrative rates.

IS 2.0—Enrollment Data—Data Capture, Transfer, and Entry

This standard assesses whether:

- All HEDIS-relevant information for data entry or electronic transmissions of enrollment data were accurate and complete.
- Manual entry of enrollment data is timely and accurate and sufficient edit checks are in place.
- The health plans continually assess data completeness and take steps to improve performance.
- The health plans effectively monitor the quality and accuracy of electronic submissions.
- The health plans have effective control processes for the transmission of enrollment data.

The Colorado Medicaid health plans were fully compliant with IS 2.0. There were no issues or concerns noted for this standard relevant to the selected Colorado Medicaid measures.

IS 3.0—Practitioner Data—Data Capture, Transfer, and Entry

This standard assesses whether:

- Provider specialties are fully documented and mapped to HEDIS provider specialties.
- Effective procedures for submitting HEDIS-relevant information are in place.
- Electronic transmissions of practitioner data are checked to ensure accuracy.
- Processes and edit checks ensure accurate and timely entry of data into the transaction files.
- Data completeness is assessed and steps are taken to improve performance.
- Vendors are regularly monitored against expected performance standards.

The Colorado Medicaid health plans were fully compliant with IS 3.0. There were no issues or concerns noted for this standard relevant to the selected Colorado Medicaid measures.

IS 4.0—Medical Record Review Processes—Training, Sampling, Abstraction, and Oversight

This standard assesses whether:

- Forms or tools used for medical record review captured all fields relevant to HEDIS reporting.
- Checking procedures are in place to ensure data integrity for electronic transmission of information.
- Retrieval and abstraction of data from medical records are accurately performed.
- Data entry processes including edit checks are timely and accurate.
- Data completeness is assessed including steps to improve performance.
- Vendor performance is monitored against expected performance standards.

HSAG found that all Colorado Medicaid health plans used medical record documentation to augment their HEDIS rates. All plans were fully compliant with IS 4.0 with the auditors noting no concerns.

IS 5.0—Supplemental Data—Capture, Transfer, and Entry

This standard assesses whether:

- Nonstandard coding schemes are fully documented and mapped to industry standard codes.
- Effective procedures for submitting HEDIS-relevant information are in place.
- Electronic transmissions of supplemental data are checked to ensure accuracy.
- Data entry processes including edit checks are timely and accurate.
- Data completeness is assessed including steps to improve performance.
- Vendor performance is monitored against expected performance standards.

HSAG found that overall the Colorado Medicaid health plans used supplemental data to help augment their rates. Supplemental data are all nonclaims data available to the health plan, such as lab results, State immunization registry information, disease management records, electronic medical records, or other internal databases. These require a more detailed review by the auditor to ensure that the data are valid. The documentation provided did not always identify the data used; however, all of the plans were fully compliant with this standard. Any supplemental data used by the plans were considered reliable and valid.

IS 6.0—Member Call Center Data—Capture, Transfer, and Entry

This standard assesses whether member call center data are reliably and accurately captured. However, since the health plans were not required to report member call center measures, this standard is not applicable.

IS 7.0—Data Integration—Accurate HEDIS Reporting, Control Procedures That Support HEDIS Reporting Integrity

This standard assesses whether:

- Nonstandard coding schemes are fully documented and mapped to industry standard codes.
- Data transfers to the HEDIS repository from transaction files are accurate.
- File consolidations, extracts, and derivations are accurate.
- Repository structure and formatting are suitable for HEDIS measures and enable required programming efforts.
- Report production is managed effectively and operators perform appropriately.
- HEDIS reporting software is managed properly.
- Physical control procedures ensure HEDIS data integrity.

All of the Colorado Medicaid health plans were fully compliant with IS 7.0. There were no issues or concerns identified by the auditors.

