State of Colorado

Department of Health Care Policy and Financing

Colorado Medicaid 2004 Perinatal Care Focused Study Evaluation

July 2004

Final Report

HSAG
HEALTH SERVICES ADVISORY GROUP

1600 East Northern Avenue, Suite 100 ◆ Phoenix, AZ 85020
Phone 602.264.6382 ◆ Fax 602.241.0757

HSAG
HEALTH SERVICES ADVISORY GROUP

CONTENTS

HSAG
HEALTH SERVICES ADVISORY GROUP

TABLES AND FIGURES

1. Executive Summary

Introduction

This perinatal care focused study was conducted for the Colorado Department of Health Care Policy and Financing (DHCPF) by Colorado Medicaid's External Quality Review Organization, Health Services Advisory Group, Inc. (HSAG). The study was conducted in order to understand the extent to which pregnant women in Colorado Medicaid programs receive prenatal and postpartum care consistent with selected elements in the current American College of Obstetrics and Gynecology (ACOG) standards. The Colorado Medicaid 2003–2004 Quality Strategy Work Plan identifies early or threatened labor as the second most frequent ambulatory diagnosis for Medicaid managed care women 12 to 21 years of age, and the most frequent diagnosis for women 22 to 34 years of age.

The National Center for Health Statistics defines early and adequate care as having one's first prenatal visit with a health professional within the first trimester of pregnancy and receiving regular care until delivery. In 2002, 79.1 percent of live births were to Colorado women receiving early prenatal care, while the U.S. rate was higher at 83.7 percent. Among the goals for improving the health of women and infants outlined in Healthy People 2010 is the initiative to increase the proportion of women who receive early and adequate prenatal care to 90.0 percent.

High-risk pregnancy and the resulting cases of infants with medical problems and low birth weight continue to be prevalent in the United States. According to the Center for Health Care Strategies, Inc., poor birth outcomes are particularly high among Medicaid and State Children's Health Insurance Program (SCHIP) beneficiaries due to socioeconomic factors that present barriers to consistent care.

For this study, perinatal care was assessed through the timeliness of prenatal and postpartum care measures. Furthermore, this study examined the completeness of the prenatal service as indicated by compliance with selected ACOG national quality standards.

The study included women enrolled in all components of the Colorado Medicaid program: Primary Care Physician Program (PCPP), unassigned Fee-for-Service (FFS), Colorado Access (CO Access), and Rocky Mountain Health Plans (RMHP).

Methodology

This perinatal care study focused on pregnant women enrolled in the Colorado Medicaid program who delivered a live birth between November 6, 2002, and November 5, 2003, and who were continuously enrolled at least 43 days prior to delivery through 56 days after delivery. The study measures include HEDIS® perinatal care measures and compliance with selected ACOG screening guidelines.

The results of this study are based on a sample of the above noted population. The sample cases for this study were drawn using HEDIS sampling methodology. A random sample of 432 cases was selected for each study reporting group (CO Access, RMHP, PCPP, and FFS). Sample cases were dropped from the analysis if it was determined that the member was not pregnant during the study period. In addition, the final sample sizes for the FFS and PCPP programs were affected by a systematic error in the data used to select the sample. This problem had a disproportionate impact on the PCPP sample. Additionally, difficulties in chart pursuit yielded final sample sizes at a lower level. The final sampling error varied from +/- 4.8 to 7.6 percentage points for the individual reporting units, and less than +/- 3 percentage points at 95 percent confidence level for statewide results. The data were collected using a hybrid methodology: (1) administrative data (i.e., claims and encounter data), and (2) medical record review.

Conclusions and Overall Recommendations

Conclusions

The study demonstrated reasonable overall results (Table 1-1 below). This was due primarily to higher health plan (CO Access and RMHP) reported rates, bringing up the low rates reported by the FFS and PCPP delivery types.

Table 1-1—Summary of Rates for Quality Indicators

Quality Indicators	Colorado Medicaid	CO Access	RMHP	PCPP	FFS
Timeliness of Prenatal Care	**79.0**	83.9	93.5	51.8	69.9
Substance Abuse Screening	**76.8**	78.7	90.6	61.2	66.1
Tobacco Cessation Screening	**77.5**	79.6	91.8	59.9	67.1
Tobacco Cessation Education	**54.9**	41.7	70.9	57.1	40.9
Urinalysis With Culture Testing	**61.1**	66.4	74.6	38.8	50.4
Prior Preterm Delivery and History Evaluation	**72.7**	74.8	88.7	57.1	62.4
Preterm Birth Risk Assessment	**76.9**	77.8	89.5	61.2	68.9
Chlamydia Screening	**70.5**	73.6	80.1	55.9	62.9
Postpartum Care	**56.2**	59.8	70.9	47.0	38.8

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

National benchmarks were available for the two HEDIS measures, *Timeliness of Prenatal Care* and *Postpartum Care*, and are provided in the table below.

Table 1-2—HEDIS 2003 National Medicaid Percentiles

HEDIS Measure	Colorado Medicaid	HEDIS 2003 National Medicaid Percentiles				
		10th	25th	50th	75th	90th
Timeliness of Prenatal Care	**79.0**	47.2	62.7	74.1	85.1	89.1
Postpartum Care	**56.2**	32.2	45.2	55.0	61.7	67.4

Specifically, the main findings from this focused study showed:

- The overall Colorado Medicaid prenatal care exceeds the national Medicaid 50th Percentile.
- The prenatal care rate for the managed care population is above the national Medicaid 75th Percentile of 85.1 percent; RMHP's rate exceeds the 90th Percentile.
- There is variation in the services provided as part of the prenatal visit across the different Colorado Medicaid care delivery models. Generally, the rates for services provided were significantly higher for the health plan population (CO Access and RMHP) compared to FFS and PCPP.
- Tobacco cessation education and urinalysis with culture are the areas least likely to be provided as part of the prenatal visit.
- The Colorado Medicaid Chlamydia screening rates are relatively high, with 7 of 10 pregnant women enrolled in Colorado Medicaid receiving a Chlamydia screening.
- The overall postpartum care rate is above the national Medicaid 50th Percentile of 55.0 percent, with RMHP reporting a rate above the 90th Percentile.

Lower rates for FFS and PCPP may be due to: (1) abrupt increase in the population from two Medicaid health plans that no longer provide care for Medicaid members; (2) services were provided, but not documented; (3) services were provided, but the medical records could not be located; or (4) actual services were not provided.

In the measurement year, Colorado's PCPP program experienced an influx of membership with the loss of a large managed care organization (MCO) in the Denver area. To ensure continuity of care, providers already participating in PCPP were brought under the Department's PCPP program and clients under these providers were brought into the program with the option to change health plans. Due to this administrative decision, some pregnant members who were counted under HEDIS methodology would have been enrolled in PCPP less than the required number of days, even though care would have been continuous and provided by the members' pre-PCPP providers. Although the methodology for the two HEDIS measures accounts for shifts in enrollment, the other measures are not HEDIS measures and can be affected by this shifting of enrollment. For example, a woman may have received substance abuse screening at the MCO and then switched into the PCPP program under the same provider. The provider would not conduct another substance abuse screening, but the service performed prior to the "new" enrollment would not count toward the measure. The result of this enrollment shift is generally lower rates.

Overall Recommendations

Generally, activities designed to minimize variation among Medicaid programs are recommended. These types of activities include the adoption and distribution of clinical practice guidelines, and provider-specific reporting of guideline compliance. Member and provider education efforts regarding guidelines and the importance of adherence to guidelines are other ways of minimizing variation and improving rates.

Key recommendations from this study include:

- The lowest rate for CO Access centered around tobacco cessation education during pregnancy. Screening for tobacco use was fairly high, at 79.6 percent. It appears the low rates for tobacco cessation education may be due to poor documentation. CO Access should reinforce the importance of documenting tobacco cessation advice given to its members.

- All of the rates for RMHP were above 70.0 percent, and the two HEDIS measures showed rates above the national Medicaid 90th percentiles. RMHP should be encouraged to share best practices with DHCPF to facilitate improvements in the PCPP and FFS populations.

