State of Colorado

Department of Health Care Policy and Financing

# Colorado Medicaid 2002 Diabetes Quality-of-Care Focused Study

## June 2003

***Final Report***

Health Services Advisory Group, Inc.
1600 E. Northern Ave., Suite 100 ◆ Phoenix, AZ 85020
Phone 602.264.6382 ◆ Fax 602.241.0757

*External Quality Review Organization for the State of Colorado*

HSAG
HEALTH SERVICES ADVISORY GROUP

# CONTENTS

# FIGURES & TABLES

## 1. Acknowledgements

(No figures or tables in this section)

## 2. Executive Summary



## 3. Background

(No figures or tables in this section)

## 4. Methodology



## 5. Medical Record Findings



## 6. Conclusions and Recommendations.....6-1

(No figures or tables in this section)

## 7. References.....7-1

(No figures or tables in this section)

## 8. Glossary.....8-1

(No figures or tables in this section)

## Appendices

(See CONTENTS)

# 1. Acknowledgements

Health Services Advisory Group, Inc. (HSAG) wishes to express thanks and appreciation to the following individuals and organizations who contributed to the project as participants in the Colorado Medicaid Quality Improvement Committee (QuIC). We also would like to acknowledge the Medicaid providers and their office staff who assisted with medical record procurement.

### Colorado Department of Health Care Policy and Financing (CDHCPF)

- Laurel Karabatsos, MA, Quality Improvement Manager
- Sandy DeSanto, RN, CPH, Quality Improvement Coordinator
- Gloria Johnson, MS, Program Compliance Coordinator
- Beth Martin, BA, Senior Data Analyst

### Colorado Access

- Valerie Hayes-Arrage, RN, Director of Quality Management
- Mary Freeman Smith, BSN, CPHQ, Clinical Quality Program Manager
- Marie Steckbeck, MBA, Vice President Program Integrity and Strategic Planning

### Rocky Mountain Health Plans (RMHP)

- Kathy Reimers, RN, JD, Quality Improvement Manager
- Lori Stephenson, RN, Quality Improvement Director

# 2. Executive Summary

## Introduction

The Colorado Department of Health Care Policy and Financing (the Department) administers the Colorado Medicaid program, which finances care for approximately 126,222 members between the ages of 18 and 75 years of age, as of June 30, 2002. Of those members, 7,484 diabetic members were identified from administrative data (i.e., claims/encounter data or pharmacy data).

The Colorado Department of Public Health and Environment (CDPHE) reports diabetes in 4.3 percent of the overall population in Colorado. However, this proportion rises to 5.9 percent for those with annual household incomes less than $25,000; and it is as high as 6.2 percent for the Hispanic population. In 1999, diabetes was the eighth leading cause of death in Colorado.[2-1] In 1997, Colorado estimated expenditures of $1.4 billion on care related to diabetes. [2-2]

The American Diabetes Association (ADA) expert consensus states, "Perform the A1C test at least two times a year in patients who are meeting treatment goals (and who have stable glycemic control) and quarterly in patients whose therapy has changed or who are not meeting glycemic goals."[2-3] The ADA now recommends the target for HbA1c level at 7.0 percent. For every 1 percent reduction in results from an HbA1c blood test, there is a 15-percent to 30-percent reduction of risk for developing complications from the disease.[2-4]

Successful diabetes management programs include regular delivery of self-management education. Medical nutrition therapy focusing on the reduction of saturated fat and cholesterol intake, weight loss, and increased physical activity has been shown to improve the lipid profile in patients with diabetes. Individuals who are diabetic and depressed tend to have poor metabolic control, poor diet, and difficulty adhering to a medication regimen, resulting in a decreased quality of life. Depression affects the individual's capacity for self-management in the areas of diet, exercise, medication, smoking cessation, and abstinence from substance abuse, all of which significantly impact diabetes management.[2-5]

As the External Quality Review Organization (EQRO) for the Colorado Medicaid Program, Health Services Advisory Group, Inc. (HSAG) was contracted by the Department to conduct this study with input from the Colorado Community Health Network Health Disparities Collaborative (CCHN) and the managed care organizations (MCOs). The goal of this study has been to determine to what extent diabetes care in the Colorado Medicaid population meets key components of the latest standards of care. The emphasis has been on gaining information on how well Colorado Medicaid providers have adopted and applied the ADA guidelines on the frequency of HbA1c testing; and if Medicaid members in poor control receive education on diet, exercise, or medication management, and are screened for depression.