Appendix D. National HEDIS 2010 Medicaid Percentiles

Appendix D provides the national HEDIS Medicaid percentiles published by NCQA using prior-year rates. This information is helpful to evaluate the current rates of the health plans. The rates are presented for the 10th, 25th, 50th, 75th, and 90th percentiles. The rates are presented in tables by dimension.

- Table D-1—Pediatric Care
- Table D-2—Access to Care
- Table D-3—Living With Illness
- Table D-4—Preventive Screening
- Table D-5—Utilization of Services

Table D-1—National HEDIS 2010 Medicaid Percentiles Pediatric Care					
Measure	**10th Percentile**	**25th Percentile**	**50th Percentile**	**75th Percentile**	**90th Percentile**
Childhood Immunization Status—DTaP	68.8%	75.5%	81.8%	85.2%	88.5%
Childhood Immunization Status—IPV	83.8%	87.1%	90.7%	93.7%	95.6%
Childhood Immunization Status—MMR	86.3%	89.4%	91.7%	93.9%	95.8%
Childhood Immunization Status—HiB	88.3%	92.6%	95.4%	96.6%	97.8%
Childhood Immunization Status—Hepatitis B	82.6%	87.0%	91.8%	94.3%	96.4%
Childhood Immunization Status—VZV	84.5%	88.3%	91.3%	93.9%	95.4%
Childhood Immunization Status—Pneumococcal Conjugate	65.9%	72.3%	79.3%	84.0%	87.8%
Childhood Immunization Status—Combination 2	61.8%	68.8%	76.6%	81.6%	85.6%
Childhood Immunization Status—Combination 3	56.0%	63.5%	71.0%	76.6%	82.0%
*Well-Child Visits in the First 15 Months of Life—Zero Visits**	0.5%	0.7%	1.4%	2.9%	5.1%
Well-Child Visits in the First 15 Months of Life—Six or More Visits	40.9%	52.2%	60.1%	69.7%	76.3%
Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life	59.9%	65.9%	71.8%	77.3%	82.5%
Adolescent Well-Care Visits	34.4%	38.8%	46.8%	56.0%	63.2%
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—BMI Assessment: Ages 3 to 11 Years	0.3%	11.2%	27.8%	45.1%	65.3%
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Nutrition Counseling: Ages 3 to 11 Years	0.3%	35.1%	49.6%	60.8%	70.8%
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Physical Activity Counseling: Ages 3 to 11 Years	0.0%	19.9%	33.0%	46.0%	54.9%
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—BMI Assessment: Ages 12 to 17 Years	0.4%	14.7%	27.1%	44.2%	59.3%
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Nutrition Counseling: Ages 12 to 17 Years	0.7%	28.2%	41.1%	53.0%	61.8%
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Physical Activity Counseling: Ages 12 to 17 Years	0.0%	26.4%	37.2%	46.9%	57.4%
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—BMI Assessment: Total	0.3%	13.0%	29.3%	45.2%	63.0%
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Nutrition Counseling: Total	0.4%	34.3%	46.2%	57.7%	67.9%
Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents—Physical Activity Counseling: Total	0.0%	22.9%	35.3%	45.5%	56.7%

* For this measure, a lower rate indicates better performance; therefore, the 10th percentile is a better performing level than the 90th percentile.