- The distribution of clinical guidelines and flowsheets for use in the medical record may prove to be beneficial for the health plans as well as for the PCPP and FFS populations. Health plans should consider conducting provider education sessions to encourage best practices in prenatal care. Clinical guidelines and check-sheets, such as the ACOG Antepartum Record, could be distributed to providers for improved documentation of prenatal care services.

- Both health plans (CO Access and RMHP) had high rates for *Timeliness of Prenatal Care*. HSAG encourages the State to adopt best practices nationally, as is being done by the health plans to facilitate improvement in the PCPP and FFS populations.

- Provider education on perinatal care guidelines should be increased in the PCPP and FFS provider populations. This may be accomplished using targeted mailings to "most likely providers" (e.g., obstetricians) along with medical record checklists showing the ACOG recommended screening services.

- Member education should be improved, especially in regard to the adverse impact of smoking when pregnant.

Background and Measure Selection

High-risk pregnancy and the resulting cases of infants with medical problems and low birth weight continue to be prevalent in the United States. According to the Center for Health Care Strategies, Inc., poor birth outcomes are particularly high among Medicaid and State Children's Health Insurance Program (SCHIP) beneficiaries due to socioeconomic factors that present barriers to consistent care.

Among the goals for improving the health of women and infants outlined in Healthy People 2010 is the initiative to increase the proportion of women who receive early and adequate prenatal care to 90.0 percent. Several studies illustrate a positive relationship between comprehensive prenatal care and a reduction in incidence of low birth weight and infant mortality. In the year 2000, 8.4 percent of infants born in Colorado were affected by low birth weight (under 2,500 grams), versus 7.6 percent of infants born in the United States. The infant mortality rate for Colorado is lower (6.1 per 1,000 live births) than the infant mortality rate for the United States (6.9 per 1,000 live births).[1,2] However, this rate is still above the Healthy People 2010 goal of 4.5 percent.

The most widely used set of performance measures in the managed care industry is the Health Plan Employer Data Information Set (HEDIS). HEDIS is developed and maintained by the National Committee for Quality Assurance (NCQA), a non-profit organization committed to assessing, and reporting on and improving, the quality of care provided by health plans. Two HEDIS measures, *Timeliness of Prenatal Care* and *Postpartum Care*, are included in this study.

The *Timeliness of Prenatal Care* HEDIS measure examines access to care by measuring those women who had a prenatal care visit in the first trimester, or within 42 days after enrollment in the health plan if the woman was already pregnant when she enrolled.

In order to assess the completeness of perinatal care, it is necessary to identify what services are being provided during the provision of prenatal care. Therefore, HSAG has included measures based on ACOG guidelines in this study. The first care component to be examined is smoking. Specifically, the provider should (1) ask all patients about their smoking status and document the response in the medical record, and (2) advise patients who smoke to stop.[3] Pregnant women who smoked during pregnancy were 1.5 to 2.3 times more likely than a nonsmoker to have a low birth weight baby. In 1999, 12.6 percent of U.S. women were identified as smoking during pregnancy. In Colorado, 10.5 percent smoked during pregnancy. On average, smoking among pregnant women on Medicaid was 2.5 times that of pregnant women without Medicaid coverage. Additionally, the direct neonatal health care costs attributable to maternal smoking that were paid by Medicaid in 1996 were estimated to be approximately $228 million.[4]

The next ACOG guideline-based service measure used in this study is urine testing to detect asymptomatic bacteriuria.[5] Evidence shows that screening pregnant women for asymptomatic bacteriuria with urine culture significantly reduces low birth weight and preterm delivery.[6]

Other ACOG guideline based measures used in this study refer to the identification of potential high risk pregnancies, this includes (1) screening for drug/alcohol abuse, (2) prior preterm birth history, and (3) preterm birth risk assessment.

Chlamydia screening is the final service measure employed in this study. This measure differs from the HEDIS measure in that only pregnant women are included. Evidence shows that untreated Chlamydial infections in pregnant women can lead to premature delivery. Chlamydia may also result in adverse outcomes of pregnancy, including neonatal conjunctivitis and pneumonia.[7] The prevalence of Chlamydia has not been widely publicized. However, it is the most common sexually transmitted disease (STD) in the United States with approximately 3 million new cases of Chlamydia annually.[8] In 2002, 10,422 cases of Chlamydia were reported among women in Colorado.[9]

The HEDIS Postpartum Care measure rounds out the study measure selection. Appropriate postpartum care has been demonstrated to be an important contributor to both maternal and child health and development.

References

[1] Colorado March of Dimes Birth Defects Foundation. *Perinatal Profiles: Statistics for Monitoring State Maternal and Infant Health*; 2003:1.
[2] March of Dimes Birth Defects Foundation. *PeriStats: An Interactive Perinatal Data Resource. http://peristats.modimes.org/ataglance/08.pdf. Accessed on April 13, 2004.*
[3] The American College of Obstetricians and Gynecologists. Guidelines for Perinatal Care, Fifth Edition; October 2002:84.
[4] Tobacco Information and Prevention Source, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, Department of Health and Human Services. Available at: http://www.cdc.gov/tobacco/research_data/economics/health_ecn_impact.htm. Accessed on April 16, 2004.
[5] The American College of Obstetricians and Gynecologists. Guidelines for Perinatal Care, Fifth Edition; October 2002:90.
[6] Agency for Healthcare Research and Quality (AHRQ). U.S Preventive Services Task Force, Screening for Asymptomatic Bacteriuria; February 2004.
[7] STD Surveillance 2002, Division of Sexually Transmitted Diseases, National Center for HIV, STD and TB Prevention, Centers for Disease Control and Prevention, Department of Health and Human Services. Available at http://www.cdc.gov/std/Chlamydia/STDFact-Chlamydia.htm.
[8] *National Committee for Quality Assurance. The State of Health Care Quality, 2003 (Standard Version). Washington, DC:* National Committee for Quality Assurance; 2003:31.
[9] STD Surveillance 2002, Division of Sexually Transmitted Diseases, National Center for HIV, STD and TB Prevention, Centers for Disease Control and Prevention, Department of Health and Human Services, September 2003. Available at http://www.cdc.gov/std/stats/toc2002.htm.

3. Methodology

Overview

The perinatal care study focused on pregnant women enrolled in the following Colorado Medicaid programs: CO Access, RMHP, PCPP, and FFS. The study population was identified by HSAG and limited to those enrolled women who delivered a live birth between November 6, 2002, and November 5, 2003, and who were continuously enrolled at least 43 days prior to delivery, through 56 days after delivery, with the same Medicaid program. HEDIS guidelines for hybrid studies were used to define sampling and data collection methodologies.

Study Goals and Objectives

The goal of the perinatal care focused study was to evaluate the extent to which pregnant women enrolled in Colorado Medicaid programs received prenatal and postpartum care consistent with selected elements in the current ACOG standards. In addition to evaluating the Colorado Medicaid program on three HEDIS measures (*Timeliness of Prenatal Care*, *Postpartum Care*, and a modified *Chlamydia Screening*), this study examined the following areas:

- Rates of routine lab screening during perinatal care,
- Ongoing clinical care services and documentation of perinatal care,
- Education, and
- Delivery and postpartum management.

Measures

Nine outcome measures were evaluated; three were based on HEDIS measures while six were based on ACOG standards. Baseline benchmarks were established using the National Medicaid HEDIS 2003 50th Percentiles for two HEDIS measures, *Timeliness of Prenatal Care* and *Postpartum Care*. Benchmarks are not available for the other seven measures. The nine measures are outlined below:

- HEDIS Measures
  1. *Timeliness of Prenatal Care*: Percent of women in the study population who received a prenatal care visit as a member of their respective Medicaid program in the first trimester, or within 42 days of enrollment in the Medicaid program.
  2. *Postpartum Care*: Percent of women in the study population who had a postpartum visit on or between 21 and 56 days after delivery.
  3. *Chlamydia Screening*: Percent of women in the study population who were screened during their pregnancy for Chlamydia. This measure is based on HEDIS, but it is not the same as the HEDIS measure.