## Study Objectives

There were three main objectives of this study:

- To provide a baseline assessment for semi-annual HbA1c testing as recommended by ADA for each Colorado Medicaid program.
- To identify the number of Colorado Medicaid diabetic clients in poor control who have received diabetes education and screening for depression.
- To provide the Department with an overall assessment of diabetes care rendered by the Colorado Medicaid health care program, including plan-to-plan and program-to-program comparisons.

## Methodology

All members with diabetes were identified who were 18 through 75 years of age and continuously enrolled from July 1, 2001 through June 30, 2002 (with no more than one 30-day break in enrollment, and still enrolled as of June 30, 2002). Claims/encounter data and/or pharmacy data were used to identify all diabetic members, following standards listed for Comprehensive Diabetes Care in the *HEDIS® 2002 Technical Specifications*.[2-6] Table 2-1 shows the eligible population sizes that were identified.

**Table 2-1—Colorado Medicaid 2002 Diabetes Quality-of-Care Focused Study: Summary of Records**

| Summary | CO Medicaid | RMHP | CO Access | PCPP | FFS |
|---|---|---|---|---|---|
| Eligible Population | 7,484 | 774 | 962 | 2,652 | 3,096 |
| Original Sample Size | 600 | 150 | 150 | 150 | 150 |
| Valid Exclusions* | 29 | 8 | 10 | 8 | 3 |
| Final Sample Size | 571 | 142 | 140 | 142 | 147 |

* Valid exclusions included gestational diabetes, steroid-induced diabetes, and members who did not have diabetes. These members were excluded from the study.

The final sample size consisted of 571 members. The mean (average) age of members in the sample was 57.7 years. Females comprised 66.7 percent of the sample.

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

## Results

Table 2-2 shows the results for the quality indicators for the diabetic Medicaid members between 18 and 75 years of age in the final sample.

Members in the fee-for-service (FFS) population do not have a primary care physician and may, in fact, see more than one physician during the year. This factor made medical record retrieval dependent on the accuracy of the claims submitted along with the provider information. Medical records that could not be located remained in the denominator and negatively impacted the FFS rates. Additionally, the selected FFS members had different population characteristics (i.e., FFS had a larger proportion of older males) than the MCOs and the Primary Care Physician Program (PCPP). Low FFS rates may be due to the different population characteristics, the impact of "missing" records, or a lack of services provided for the selected FFS members.

**Table 2-2—Colorado Medicaid 2002**
**Diabetes Quality of Care Focused Study:**
**Semi-Annual HbA1c Rate**

| Quality Indicators | CO Medicaid | RMHP | CO Access | PCPP | FFS |
|---|---|---|---|---|---|
| Final Sample Size | 571 | 142 | 140 | 142 | 147 |
| Received Two HbA1c | 31.5% | 37.3% | 43.6% | 29.6% | 16.3% |
| Members in Poor Control | 75.3% | 69.0% | 68.6% | 78.2% | 85.0% |
| Members Who Received Two HbA1c AND in Poor Control | 21.7% (N = 180) | 17.0% (N = 53) | 27.9% (N = 61) | 26.2% (N = 42) | 8.3% (N = 24) |
| Received Education on Diabetes | 46.5% | 61.2% | 60.4% | 45.0% | 25.6% |
| Members Who Received Two HbA1c, in Poor Control AND Received Education on Diabetes | 92.3% (N = 39) | 100.0% (N = 9) | 94.1% (N = 17) | 90.9% (N = 11) | 50.0% (N = 2) |
| Screened for Depression | 27.9% | 32.7% | 36.5% | 21.6% | 23.2% |
| Members Who Received Two HbA1c, in Poor Control AND Were Screened for Depression | 51.3% (N = 39) | 66.7% (N = 9) | 64.7% (N = 17) | 18.2% (N = 11) | 50.0% (N = 2) |

### *Semi-Annual HbA1c*

Overall, 180 out of 571 members (or 31.5 percent) received two HbA1c tests during the measurement period. Colorado Access had the highest rate at 43.6 percent and FFS had the lowest rate at 16.3 percent.