Table D-2—National HEDIS 2010 Medicaid Percentiles Access to Care					
Measure	**10th Percentile**	**25th Percentile**	**50th Percentile**	**75th Percentile**	**90th Percentile**
Prenatal and Postpartum Care—Timeliness of Prenatal Care	70.6%	80.3%	86.0%	90.0%	92.7%
Prenatal and Postpartum Care—Postpartum Care	53.0%	58.7%	65.5%	70.3%	74.4%
Children's and Adolescents' Access to Primary Care Practitioners—Ages 12 to 24 Months	90.6%	95.1%	96.8%	97.9%	98.5%
Children's and Adolescents' Access to Primary Care Practitioners—Ages 25 Months to 6 Years	81.0%	87.1%	89.8%	92.2%	94.1%
Children's and Adolescents' Access to Primary Care Practitioners—Ages 7 to 11 Years	85.0%	87.7%	91.3%	93.4%	95.6%
Children's and Adolescents' Access to Primary Care Practitioners—Ages 12 to 19 Years	80.6%	85.4%	88.9%	91.8%	93.7%
Adults' Access to Preventive/Ambulatory Health Services—Ages 20 to 44 Years	67.4%	78.0%	82.9%	86.7%	88.5%
Adults' Access to Preventive/Ambulatory Health Services—Ages 45 to 64 Years	73.2%	83.2%	88.1%	90.1%	91.3%
Adults' Access to Preventive/Ambulatory Health Services—Ages 65 Years and Older	72.9%	83.1%	86.8%	89.5%	93.0%
Adults' Access to Preventive/Ambulatory Health Services—Total	68.4%	79.9%	84.4%	87.5%	89.7%

Table D-3—National HEDIS 2010 Medicaid Percentiles Living With Illness					
Measure	**10th Percentile**	**25th Percentile**	**50th Percentile**	**75th Percentile**	**90th Percentile**
Annual Monitoring for Patients on Persistent Medications—ACE Inhibitors or ARBs	80.0%	84.1%	86.3%	89.2%	90.5%
Annual Monitoring for Patients on Persistent Medications—Anticonvulsants	60.4%	64.5%	68.6%	72.7%	78.1%
Annual Monitoring for Patients on Persistent Medications—Digoxin	82.0%	86.0%	90.0%	92.7%	95.2%
Annual Monitoring for Patients on Persistent Medications—Diuretics	79.4%	82.6%	86.1%	88.4%	90.6%
Annual Monitoring for Patients on Persistent Medications—Total	77.2%	81.2%	84.3%	86.8%	88.5%
Use of Imaging Studies for Low Back Pain	68.6%	72.0%	76.2%	79.8%	84.1%
Controlling High Blood Pressure	41.9%	49.4%	57.1%	63.3%	67.2%
Pharmacotherapy Management of COPD Exacerbation—Bronchodilator	64.5%	76.5%	84.1%	87.7%	90.0%
Pharmacotherapy Management of COPD Exacerbation—Systemic Corticosteroid	42.6%	53.6%	63.4%	71.3%	76.2%
Avoidance of Antibiotic Treatment in Adults With Acute Bronchitis	16.8%	19.7%	23.5%	27.0%	35.9%

Table D-4—National HEDIS 2010 Medicaid Percentiles Preventive Screening					
Measure	**10th Percentile**	**25th Percentile**	**50th Percentile**	**75th Percentile**	**90th Percentile**
Chlamydia Screening in Women—Ages 16 to 20 Years	43.8%	48.5%	53.0%	61.1%	66.4%
Chlamydia Screening in Women—Ages 21 to 24 Years	49.5%	55.8%	62.4%	69.1%	73.4%
Chlamydia Screening in Women—Total	44.2%	50.6%	55.7%	63.7%	69.5%
Adult BMI Assessment	2.6%	22.4%	35.3%	48.7%	60.8%