- ACOG Standards Measures
  4. *Substance Abuse Screening*: Percent of women in the study population who were screened during their initial prenatal care visit for the use of alcohol or illicit/recreational drugs.
  5. *Tobacco Cessation Screening*: Percent of women in the study population who were screened during their pregnancy for tobacco use.
  6. *Tobacco Cessation Education*: Percent of women in the study population who used tobacco and received education on smoking/tobacco use, or were advised to stop.
  7. *Urinalysis with Culture Testing*: Percent of women in the study population who had a urinalysis with culture performed during the pregnancy.
  8. *Prior Preterm Delivery and History Evaluation*: Percent of women in the study population with an evaluation of a prior preterm delivery/history present in their medical record. (Please note that women experiencing their first pregnancy were excluded from the analysis.)
  9. *Preterm Birth Risk Assessment:* Percent of women in the study population with an assessment of current preterm birth risk factors present in their medical record.

Analysis

Measures 1 and 2 were compared to HEDIS 50th Percentile benchmarks; there are no available benchmarks for measures 4–9. The rates for the two HEDIS measures were compared to HEDIS 50th Percentile benchmarks, using single sample t-tests compared to a known population rate. All statistical tests were two-tailed at $\alpha = 0.05$.

Sampling

Sample cases for the perinatal care focused study were drawn using HEDIS sampling methodology. Based on the eligible study population extracted by HSAG from the Services Tracking, Analysis, and Reporting System (STARS), random samples of 432 sample cases were drawn for the PCPP and FFS programs. Colorado managed care organizations (i.e., CO Access and RMHP) identified their respective eligible study populations and each selected random samples of 432 cases. This sample size yields an error rate of +/- 5.0 percent at a 95.0 percent confidence level.

The following tables contain the final sample sizes and their associated sample errors at the 95 percent confidence level. The decrease in sample cases noted in Table 3-1 on the following page is attributable to the identification of valid exclusions within the samples. Specifically, sample cases were dropped from the analysis if it was determined that the member was not pregnant during the study period. Following HEDIS methodology, health plans could also reduce, or adjust, their sample sizes based on reportable rates produced last year. In addition, the final sample sizes for the FFS and PCPP programs were affected by a systematic error in the data used to select the sample. This problem had a disproportionate impact on the PCPP sample. The final sample sizes reflect only valid sample cases and were sufficiently large to allow for comparisons among Medicaid programs. Confidence intervals have been included to allow for valid comparisons between Medicaid programs.

Table 3-1—Sample Sizes and Sample Errors for HEDIS Measures		
Population	Sample Size	Sample Error (+/-)
CO Medicaid	1,274	2.7%
CO Access	423	4.8%
RMHP	371	5.1%
PCPP	168	7.6%
FFS	312	5.5%

Data Collection

Using a hybrid methodology, data were collected from two sources: (1) medical record review and (2) administrative data (i.e., claims and encounter data). CO Access and RMHP were responsible for locating their respective members' medical records and the subsequent medical record abstraction, while HSAG was responsible for locating the medical records and record abstraction for the PCPP and FFS programs. Data collected from the medical record review were then combined with administrative data and forwarded to HSAG for analysis. This combined dataset was ultimately used to identify and calculate baseline rates.

Limitations

Conducting performance measurement through administrative data has several limitations for analysis and interpretation. Of concern, claims information may be inaccurate or incomplete, contributing significant bias to rate estimations.

In the measurement year, Colorado's PCPP program experienced an influx of membership with the loss of a large MCO in the Denver area. To ensure continuity of care, providers already participating in PCPP were brought under the Department's PCPP program and clients under these providers were brought into the program with the option to change health plans. Due to this administrative decision, some pregnant members who were counted under HEDIS methodology would have been enrolled in PCPP less than the required number of days, even though care would have been continuous and provided by the members pre-PCPP provider. Although the methodology for the two HEDIS measures accounts for shifts in enrollment, the other measures are not HEDIS measures and can be affected by this shifting of enrollment. For example, a woman may have received substance abuse screening at the MCO and then switch into the PCPP program under the same provider. The provider would not conduct another substance abuse screening, but the service performed prior to the "new" enrollment would not count towards the measure. The result of this enrollment shift is generally lower rates.

The final sample sizes for the FFS and PCPP programs were affected by a systematic error in the data used to select the sample. Some women were erroneously identified as having had a live birth. These members were excluded after medical record review confirmed the woman was not pregnant during the time period. All of the women included in the final sample size for the PCPP and FFS program are valid cases.

Timeliness of Prenatal Care

This HEDIS measure is the rate of women who had a live birth in the measurement year who had their first visit in the first trimester, or within 42 days of enrollment if the member was already pregnant. This measure is often considered the principal indicator of appropriate prenatal care.

The overall Colorado Medicaid Prenatal Care rate of 79.0 percent is above the HEDIS 2003 National Medicaid 50th Percentile of 74.1 percent. This overall rate is due to high rates reported by the two health plans—RMHP's rate of 93.5 percent exceeds the HEDIS 2003 National Medicaid 90th Percentile, and the CO Access rate at 83.9 percent approaches the 75th Percentile. The PCPP rate of 51.8 percent is below the HEDIS 2003 National Medicaid 25th Percentile, and at 69.9 percent, the FFS rate is below the 50th Percentile. The range of reported rates for this measure is 41.7 percentage points, indicating diverse guideline compliance across the different care delivery methods.

Figure 4-1 below exhibits the rates for Colorado Medicaid, both health plans (CO Access and RMHP), PCPP, and FFS, along with their 95 percent confidence intervals. Rates can be considered to be statistically different when there is no overlap in the confidence levels.

Figure 4-1—Timeliness of Prenatal Care Rates with 95 Percent Confidence Intervals

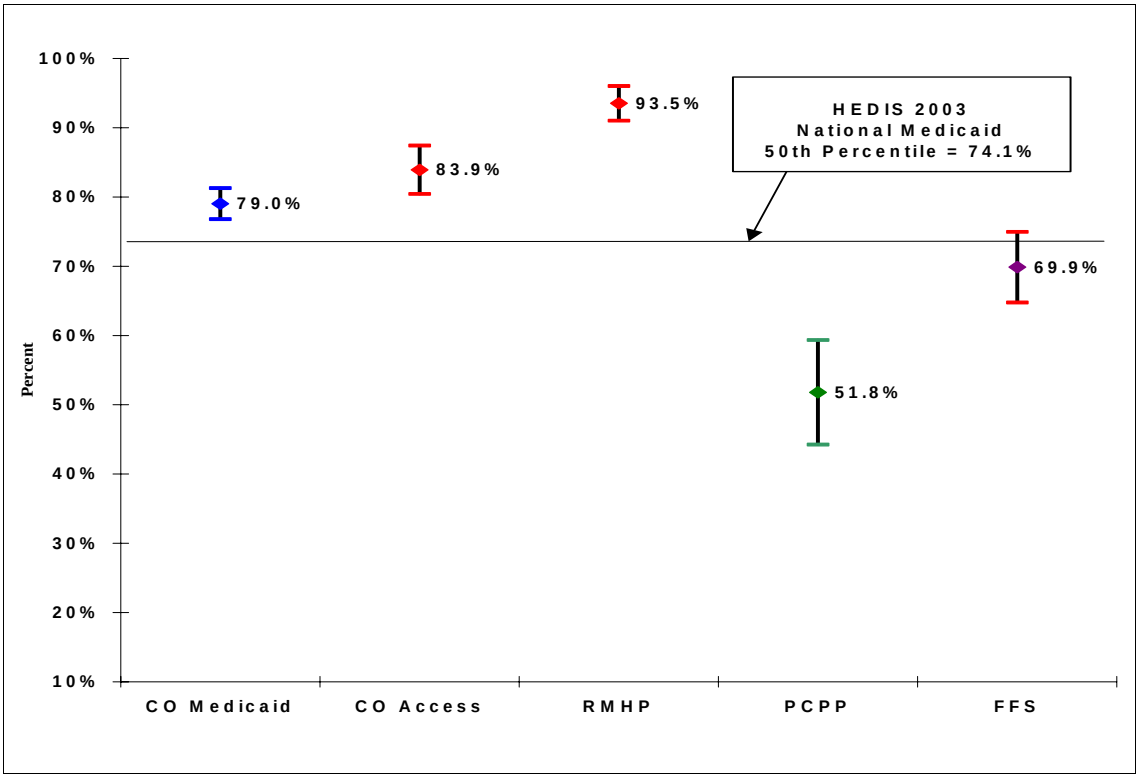

Table 4-1—Timeliness of Prenatal Care			
Program	**Program Rate**	**95% Confidence Interval**	**N**
Colorado Medicaid	**79.0%**	**76.8% to 81.3%**	**1,274**
Combined Health Plan	88.4%	86.2% to 90.6%	794
—CO Access	83.9%	80.4% to 87.4%	423
—RMHP	93.5%	91.0% to 96.0%	371
PCPP	51.8%	44.2% to 59.3%	168
FFS	69.9%	64.8% to 75.0%	312
2003 HEDIS 50th Percentile	74.1%		

Substance Abuse Screening

This measure is based on ACOG screening guidelines and is the percent of women in the study population who were screened during their initial prenatal care visit for the use of alcohol or illicit/recreational drugs.