The Colorado Community Health Network Health Disparities Collaborative (CCHN) registry's rate of 44.3 percent for the same measure was higher than the study's overall Medicaid rate of 31.5 percent. The registry represents 3,437 participants served by 11 clinics.

The high percentages of members not receiving the appropriate number of tests recommended by ADA indicate that:

- Providers are not following the ADA guidelines.
- Providers may be focused on HEDIS specifications, which measures only one HbA1c test per year.
- Members may not understand the importance of HbA1c testing, so they are not requesting that the test be completed.
- Members may not be in compliance with their treatment plans.

## Poor HbA1c Control

For the purposes of this study, *poor control* was defined as: (a) there was no HbA1c result during the study year; or (b) there was only one HbA1c result during the study year; or (c) either of the two most recent HbA1c results during the study year was greater than 9.5 percent. Following HEDIS methodology, medical records that could not be located were considered to be valid cases in poor control and were not excluded from the study.

Of concern is the 75.3 percent (430 members) of the study population found to be in poor control. However, of the 180 members who received two HbA1c tests, 21.7 percent were in poor control. This finding reinforces the importance of following the ADA recommendations, since the majority of members who had two HbA1c tests had HbA1c levels below 9.5 percent.

## Diabetes Education

Overall, 46.5 percent of members in poor control received education on diet, exercise, or medication management. The two MCOs had statistically higher results in this area, indicating diabetic education may be a routine part of their case management for members with diabetes.

## Depression Screening

Overall, 27.9 percent of diabetic members in poor control were screened for depression. The MCOs had higher rates of depression screening compared to PCPP and FFS.

Screening for depression in patients with a chronic condition such as diabetes is beneficial, since depression may be contributing to the member's status of being uncontrolled. If depression is left untreated, the provider may perform other activities to improve glycemic control and not achieve the desired results. Providers need to have increased awareness that diabetic patients, especially women, are at a higher risk for depression.

## Key Recommendations

As a follow-up to this study, a remeasurement is proposed in 2005. The MCOs and the Department need to identify and implement interventions prior to the remeasurement period so that the effectiveness of these interventions can be measured.

The ADA website (which can be accessed at *http://www.diabetes.org/education/eduprogram.asp*) identifies facilities in Colorado that have diabetes education programs recognized for excellence. The Department and the health programs should collaborate with community organizations on interventions and education to improve and coordinate outreach efforts.

Providers, health programs, and the Department need to develop a mechanism to identify, track, and monitor diabetic members. This is especially important for the FFS population. The MCOs have diabetes disease management programs but need to evaluate their design to identify opportunities to improve these results.

The health programs may want to consider administering a provider survey to obtain information on the providers' perspectives on ADA's recommendations and to identify barriers to compliance. The Department and the MCOs should continue to emphasize their support of ADA's recommendations.

A standard diabetes flow sheet should be adopted to improve overall documentation of diabetes care. It was noted during medical record review that a limited number of records utilized diabetes flow sheets. Using a flow sheet allows the documentation to be centralized in the chart and serves as a reminder to providers of the patient's status, tests, and required screenings. RMHP's Diabetes Disease Management program has a diabetes flow sheet that could be considered as a model.

The results of this baseline study are intended as a tool to assist the MCOs and the Department in identifying opportunities and meaningful interventions to improve the care provided to diabetic members. Several areas require focused attention by the individual programs and the Department. All programs have the opportunity to improve in all quantifiable measures.

# 3. Background

## Introduction

The Colorado Medicaid Program, administered by the Colorado Department of Health Care and Financing (the Department), utilizes a multi-faceted approach to improving the care of its Medicaid clients through the coordination of quality initiatives meaningful to Colorado's Medicaid population. The Department's Medicaid Quality Improvement Committee (QuIC) is composed of members representing key disciplines integral to the provision of quality care and service to Medicaid clients. QuIC functions as a collaborative workgroup to select study topics, design appropriate study data collection methodology, review results, and identify interventions for future implementation with the goal of improving care. QuIC members represent the following organizations:

- The Department
- Medicaid managed care organizations (MCOs) for Colorado
- Colorado community health care organizations
- HSAG, the External Quality Review Organization (EQRO) for the Colorado Medicaid Program, which performs specific quality improvement activities on behalf of the Department

The purpose of the 2002 study was to provide baseline data on the management of the Colorado Medicaid adult diabetic population. As of June 30, 2002, Colorado Medicaid had 126,222 members between the ages of 18 and 75 years of age. During the review period (July 1, 2001 through June 30, 2002), 7,484 Medicaid members were identified through claims/encounter or pharmacy data as having diabetes.