Table D-5—National HEDIS 2010 Medicaid Percentiles Use of Services					
Measure	**10th Percentile**	**25th Percentile**	**50th Percentile**	**75th Percentile**	**90th Percentile**
Inpatient Utilization: General Hospital/Acute Care-Total Inpatient—Discharges Per 1,000 MM: Total	6.3	7.1	8.6	9.9	11.8
Inpatient Utilization: General Hospital/Acute Care-Total Inpatient—Average Length of Stay: Total	2.8	3.2	3.7	4.0	4.5
Inpatient Utilization: General Hospital/Acute Care-Medicine—Discharges Per 1,000 MM: Total	1.7	2.5	3.4	4.2	6.0
Inpatient Utilization: General Hospital/Acute Care-Medicine—Average Length of Stay: Total	2.8	3.2	3.6	3.9	4.3
Inpatient Utilization: General Hospital/Acute Care-Surgery—Discharges Per 1,000 MM: Total	0.7	1.0	1.4	1.7	2.2
Inpatient Utilization: General Hospital/Acute Care-Surgery—Average Length of Stay: Total	4.2	5.1	6.2	7.3	8.7
Inpatient Utilization: General Hospital/Acute Care-Maternity—Discharges Per 1,000 MM: Total	2.7	4.3	6.0	7.7	11.2
Inpatient Utilization: General Hospital/Acute Care-Maternity—Average Length of Stay: Total	2.3	2.5	2.7	2.9	3.0
Ambulatory Care—Outpatient Visits Per 1,000 MM: Total	248.7	317.6	365.9	416.7	470.5
Ambulatory Care—Emergency Department Visits Per 1,000 MM: Total	48.3	58.5	67.7	77.2	84.7
*Frequency of Selected Procedures—Bariatric Weight Loss Surgery Procedures Per 1,000 MM: Ages 0–19 Years**	—	—	—	—	—
*Frequency of Selected Procedures—Bariatric Weight Loss Surgery Procedures Per 1,000 MM: Ages 20–44 Years**	—	—	—	—	—
*Frequency of Selected Procedures—Bariatric Weight Loss Surgery Procedures Per 1,000 MM: Ages 45–64 Years**	—	—	—	—	—
Frequency of Selected Procedures—Tonsillectomy Procedures Per 1,000 MM: Ages 0–9 Years	0.3	0.5	0.7	0.9	1.1
Frequency of Selected Procedures—Tonsillectomy Procedures Per 1,000 MM: Ages 10–19 Years	0.1	0.2	0.4	0.5	0.6
Frequency of Selected Procedures—Abdominal Hysterectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.1	0.2	0.3	0.3	0.4
Frequency of Selected Procedures—Abdominal Hysterectomy Procedures Per 1,000 MM: Ages 45–64 Years	0.2	0.4	0.5	0.7	0.9
Frequency of Selected Procedures—Vaginal Hysterectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.0	0.1	0.1	0.2	0.3
Frequency of Selected Procedures—Vaginal Hysterectomy Procedures Per 1,000 MM: Ages 45–64 Years	0.0	0.1	0.2	0.3	0.5
Frequency of Selected Procedures—Open Cholecystectomy Procedures Per 1,000 MM: Females—Ages 15–44 Years	0.0	0.0	0.0	0.0	0.0
Frequency of Selected Procedures—Open Cholecystectomy Procedures Per 1,000 MM: Females—Ages 45–64 Years	0.0	0.0	0.0	0.1	0.2
Frequency of Selected Procedures—Open Cholecystectomy Procedures Per 1,000 MM: Males—Ages 30–64 Years	0.0	0.0	0.0	0.1	0.1