Generally, substance abuse screening rates are good with more than three quarters of the study population (76.8 percent) receiving this screening. The RMHP rate of 90.6 percent and CO Access rate of 78.7 percent are significantly higher ($p<.05$) than the FFS and PCPP rates of 66.1 percent and 61.2 percent, respectively. This measure has a 29.4 percentage point spread of reported rates.

Figure 4-2 below exhibits the rate and 95 percent confidence interval for each of the reporting groups as well as the overall Colorado Medicaid rate.

Figure 4-2—Substance Abuse Screening Rates with 95 Percent Confidence Intervals

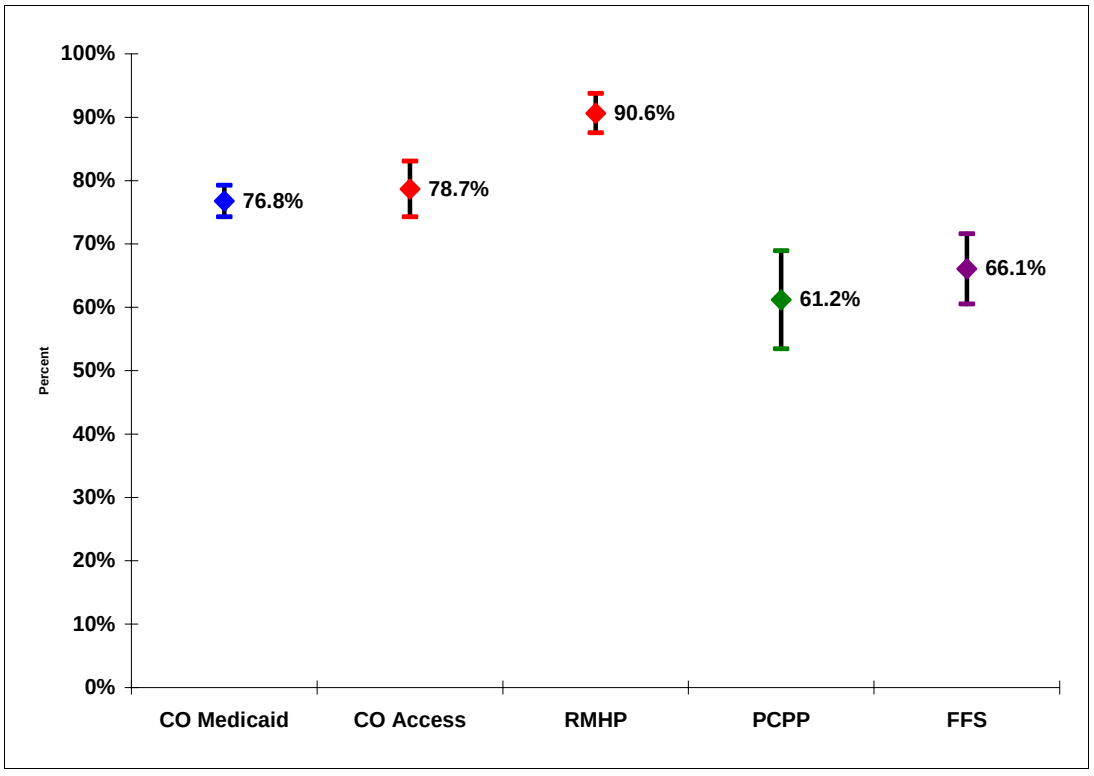

Table 4-2—Substance Abuse Screening			
Program	**Program Rate**	**95% Confidence Interval**	**N**
Colorado Medicaid	**76.8%**	**74.3% to 79.3%**	**1,107**
Combined Health Plan	84.7%	82.0% to 87.5%	675
—CO Access	78.7%	74.3% to 83.1%	333
—RMHP	90.6%	87.6% to 93.7%	342
PCPP	61.2%	53.4% to 68.9%	152
FFS	66.1%	60.5% to 71.6%	280

Tobacco Cessation Screening

This ACOG screening guideline-based measure is the percent of women in the study population who were screened for tobacco use.

Tobacco cessation screening rates are generally high, with the health plans performing statistically higher ($p<0.05$) than the PCPP and FFS programs. RMHP, with the highest reported rate at 91.8 percent, is statistically higher than all of the other reported rates. The overall Colorado Medicaid rate is 77.5 percent, and the rates range from 59.9 percent to 91.8 percent. Figure 4-3 below exhibits the rate and 95 percent confidence interval for each of the reporting groups as well as the overall Colorado Medicaid rate.

Figure 4-3—Tobacco Cessation Screening Rates with 95 Percent Confidence Intervals

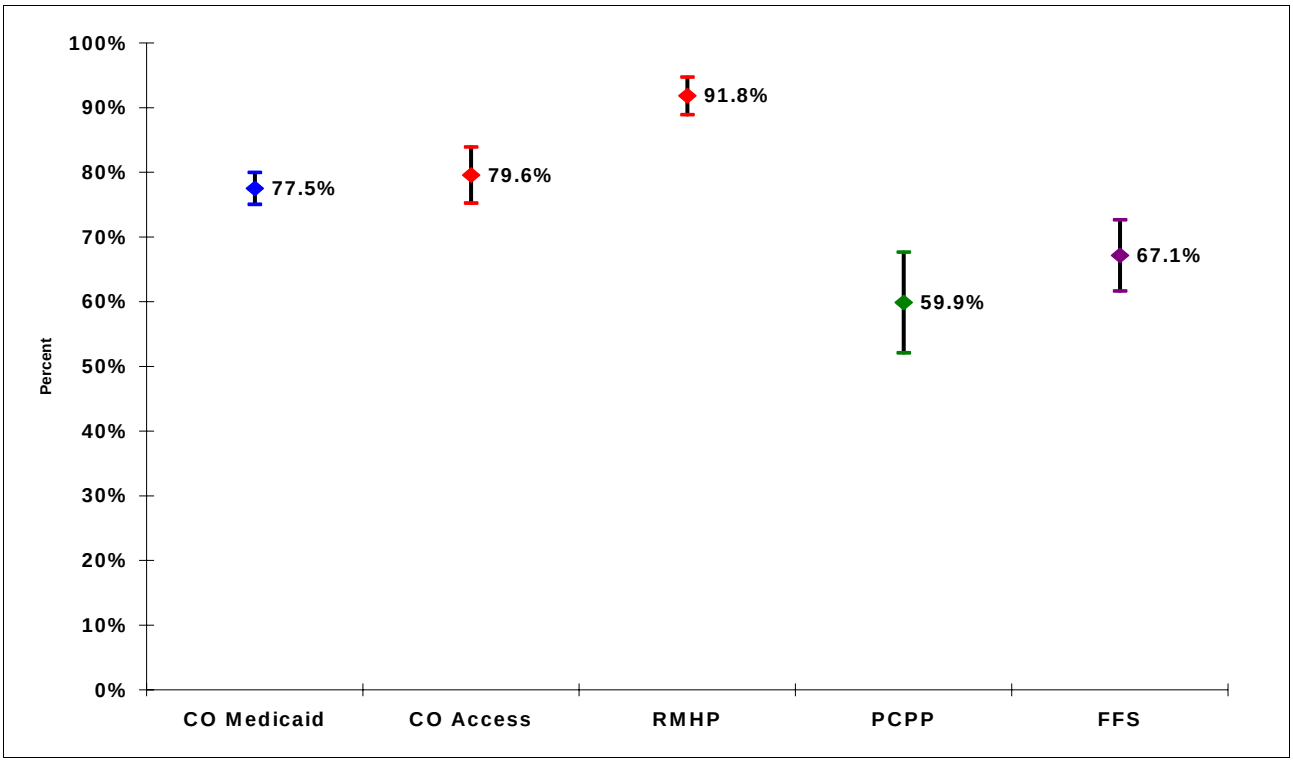

Table 4-3—Tobacco Cessation Screening			
Program	**Program Rate**	**95% Confidence Interval**	**N**
Colorado Medicaid	**77.5%**	**75.0% to 80.0%**	**1,107**
Combined Health Plan	85.8%	83.1% to 88.4%	675
—CO Access	79.6%	75.3% to 83.9%	333
—RMHP	91.8%	88.9% to 94.7%	342
PCPP	59.9%	52.1% to 67.7%	152
FFS	67.1%	61.6% to 72.6%	280

Tobacco Cessation Education

This measure is the percent of women in the study population who used tobacco and received education on smoking/tobacco use, or were advised to stop, and is based upon ACOG screening guidelines. The denominator for this measure is based on those women identified as using tobacco (N = 266), rather than the entire sample population; therefore, confidence intervals are wider.