In 2002, there were an estimated 17 million Americans or 6.2 percent of the population with diabetes. However, only 11.1 million were diagnosed with the disease,[3-1] leaving 5.9 million afflicted Americans undiagnosed. Diabetes is a major cause of morbidity and ranks sixth among the leading causes of death in the United States across all races, ages, and both genders. The Colorado Department of Public Health and Environment (CDPHE) reports diabetes in 4.3 percent of the overall Colorado population. However, this proportion rises to 5.9 percent for those with annual household incomes less than $25,000; and it is as high as 6.2 percent for the Hispanic population. In 1999, diabetes was the eighth leading cause of death in Colorado.[3-2]

Diabetes is a metabolic disorder that causes a shortage of the hormone insulin or a decreased ability to use insulin. Insulin allows glucose (sugar) to enter the cells and be converted to energy. Without sufficient insulin or ability to use insulin, the level of glucose in the blood rises abnormally high. If the blood sugar level remains high, complications and disability can result. Patients with uncontrolled diabetes have a higher risk of developing long-term complications, such as retinopathy, cardiovascular disease, stroke, nephropathy, peripheral vascular disease, and neuropathies. Diabetes is the leading cause for new blindness and end-stage renal disease and also causes non-traumatic lower limb amputation. Diabetics are two to four times more likely to have heart disease or a stroke than are non-diabetics. In 1999, Colorado had 357 new cases of end-stage renal disease, an estimated 200 new cases of blindness, and more than 37,000 hospitalizations. Of these hospitalizations, 9,800 were for major cardiovascular disease, more than 600 were for lower limb amputations, and 1700 were for acute hypoglycemia.[3-3]

In order to address the prevalence of these health complications, successful diabetes management programs often include regular delivery of self-management education to diabetics. Studies have shown self-management education to have a positive short-term effect on glycemic control, which can minimize the occurrence of complications. Furthermore, there has been an emphasis on recognizing the link between diabetes and depression. Individuals who are diabetic and depressed have been shown to have poor metabolic control, poor diet, and more difficulty adhering to a medication regimen, which can affect their ability to manage their disease and increase the likelihood of complications. A higher prevalence of complications can only increase hospitalizations and health care expenditures.

Direct and indirect costs of this disease have been estimated at $100 billion annually. In 1997, the average health care cost for a person *with* diabetes was $10,071, while the cost for a person *without* diabetes was $2,699.[3-4] Colorado's estimated expenditure in 1997 for care related to diabetes was $1.4 billion.

Complications can be reduced or prevented when diabetes is diagnosed and managed. Patient behavior has a significant impact on how well diabetes is controlled. Research has shown HbA1c or A1C as the best single indicator of glycemic control in diabetes. The American Diabetes Association (ADA) expert consensus states, "Perform the A1C test at least two times a year in patients who are meeting treatment goals (and who have stable glycemic control) and quarterly in patients whose therapy has changed or who are not meeting glycemic goals."[3-5] ADA now recommends the target for HbA1c level as less than or equal to 7.0 percent. For every 1 percent reduction in results of an HbA1c blood test, there is a 15-percent to 30-percent reduction of risk for developing complications from the disease.

## Study Goal

The goal of this study was to determine to what extent diabetes care in the Colorado Medicaid population meets key components of the latest standards of care. The emphasis was on gaining an understanding of how well Colorado Medicaid providers have adopted the ADA's recommendation on HbA1c testing; and if Medicaid members in poor control receive education on diet, exercise, or medication management, and are screened for depression.

The study included the Colorado Medicaid Primary Care Physician Program (PCPP); unassigned fee-for-service (FFS) program; and the Colorado Medicaid program, consisting of the MCOs, Colorado Access, and Rocky Mountain Health Plans (RMHP).

## Study Objectives

There were three main objectives of the study:

- To provide a baseline assessment for semi-annual HbA1c testing as recommended by ADA for each Colorado Medicaid program.
- To identify the number of Colorado Medicaid diabetic clients in poor control who have received diabetes education and screening for depression.
- To provide the Department with an overall assessment of diabetes care rendered by the Colorado Medicaid health care program, including plan-to-plan and program-to-program comparisons.