Table D-5—National HEDIS 2010 Medicaid Percentiles Use of Services					
Measure	**10th Percentile**	**25th Percentile**	**50th Percentile**	**75th Percentile**	**90th Percentile**
Frequency of Selected Procedures—Closed Cholecystectomy Procedures Per 1,000 MM: Females—Ages 15–44 Years	0.4	0.6	0.8	1.0	1.2
Frequency of Selected Procedures—Closed Cholecystectomy Procedures Per 1,000 MM: Females—Ages 45–64 Years	0.3	0.5	0.7	0.9	1.2
Frequency of Selected Procedures—Closed Cholecystectomy Procedures Per 1,000 MM: Males—Ages 30–64 Years	0.1	0.2	0.3	0.4	0.5
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Females—Ages 20–44 Years	0.0	0.1	0.2	0.3	0.4
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Females—Ages 45–64 Years	0.1	0.3	0.6	0.8	1.0
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Males—Ages 20–44 Years	0.0	0.2	0.3	0.5	0.6
Frequency of Selected Procedures—Back Surgery Procedures Per 1,000 MM: Males—Ages 45–64 Years	0.1	0.4	0.6	0.9	1.1
Frequency of Selected Procedures—Mastectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.0	0.0	0.0	0.0	0.0
Frequency of Selected Procedures—Mastectomy Procedures Per 1,000 MM: Ages 45–64 Years	0.0	0.1	0.1	0.2	0.3
Frequency of Selected Procedures—Lumpectomy Procedures Per 1,000 MM: Ages 15–44 Years	0.1	0.1	0.2	0.2	0.3
Frequency of Selected Procedures—Lumpectomy Procedures Per 1,000 MM: Ages 45–64 Years	0.0	0.3	0.5	0.6	0.8
Antibiotic Utilization—Average Number of Prescriptions PMPY for Antibiotics: Total	0.7	1.0	1.2	1.3	1.5
Antibiotic Utilization—Average Days Supplied per Antibiotic Prescription: Total	8.8	9.0	9.1	9.4	9.7
Antibiotic Utilization—Average Number of Prescriptions PMPY for Antibiotics of Concern: Total	0.3	0.4	0.5	0.6	0.7
Antibiotic Utilization—Percentage of Antibiotics of Concern of All Antibiotic Prescriptions: Total	33.8%	37.6%	42.4%	45.8%	48.6%

* These are new measures for HEDIS 2011; therefore, HEDIS 2010 national percentiles are not available.

Appendix E. Glossary

Appendix E includes terms, acronyms, and abbreviations that are commonly used in HEDIS and NCQA literature and text. This glossary can be used as a reference and guide to identify common HEDIS language used throughout the report.

Terms, Acronyms, and Abbreviations

ACE Inhibitors

Angiotensin converting enzyme inhibitors.

Administrative Data

Any automated data within a health plan (e.g., claims/encounter data, member data, provider data, hospital billing data, pharmacy data, and laboratory data).

Administrative Method

The administrative method requires health plans to identify the eligible population (i.e., the denominator) using administrative data. In addition, the numerator(s), or services provided to the members who are in the eligible population, are solely derived from administrative data. Medical records cannot be used to retrieve information. When using the administrative method, the entire eligible population becomes the denominator, and sampling is not allowed.

The administrative method is cost efficient but can produce lower rates due to incomplete data submission by capitated providers. For example, a health plan has 10,000 members who qualify for the *Prenatal and Postpartum Care* measure. The health plan chooses to perform the administrative method and finds that 4,000 members out of the 10,000 have evidence of a postpartum visit using administrative data. The final rate for this measure, using the administrative method, would therefore be 4,000/10,000, or 40 percent.

ARBs

Angiotensin receptor blockers.

Audit Result

The auditor's final determination, based on audit findings, of the appropriateness of the health plan publicly reporting its HEDIS measure rates. Each measure included in the HEDIS audit receives either a *Report*, *Not Applicable*, *No Benefit*, or *Not Report* audit finding.

CAHPS®[E-1]

Consumer Assessment of Healthcare Providers and Systems is a set of standardized surveys that assess patient satisfaction with the experience of care.

[E-1] CAHPS® is a registered trademark of the Agency for Healthcare Research and Quality.

Certified HEDIS Software Vendor

A third party, with source code certified by NCQA, that contracts with a health plan to write source code for HEDIS measures. For a vendor's software to be certified by NCQA, all of the vendor's programmed HEDIS measures must be submitted to NCQA for automated testing of program logic, and a minimum percentage of the measures must receive a "Pass" or "Pass With Qualifications" designation.

CIIS

The Colorado Immunization Information System (CIIS) is a computerized information system that collects and disseminates consolidated immunization information for Coloradoans. The system is operated by the Colorado Department of Public Health and Environment.[E-2]

CHC

Community Health Center(s).

Claims-Based Denominator

When the eligible population for a measure is obtained from claims data. For claims-based denominator hybrid measures, health plans must identify their eligible population and draw their sample no earlier than January of the year following the measurement year to ensure that all claims incurred through December 31 of the measurement year are captured in their systems.