Tobacco cessation education rates are varied, and do not appear to be related to delivery type. The RMHP rate of 70.9 percent is significantly higher ($p<.05$) than the CO Access rate of 41.7 percent and the overall Colorado Medicaid reported rate of 54.9 percent. While the FFS rate of 40.9 percent is approximately 16 percentage points lower than the PCPP rate of 57.1 percent, the difference is not statistically significant. The range of reported rates for this measure is 30 percentage points, nearly twice that for tobacco use screening.

Figure 4-4 below exhibits the rate and 95 percent confidence interval for each of the reporting groups as well as the overall Colorado Medicaid rate.

Figure 4-4—Tobacco Cessation Education Rates with 95 Percent Confidence Intervals

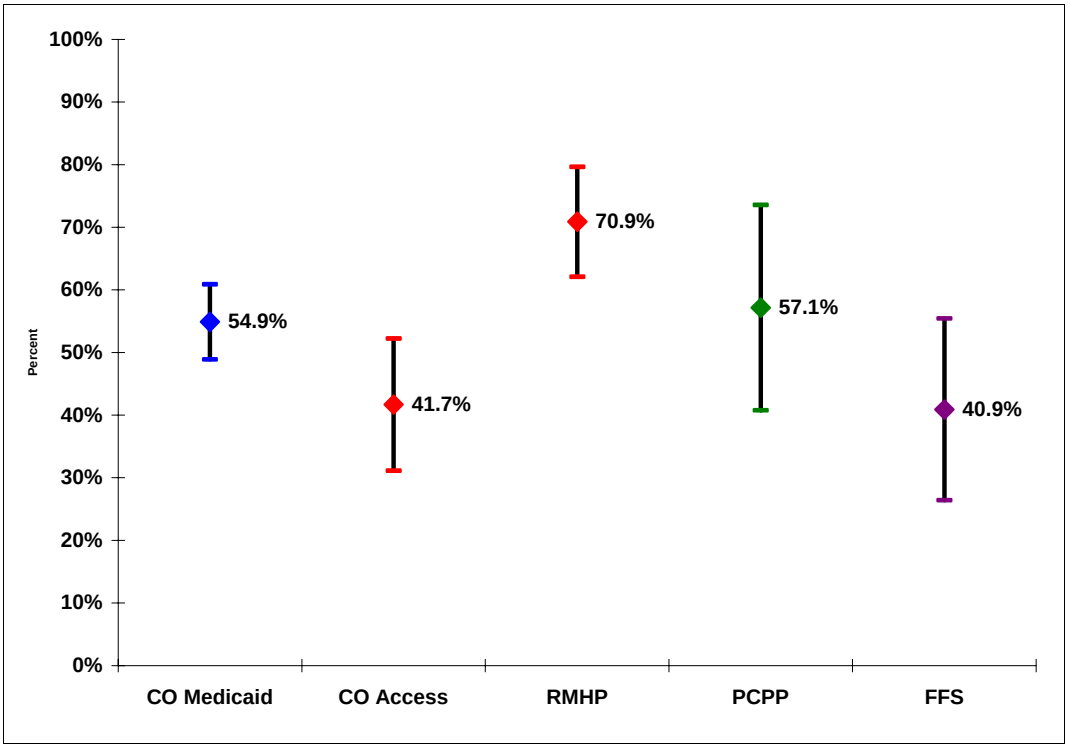

Table 4-4—Tobacco Cessation Education			
Program	**Program Rate**	**95% Confidence Interval**	**N**
Colorado Medicaid	**54.9%**	**48.9% to 60.9%**	**266**
Combined Health Plan	57.8%	50.7% to 64.8%	187
—CO Access	41.7%	31.1% to 52.2%	84
—RMHP	70.9%	62.1% to 79.6%	103
PCPP	57.1%	40.7% to 73.5%	35
FFS	40.9%	26.4% to 55.4%	44

Urinalysis with Culture Testing

This measure is based on ACOG screening guidelines and is the percent of women in the study population who had urinalysis with culture performed during the pregnancy.

On average, 6 in 10 (61.1 percent) women enrolled in Colorado Medicaid in the study period had a urinalysis with culture test performed. However, the range of rates across the reporting groups was 35.8 percentage points. Urinalysis with culture testing rates are significantly higher ($p<.05$) for both health plans (CO Access and RMHP) compared to the FFS (50.4 percent) and PCPP (38.8 percent) populations. The RMHP rate of 74.6 percent is above the CO Access rate of 66.4 percent, and is also significantly higher than the Colorado Medicaid rate.

Figure 4-5 below exhibits the rate and 95 percent confidence interval for each of the reporting groups as well as the overall Colorado Medicaid rate.

Figure 4-5—Urinalysis with Culture Testing Rates with 95 Percent Confidence Intervals

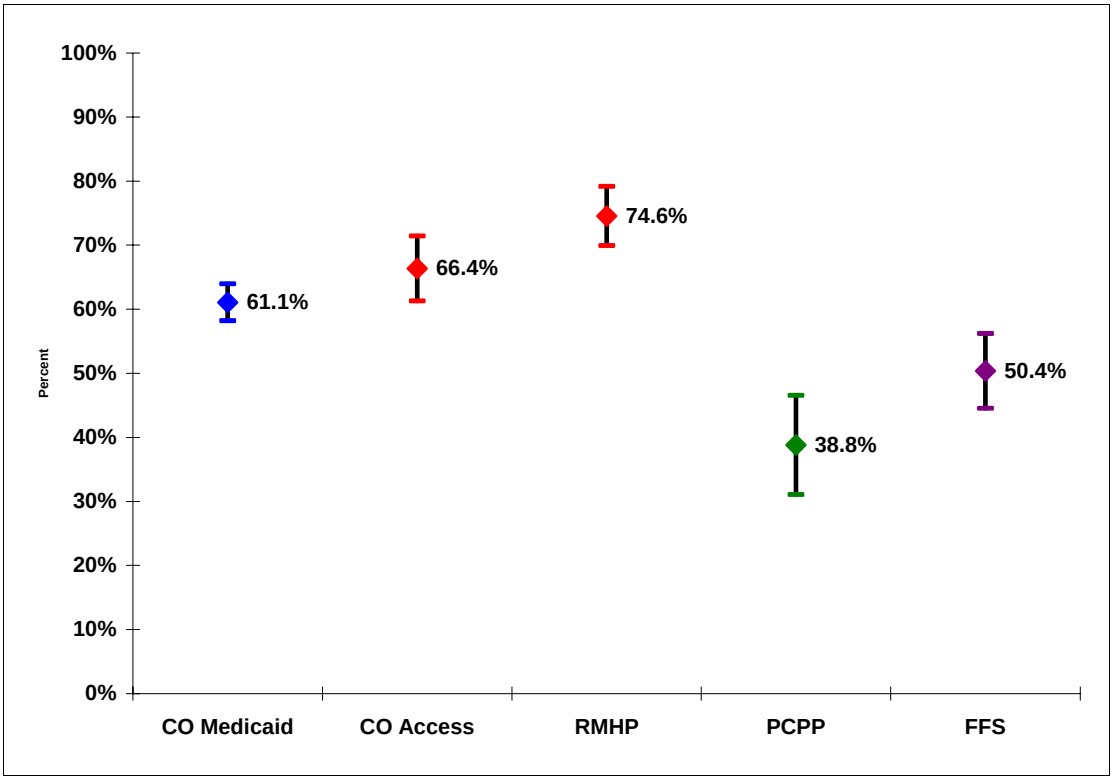

Table 4-5—Urinalysis with Culture Testing			
Program	**Program Rate**	**95% Confidence Interval**	**N**
Colorado Medicaid	**61.1%**	**58.2% to 63.9%**	**1,107**
Combined Health Plan	70.5%	67.1% to 74.0%	675
—CO Access	66.4%	61.3% to 71.4%	333
—RMHP	74.6%	69.9% to 79.2%	342
PCPP	38.8%	31.1% to 46.6%	152
FFS	50.4%	44.5% to 56.2%	280

Prior Preterm Delivery and History Evaluation

This ACOG screening guideline-based measure is the percent of women in the study population experiencing a repeat pregnancy with an evaluation of a prior preterm delivery/history present in their medical record.