# Literature Review

## Semi-Annual HbA1c Testing

The HbA1c test (hemoglobin A1C test or glycosylated hemoglobin test) is a lab test that reveals average blood glucose over a period of two to three months. The level of HbA1c is a leading indicator of many diabetes complications and is therefore a key indicator in any diabetes quality-of-care study. The Diabetes Control and Complications Trial (DCCT) and the United Kingdom Prospective Diabetes Study (UKPDS), two landmark studies related to diabetes, revealed the significance of glycemic control and the impact of glycemic control on reduction of microvascular complications.[3-6] These studies were instrumental in the development of diabetes care guidelines currently recommended by ADA.

## Semi-Annual HbA1c Poor Control

In 2001, 57.7 percent of persons with diabetes in Colorado Medicaid had poor glycemic control, with HbA1c levels greater than 9.5 percent. [3-7] The 57.7 percent rate cannot be directly compared with the 66.1 percent rate reported in this focused study, because a different methodology was used. HEDIS has defined *poor HbA1c control* as either: (a) the most recent HbA1c result is greater than 9.5 percent; or (b) if no results were found during the measurement year, it is considered to be greater than 9.5 percent.[3-8] Patients with HbA1c levels greater than 9.5 percent are considered not in control and at higher risk for developing complications.

When looking at HbA1c results at the individual patient level, it is valuable to compare results to ADA's goal of 7.0 percent. This information is useful to identify and implement quality improvement initiatives to improve outcomes. A survey completed by the American Association of Diabetes Educators found that only 24 percent of diabetics knew their HbA1c level.[3-9]

## Diabetes Education

Successful diabetes management programs also include regular delivery of self-management education by diabetes educators. Medical nutrition therapy focusing on the reduction of saturated fat and cholesterol intake, weight loss, and increased physical activity has been shown to improve the lipid profile in patients with diabetes.[3-10] Research has shown a positive correlation between counseling on both diet and physical activity, improving glycemic control and quality of life.[3-11] There has been a change in the approach to diabetes self-management training in the 1990s that emphasizes collaboration and empowerment. Studies have shown this to have a positive short-term effect on glycemic control. To have a long-term effect, knowledge needs to be incorporated with behavioral changes in attitude and motivation.[3-12] In Colorado, 60 percent of persons with diabetes have taken a class in managing diabetes.[3-13] This rate meets the Healthy People 2010 objective of 60 percent of diabetics receiving formal education on diabetes management.

---

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

## Screening for Depression

In the past 15 years, there has been an emphasis on recognizing the link between diabetes and depression. Major depression has well-recognized adverse effects on physical and psychological functioning. There is evidence showing that individuals who are diabetic and depressed have poor metabolic control, poor diet, and difficulty adhering to a medication regimen, resulting in decreased quality of life. Depression affects the individual's capacity for self-management in the areas of diet, exercise, medication, smoking cessation programs, and abstinence from substance abuse, all of which have a significant impact on good diabetes management.

Prevalence of depression in diabetics is three to four times that of the general population, with up to 30 percent of diabetics affected.[3-14] Several articles have identified women as twice as likely to develop depression as men.[3-15] One study found that individuals with diabetes should be considered high risk and be screened for depression if they also: (a) are unmarried, (b) are less than 65 years of age, (c) report poor physical or mental health, or (d) are women.[3-16] Studies conducted by HSAG for other state Medicaid programs have revealed that two out of three cases of depression in diabetic individuals are left untreated by primary care physicians. Since the primary care physician may have the highest degree of contact with diabetic patients, these physicians can positively impact diabetes care by screening for depression.[3-17]

## Methodology and Sampling

All members with diabetes were identified who were 18 through 75 years of age and continuously enrolled from July 1, 2001 through June 30, 2002 (with no more than one 30-day break in enrollment, and still enrolled as of June 30, 2002). Claims/encounter data or pharmacy data were used to identify all diabetic members, following standards listed for Comprehensive Diabetes Care in the *HEDIS® 2002 Technical Specifications*.[4-1] The eligible population sizes were identified as the following:

**Table 4-1—Colorado Medicaid 2002 Diabetes Quality-of-Care Focused Study: Summary of Records**

| Summary | CO Medicaid | RMHP | CO Access | PCPP | FFS |
|---|---|---|---|---|---|
| Eligible Population | 7,484 | 774 | 962 | 2,652 | 3,096 |
| Original Sample Size | 600 | 150 | 150 | 150 | 150 |
| Valid Exclusions* | 29 | 8 | 10 | 8 | 3 |
| Final Sample Size | 571 | 142 | 140 | 142 | 147 |

* Valid exclusions included gestational diabetes, steroid-induced diabetes, and members who did not have diabetes. These members were excluded from the study.