CMS

The Centers for Medicare & Medicaid Services (CMS) is a federal agency within the Department of Health and Human Services (DHHS) that regulates requirements and procedures for external quality review of managed care organizations. CMS provides health insurance to individuals through Medicare, Medicaid, and the State Children's Health Insurance Program (SCHIP). In addition, CMS regulates laboratory testing through Clinical Laboratory Improvement Amendments (CLIA), develops coverage policies, and initiates quality-of-care improvement activities. CMS also maintains oversight of nursing homes and continuing care providers. This includes home health agencies, intermediate care facilities for the mentally retarded, and hospitals.

CMS 1500

A type of health insurance claim form used to bill professional services (formerly HCFA 1500).

[E-2] Colorado Department of Public Health and Environment. *Colorado Immunization Information System*. Available at: http://www.cdphe.state.co.us/dc/immunization/ciis/. Accessed on: September 13, 2010.

Cohorts

Population components of a measure based on the age of the member at a particular point in time. A separate HEDIS rate is calculated for each cohort in a measure. For example, the *Children's and Adolescents' Access to Primary Care Practitioners* measure has four cohorts: Cohort 1, children 12 to 24 months of age as of December 31 of the measurement year; Cohort 2, children 25 months to 6 years of age as of December 31 of the measurement year; Cohort 3, children 7 to 11 years of age as of December 31 of the measurement year; and Cohort 4, adolescents 12 to 19 years of age as of December 31 of the measurement year.

Computer Logic

A programmed, step-by-step sequence of instructions to perform a given task.

Continuous Enrollment Requirement

The minimum amount of time that a member must be enrolled in a health plan to be eligible for inclusion in a measure to ensure that the health plan has a sufficient amount of time to be held accountable for providing services to that member.

COPD

Chronic obstructive pulmonary disease.

CPT®

Current Procedural Terminology (CPT®) is a listing of billing codes generated by the American Medical Association to report the provision of medical services and procedures.[E-3]

Data Completeness

The degree to which occurring services/diagnoses appear in the health plan's administrative data systems.

Denominator

The number of members who meet all criteria specified in a measure for inclusion in the eligible population. When using the administrative method, the entire eligible population becomes the denominator. When using the hybrid method, a sample of the eligible population becomes the denominator.

[E-3] American Medical Association. *CPT-Current Procedural Terminology*. Available at: http://www.ama-assn.org/ama/pub/physician-resources/solutions-managing-your-practice/coding-billing-insurance/cpt.shtml. Accessed on: September 13, 2010.

DHMC

Denver Health Medicaid Choice.

DTaP

Diphtheria, tetanus toxoids, and acellular pertussis vaccine.

ED

Emergency department.

EDI

Electronic data interchange is the direct computer-to-computer transfer of data.

Electronic Data

Data that are maintained in a computer environment versus a paper environment.

Encounter Data

Billing data received from a capitated provider. Although the health plan does not reimburse the provider for each encounter, submission of encounter data allows a health plan to collect the data for future HEDIS reporting.

EQR

External Quality Review.

Exclusions

Conditions outlined in HEDIS measure specifications that describe when a member should not be included in the denominator.

FFS

Fee-for-service: A reimbursement mechanism that pays the provider for services billed.

Final Audit Report

Following a health plan's completion of any corrective actions, an auditor completes the final audit report, documenting all final findings and results of the HEDIS audit. The final report includes a summary report, IS capabilities assessment, medical record review validation findings, measure results, and audit opinion (the final audit statement).

FQHC

Federally Qualified Health Center(s).

HCPCS

Healthcare Common Procedure Coding System: A standardized alphanumeric coding system that maps to certain CPT® codes (see also CPT®).

HEDIS

The Healthcare Effectiveness Data and Information Set (HEDIS), developed and maintained by NCQA, is a set of performance measures used to assess the quality of care provided by managed health care organizations.