Nearly three quarters of the women (72.7 percent) who had a previous delivery were evaluated for a high-risk birth based on prior preterm delivery and history. The same pattern continues with both health plan reporting rates for prior preterm delivery and history evaluation significantly higher ($p<.05$) than the PCPP (57.1 percent) and FFS (62.4 percent) populations. The RMHP rate of 88.7 percent is significantly higher than the CO Access rate of 74.8 percent and all other reported rates.

Figure 4-6 below exhibits the rate and 95 percent confidence interval for each of the reporting groups as well as the overall Colorado Medicaid rate.

Figure 4-6—Prior Preterm Delivery and History Rates with 95 Percent Confidence Intervals

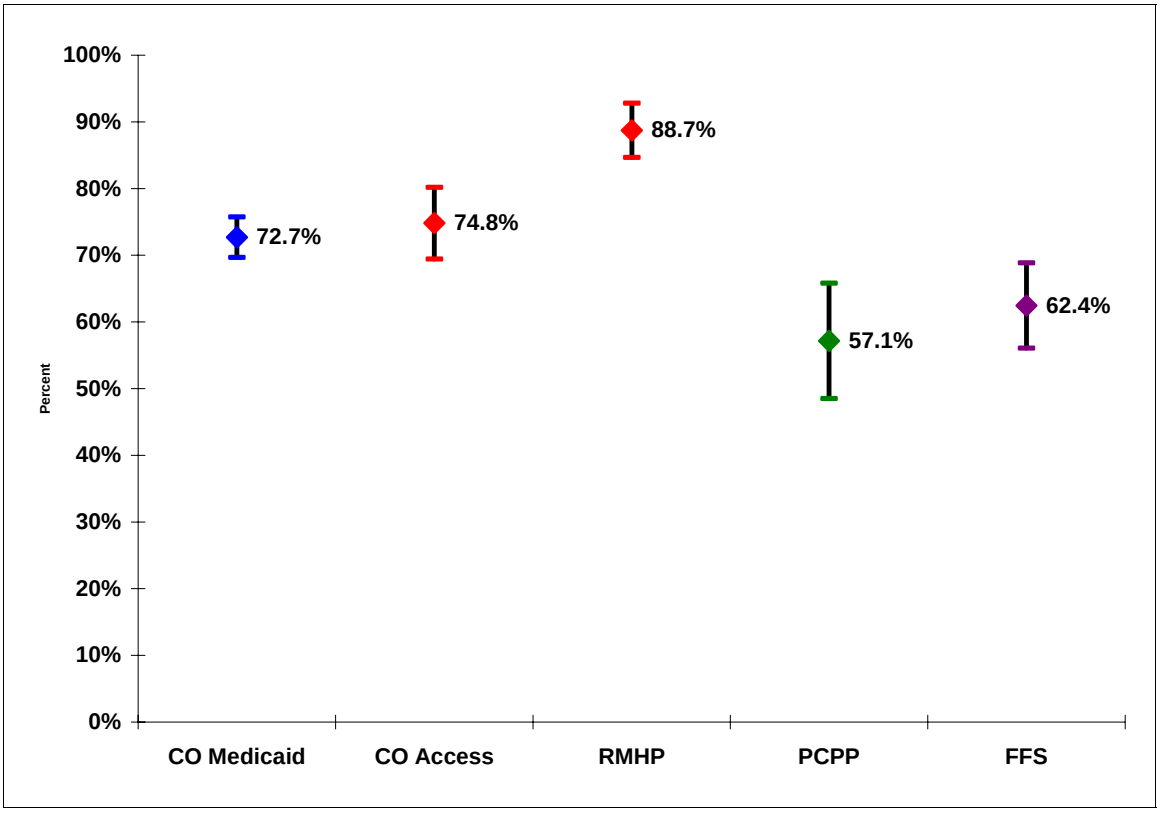

Table 4-6—Prior Preterm Delivery and History Evaluation			
Program	**Program Rate**	**95% Confidence Interval**	**N**
Colorado Medicaid	**72.7%**	**69.7% to 75.7%**	**828**
Combined Health Plan	81.5%	78.0% to 85.0%	481
—CO Access	74.8%	69.4% to 80.2%	250
—RMHP	88.7%	84.7% to 92.8%	231
PCPP	57.1%	48.5% to 65.8%	126
FFS	62.4%	56.1% to 68.8%	221

Preterm Birth Risk Assessment

This measure is based on ACOG screening guidelines and is the percent of women in the study population with an assessment of current preterm birth risk factors present in their medical record.

The overall Colorado preterm birth risk assessment rate is 76.9 percent. This measure follows the pattern seen in previous measures. The RMHP rate of 89.5 percent is the highest rate, and significantly above all other reported rates ($p<.05$). CO Access reported a rate of 77.8 percent, which is above the FFS rate of 68.9 percent and significantly above the PCPP rate of 61.2 percent.

Figure 4-7 below exhibits the rate and 95 percent confidence interval for each of the reporting groups as well as the overall Colorado Medicaid rate.

Figure 4-7—Preterm Birth Risk Assessment Rates with 95 Percent Confidence Intervals

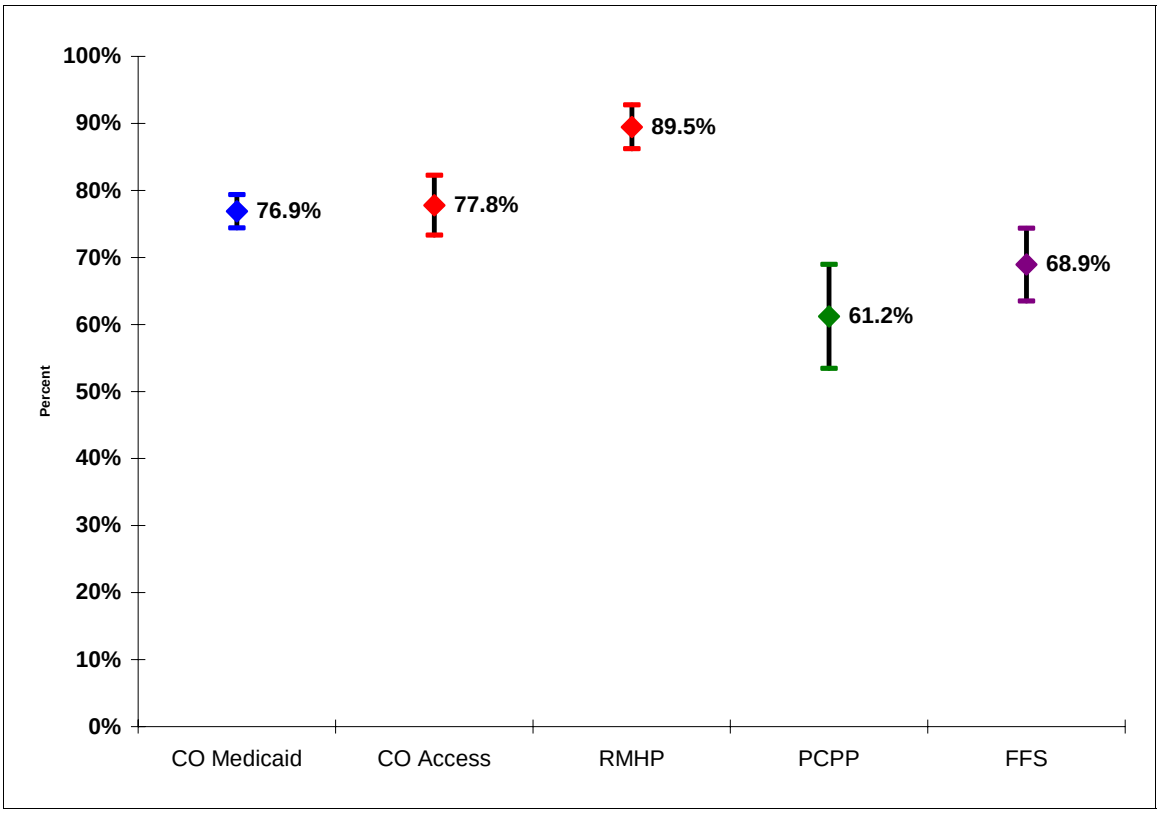

Table 4-7—Preterm Birth Risk Assessment			
Program	**Program Rate**	**95% Confidence Interval**	**N**
Colorado Medicaid	**76.9%**	**74.4% to 79.4%**	**1,107**
Combined Health Plan	83.7%	80.9% to 86.5%	675
—CO Access	77.8%	73.3% to 82.2%	333
—RMHP	89.5%	86.2% to 92.7%	342
PCPP	61.2%	53.4% to 68.9%	152
FFS	68.9%	63.5% to 74.3%	280

Chlamydia Screening

This measure examined the percent of pregnant women in the study who were screened for Chlamydia. The Chlamydia screening measure for this focused study was based on ACOG guidelines rather than the HEDIS measure and, therefore, comparison of these results to HEDIS benchmarks is inappropriate.

The overall Colorado Medicaid Chlamydia screening rate is 70.5 percent. Chlamydia screening rates in the health plan populations are significantly higher than the FFS rate of 62.9 percent and the PCPP rate of 55.9 percent. RMHP's rate of 80.1 percent is not statistically higher than the CO Access rate of 73.6 percent.

Figure 4-8 below exhibits the rate and 95 percent confidence interval for each of the reporting groups as well as the overall Colorado Medicaid rate.

Figure 4-8—Chlamydia Screening Rates with 95 Percent Confidence Intervals

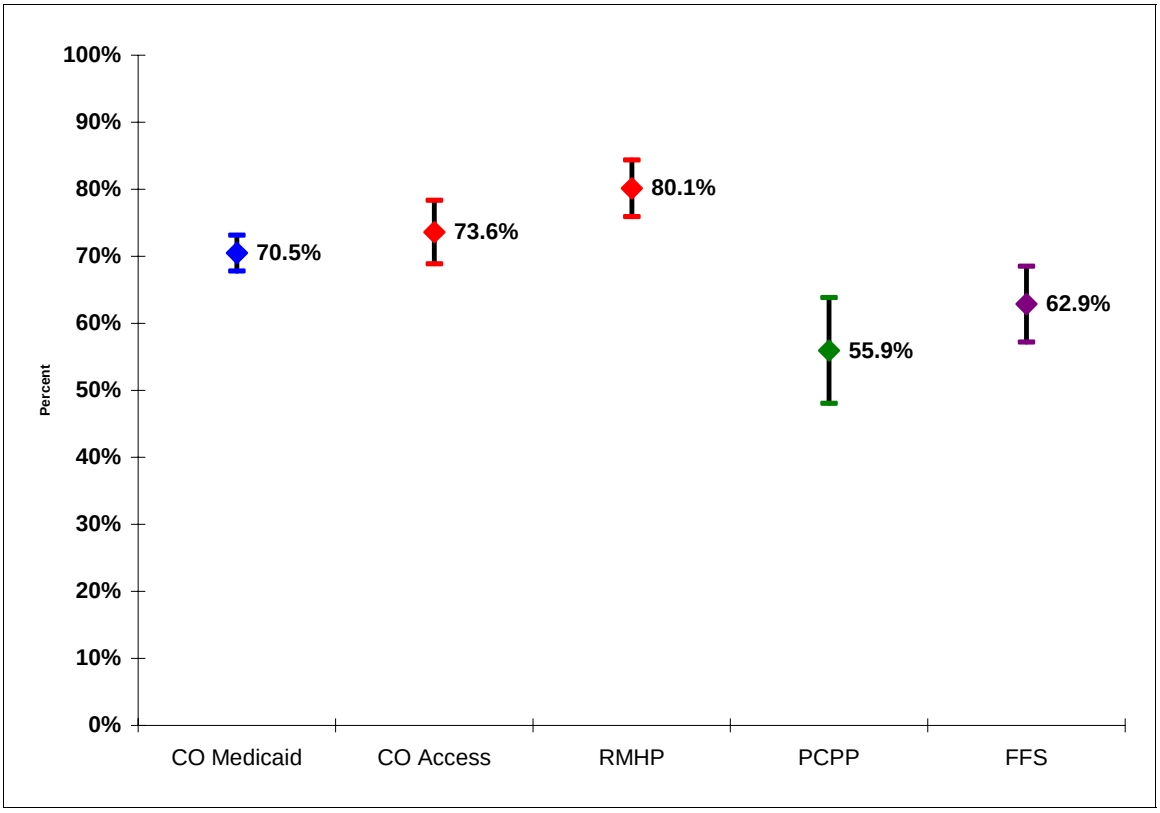

Table 4-8—Chlamydia Screening			
Program	**Program Rate**	**95% Confidence Interval**	**N**
Colorado Medicaid	**70.5%**	**67.8% to 73.1%**	**1,107**
Combined Health Plan	76.9%	73.7% to 80.1%	675
—CO Access	73.6%	68.8% to 78.3%	333
—RMHP	80.1%	75.9% to 84.3%	342
PCPP	55.9%	48.0% to 63.8%	152
FFS	62.9%	57.2% to 68.5%	280

Postpartum Care

This HEDIS-based measure is the percent of women in the study population who had a postpartum visit on or between 21 and 56 days after delivery.

The Colorado Medicaid postpartum care rate of 56.2 percent is above the HEDIS 2003 National Medicaid 50th Percentile of 55.0 percent. The RMHP rate of 70.9 percent and the CO Access rate of 59.8 percent are significantly above ($p<.05$) the PCPP rate of 47.0 percent and the FFS rate of 38.8 percent. The RMHP rate is also greater than the HEDIS 2003 National Medicaid 90th Percentile. The range of reported rates is fairly wide at 32.1 percentage points.

Figure 4-9 below exhibits the rate and 95 percent confidence interval for each of the reporting groups as well as the overall Colorado Medicaid rate.