Formerly the Health Plan Employer Data and Information Set.

HEDIS Repository

The data warehouse where all data used for HEDIS reporting are stored.

HEDIS Warehouse

See HEDIS repository.

HiB Vaccine

Haemophilus influenza type B vaccine.

HMO

Health Maintenance Organization.

HPL

High performance level. For most key measures, the Department has defined the HPL as the most recent national HEDIS Medicaid 90th percentile, except for one measure (*Well-Child Visits in the First 15 Months of Life—Zero Visits*), for which a lower rate indicates better performance. For this measure, the 10th percentile (rather than the 90th) shows excellent performance.

HSAG

Health Services Advisory Group, Inc.

Hybrid Measures

Measures that can be reported using the hybrid method.

Hybrid Method

The hybrid method requires health plans to identify the eligible population using administrative data, then extract a systematic sample of 411 members from the eligible population, which becomes the denominator. Administrative data are then used to identify services provided to those 411 members. Medical records must then be reviewed for those members who do not have evidence of a service being provided using administrative data.

The hybrid method generally produces better results but is considerably more labor intensive. For example, a health plan has 10,000 members who qualify for the *Prenatal and Postpartum Care* measure. The health plan chooses to perform the hybrid method. After randomly selecting 411 eligible members, the health plan finds that 161 members have evidence of a postpartum visit using administrative data. The health plan then obtains and reviews medical records for the 250 members who do not have evidence of a postpartum visit using administrative data. Of those 250 members, 54 are found to have a postpartum visit recorded in the medical record. The final rate for this measure, using the hybrid method, would therefore be (161 + 54) /411, or 52 percent.

ICD-9-CM

ICD-9-CM, the acronym for the International Classification of Diseases, Ninth Revision, Clinical Modification, is the classification of diseases and injuries into groups according to established criteria used for reporting morbidity, mortality, and utilization rates, as well as for billing purposes.

IDSS

The Interactive Data Submission System is a tool used to submit data to NCQA.

Inpatient Data

Data derived from an inpatient hospital stay.

IPV

Inactivated poliovirus vaccine.

IS

Information System: An automated system for collecting, processing, and transmitting data.

IS Standards

Information system (IS) standards: An NCQA-defined set of standards that measure how an organization collects, stores, analyzes, and reports medical, customer service, member, practitioner, and vendor data.[E-4]

IT

Information technology: The technology used to create, store, exchange, and use information in its various forms.

LOINC®

Logical Observation Identifiers Names and Codes. A universal code system for identifying laboratory and clinical observations.

LPL

Low performance level. For most key measures, the Department has defined the LPL as the most recent national HEDIS Medicaid 25th percentile. For one measure (*Well-Child Visits in the First 15 Months of Life—Zero Visits*), a lower rate indicates better performance. The LPL for this measure is the 75th percentile rather than the 25th percentile.

Manual Data Collection

Collection of data through a paper versus an automated process.

Material Bias

For most measures reported as a rate, any error that causes a ± 5 percent difference in the reported rate is considered materially biased. For nonrate measures, any error that causes a ± 10 percent difference in the reported rate or calculation is considered materially biased.

MCO

Managed care organization.

Medical Record Validation

The process that auditors follow to verify that a health plan's medical record abstraction meets industry standards and abstracted data are accurate.

[E-4] National Committee for Quality Assurance. HEDIS Compliance Audit Standards, Policies and Procedures, Volume 5. Washington D.C.

Medicaid Percentiles

The NCQA national percentiles for each HEDIS measure for the Medicaid product line used to compare health plan performance and assess the reliability of a health plan's HEDIS rates.

Membership Data

Electronic health plan files containing information about members, such as name, date of birth, gender, current address, and enrollment (i.e., when the member joined the health plan).

Mg/dL

Milligrams per deciliter.

MMR

Measles, mumps, and rubella vaccine.