Figure 4-9—Postpartum Care Visit Rates with 95 Percent Confidence Intervals

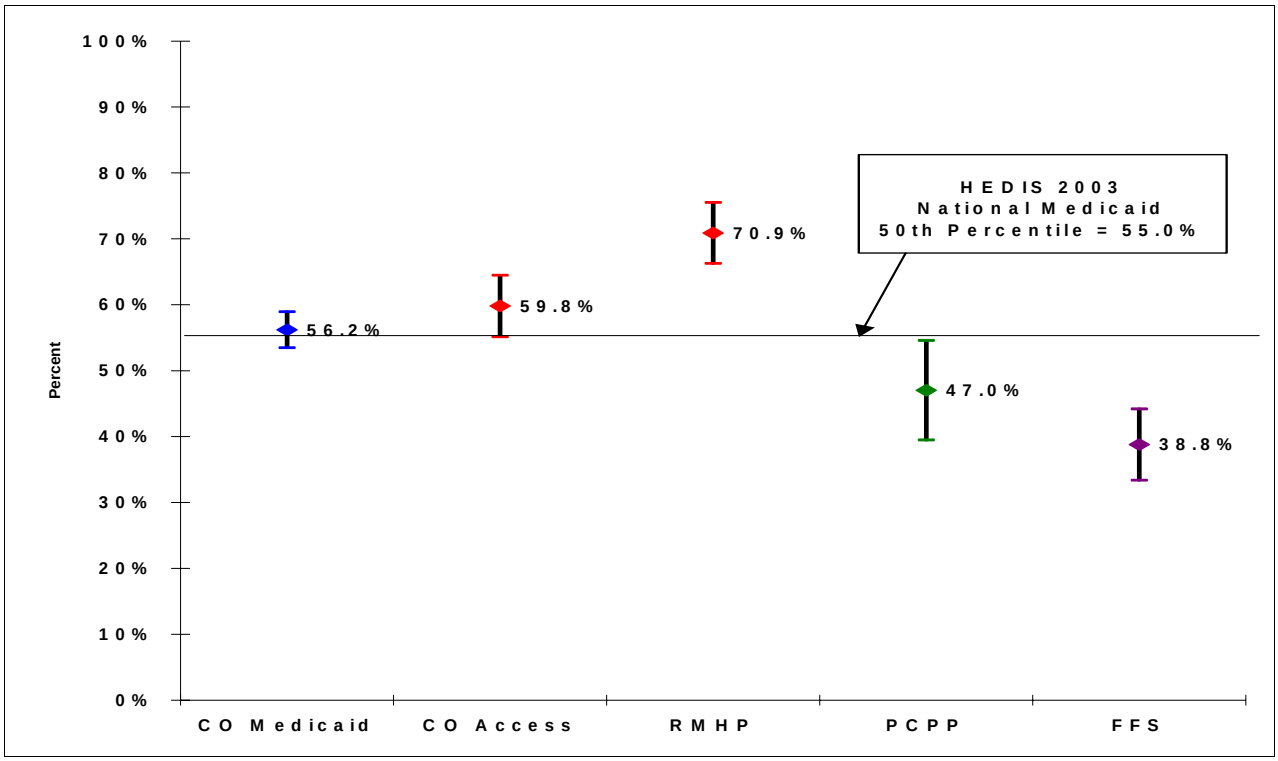

Table 4-9—Postpartum Care			
Program	**Program Rate**	**95% Confidence Interval**	**N**
Colorado Medicaid	**56.2%**	**53.5% to 58.9%**	**1,274**
Combined Health Plan	65.0%	61.7% to 68.3%	794
—CO Access	59.8%	55.1% to 64.5%	423
—RMHP	70.9%	66.3% to 75.5%	371
PCPP	47.0%	39.5% to 54.6%	168
FFS	38.8%	33.4% to 44.2%	312
2003 HEDIS 50th Percentile	55.0%		

5. Overall Medicaid Conclusions and Recommendations

Introduction

This perinatal care focused study was conducted for DHCPF by HSAG in order to understand the extent to which pregnant women in Colorado Medicaid programs receive prenatal and postpartum care consistent with selected elements in the current ACOG standards.

This study explores if pregnant women are receiving perinatal care through the timeliness of prenatal and postpartum care measures. In addition to the determination of visit rates, this study examines the completeness of the prenatal service as indicated by compliance with selected ACOG national quality standards.

Overall Conclusions

This study indicates varied compliance with ACOG screening guidelines by measure and by reporting entity (see Table 5-1 below). The two HEDIS measures demonstrated reasonable overall results primarily due to higher health plan (CO Access and RMHP) reported rates, bringing up the low rates reported by the FFS and PCPP delivery types.

Table 5-1—Summary of Rates for Quality Indicators

Quality Indicators	Colorado Medicaid	CO Access	RMHP	PCPP	FFS
Timeliness of Prenatal Care	**79.0**	83.9	93.5	51.8	69.9
Substance Abuse Screening	**76.8**	78.7	90.6	61.2	66.1
Tobacco Cessation Screening	**77.5**	79.6	91.8	59.9	67.1
Tobacco Cessation Education	**54.9**	41.7	70.9	57.1	40.9
Urinalysis with Culture Testing	**61.1**	66.4	74.6	38.8	50.4
Prior Preterm Delivery and History Evaluation	**72.7**	74.8	88.7	57.1	62.4
Preterm Birth Risk Assessment	**76.9**	77.8	89.5	61.2	68.9
Chlamydia Screening	**70.5**	73.6	80.1	55.9	62.9
Postpartum Care	**56.2**	59.8	70.9	47.0	38.8

National benchmarks were available for the two HEDIS measures, *Timeliness of Prenatal Care* and *Postpartum Care*, and are provided in the table below.

Table 5-2—HEDIS 2003 National Medicaid Percentiles

HEDIS Measure	Colorado Medicaid	HEDIS 2003 National Medicaid Percentiles				
		10th	25th	50th	75th	90th
Timeliness of Prenatal Care	**79.0**	47.2	62.7	74.1	85.1	89.1
Postpartum Care	**56.2**	32.2	45.2	55.0	61.7	67.4

Specifically, the main findings from this focused study showed:

- The overall Colorado Medicaid prenatal care exceeds the national Medicaid 50th Percentile.
- The prenatal care rate for the managed care population is above the national Medicaid 75th Percentile of 85.1 percent; RMHP's rate exceeds the 90th Percentile.
- There is variation in the services provided as part of the prenatal visit across the different Colorado Medicaid care delivery models. Generally, the rates for services provided were significantly higher for the health plan population (CO Access and RMHP) compared to FFS and PCPP.
- Tobacco cessation education and urinalysis with culture are the areas least likely to be provided as part of the prenatal visit.
- The Colorado Medicaid Chlamydia screening rates are relatively high, with 7 of 10 pregnant women enrolled in Colorado Medicaid receiving a Chlamydia screening.
- The overall postpartum care rate is above the national Medicaid 50th Percentile of 55.0 percent, with RMHP reporting a rate above the 90th Percentile.

Lower rates for FFS and PCPP may be due to: (1) abrupt increase in the population from two Medicaid health plans that no longer provide care for Medicaid members; (2) services were provided, but not documented; (3) services were provided, but the medical records could not be located; or (4) actual services were not provided.

In the measurement year, Colorado's PCPP program experienced an influx of membership with the loss of a large MCO in the Denver area. To ensure continuity of care, providers already participating in PCPP were brought under the Department's PCPP program and clients under these providers were brought into the program with the option to change health plans. Due to this administrative decision, some pregnant members who were counted under HEDIS methodology would have been enrolled in PCPP less than the required number of days, even though care would have been continuous and provided by the members' pre-PCPP providers. Although the methodology for the two HEDIS measures accounts for shifts in enrollment, the other measures are not HEDIS measures and can be affected by this shifting of enrollment. For example, a woman may have received substance abuse screening at the MCO and then switched into the PCPP program under the same provider. The provider would not conduct another substance abuse screening, but the service performed prior to the "new" enrollment would not count toward the measure. The result of this enrollment shift is generally lower rates.

Overall Recommendations

Generally, activities designed to minimize variation among Medicaid programs are recommended. These types of activities include the adoption and distribution of clinical practice guidelines, and provider-specific reporting of guideline compliance. Member and provider education efforts regarding guidelines and the importance of adherence to guidelines are other ways of minimizing variation and improving rates.

Key recommendations from this study include:

- The lowest rate for CO Access centered around tobacco cessation education during pregnancy. Screening for tobacco use was fairly high, at 79.6 percent. It appears the low rates for tobacco cessation education may be due to poor documentation. CO Access should reinforce the importance of documenting tobacco cessation advice given to its members.

- All of the rates for RMHP were above 70.0 percent, and the two HEDIS measures showed rates above the national Medicaid 90th percentiles. RMHP should be encouraged to share best practices with DHCPF to facilitate improvements in the PCPP and FFS populations.

- The distribution of clinical guidelines and flowsheets for use in the medical record may prove to be beneficial for the health plans as well as for the PCPP and FFS populations. Health plans should consider conducting provider education sessions to encourage best practices in prenatal care. Clinical guidelines and check-sheets, such as the ACOG Antepartum Record, could be distributed to providers for improved documentation of prenatal care services.

- Both health plans (CO Access and RMHP) had high rates for *Timeliness of Prenatal Care*. HSAG encourages the State to adopt best practices nationally, as is being done by the health plans to facilitate improvement in the PCPP and FFS populations.

- Provider education on perinatal care guidelines should be increased in the PCPP and FFS provider populations. This may be accomplished using targeted mailings to "most likely providers" (e.g., obstetricians) along with medical record checklists showing the ACOG recommended screening services.

- Member education should be improved, especially in regard to the adverse impact of smoking when pregnant.