NA

Not Applicable: If a health plan's denominator for a measure is too small (i.e., less than 30) to report a valid rate, the result/rate is NA.

NB

No Benefit: If a health plan did not offer the benefit required by the measure.

NCQA

The National Committee for Quality Assurance (NCQA) is a not-for-profit organization that assesses, through accreditation reviews and standardized measures, the quality of care provided by managed health care delivery systems; reports results of those assessments to employers, consumers, public purchasers, and regulators; and ultimately seeks to improve the health care provided within the managed care industry.

NDC

National drug codes used for billing pharmacy services.

NR

The *Not Report* HEDIS audit finding.

A measure has an *NR* audit finding for one of three reasons:

1. The health plan chose not to report the measure.
2. The health plan calculated the measure but the result was materially biased.
3. The health plan was not required to report the measure.

Numerator

The number of members in the denominator who received all the services as specified in the measure.

Over-read Process

The process of re-reviewing a sample of medical records by a different abstractor to assess the degree of agreement between two different abstractors and ensure the accuracy of abstracted data. The over-read process should be conducted by a health plan as part of its medical record review process. Auditors overread a sample of the health plan's medical records as part of the audit process.

PCP

Primary Care Practitioner.

PCPP

Primary Care Physician Program.

PCV

Pneumococcal conjugate vaccine.

Pharmacy Data

Data derived from the provision of pharmacy services.

Primary Source Verification

The practice of reviewing the processes and procedures to input, transmit, and track data from the originating source to the HEDIS repository to verify that the originating information matches the output information for HEDIS reporting.

Proprietary Codes

Unique billing codes developed by a health plan that have to be mapped to industry standard codes for HEDIS reporting.

Provider Data

Electronic files containing information about physicians, such as type of physician, specialty, reimbursement arrangement, and office location.

Record of Administration, Data Management, and Processes (Roadmap)

The Roadmap, completed by each health plan undergoing the HEDIS audit process, provides information to auditors regarding the health plan's systems for collecting and processing data for HEDIS reporting. Auditors review the Roadmap prior to the scheduled on-site visit to gather preliminary information for planning/targeting on-site visit assessment activities; determining the core set of measures to be reviewed; determining which hybrid measures will be included in medical record validation; requesting core measures' source code, as needed; identifying areas that require additional clarification during the on-site visit; and determining whether the core set of measures needs to be expanded.

Previously the Baseline Assessment Tool (BAT).

Retroactive Enrollment

When the effective date of a member's enrollment in a health plan occurs prior to the date that the health plan is notified of that member's enrollment. Medicaid members who are retroactively enrolled in a health plan must be excluded from a HEDIS measure denominator if the time period from the date of enrollment to the date of notification exceeds the measure's allowable gap specifications.

Revenue Codes

Cost codes for facilities to bill based on the categories of services, procedures, supplies, and materials.

RHC

Rural Health Clinic(s).

RMHP

Rocky Mountain Health Plan.

Sample Frame

Members of the eligible population who meet all criteria specified in the measure from which a systematic sample is drawn.

Source Code

The written computer programming logic for determining the eligible population and the denominators/numerators for calculating the rate for each measure.

The Department

The Colorado Department of Health Care Policy and Financing.

Type of Bill Code

A code indicating the specific type of bill (inpatient, outpatient, etc.). The first digit is a leading zero. The second and third digits are the facility code. The fourth digit is a frequency code.

UB-04 Claims

A type of claim form used to bill hospital-based inpatient, outpatient, emergency room and clinic drugs, supplies, and/or services. UB-04 codes are primarily Type of Bill and Revenue codes. The UB-04 replaced the UB-92.

Vendor

Any third party that contracts with a health plan to perform services. The most common delegated services from vendors are pharmacy services, vision care services, laboratory services, claims processing, HEDIS software services, and provider credentialing.

VZV

Varicella zoster virus (chicken pox) vaccine.