Colorado Access and RMHP were responsible for identifying their total eligible diabetic populations and submitting the data to HSAG. For PCPP and unassigned FFS, HSAG identified the total population through the Services Tracking, Analysis and Reporting System (STARS) database. STARS is the repository for the State's PCPP and FFS claims and encounter data.

A sample of 150 diabetic members was randomly selected from each MCO, PCPP and FFS, for a total sample size of 600 members. The sample size had a margin of error at the health program level of ± 8.0 percent, and at the statewide level of ± 3.6 percent, with a 95-percent confidence level. Based on the actual final sample sizes obtained, the rates for the MCOs, PCPP, and FFS were within a margin of error of ± 8.6 percent, with a statewide level of ± 4.1 percent.

For the purposes of this study, *poor control* was defined on the Quality Improvement Activity (QIA) form for Quantifiable Measure #2 (Semi-annual HbA1c Poor Control) as either no HbA1c results in the study year, or only one HbA1c result in the study year, or either one of the two of the most recent HbA1c results during the study year greater than 9.5 percent.

Appendix A provides details about the QIA form and Appendix D about the data specifications.

## Medical Record Review

For this study, all 600 sample cases required medical record review. HSAG, the Department, and the MCOs collaborated on the design of the data abstraction tool, following components of the ADA Guidelines and *HEDIS® 2002 Technical Specifications*.[4-2] The tool was field-tested and the instructions were modified, after feedback was received from the Department.

Each provider location was contacted by telephone. The purpose was to introduce the study, verify the address and fax number, and clarify that the request was imminent. For providers with fewer than 10 records per location, the medical records were requested by fax or mail by traceable carrier. For providers with 10 or more records, an on-site review was scheduled by phone and confirmed by letter. A reminder call was made 48 hours prior to the appointment and confirmation was requested regarding medical record availability.

Medical record abstraction was performed by HSAG. In accordance with federal confidentiality guidelines, all of the abstractors signed confidentiality agreements and attended a training on maintaining confidential information. Each of the abstractors had private work areas and all medical records were kept in locked file cabinets before and after abstraction.

Although HSAG abstracted the data from the medical records for the MCOs, PCPP, and FFS, the MCOs were responsible for procuring and submitting the medical records to HSAG. MCO providers had 30 days to submit medical records. PCPP and FFS providers had 14 days to submit medical records. Requests were faxed or mailed to all providers. Follow-up calls were made for medical records not received within the time frame defined and a second request was faxed or mailed. For the MCOs, Colorado Access and RMHP assisted with contacting providers when medical records were not found. Following HEDIS methodology, medical records that could not be located were considered to be valid cases in poor control, and were not excluded from the study.

The study design included three valid exclusions for which the records were removed from the analytical sample. To use the exclusion of *not diabetic*, the medical record documentation could not indicate a diagnosis of diabetes. For gestational diabetes and steroid-induced diabetes, documentation by the physician was required in the medical record.

Appendix B includes the medical record review tool and abstraction instructions.

## Rater-to-Standard (RTS) Training and Testing

Medical records were abstracted by trained and experienced HSAG abstractors. HSAG uses multiple approaches to ensure the accuracy of the information abstracted. Initially, HSAG conducts an intensive training session for abstractors and assures that each abstractor receives and learns the information in a standardized manner. Validation during training using RTS achieved a 95-percent reliability rate for all abstractors before the start of the project. HSAG also uses Continuous Quality Improvement (CQI) throughout the project, via RTS, utilizing feedback and educational approaches that involve the data abstractors concurrently throughout the abstraction process. Cases are re-abstracted at various "check points" throughout the abstraction period and any discrepancies are discussed with the abstractor and resolved immediately. This method monitors chart abstraction while it is occurring, identifies any problems early on, and provides immediate feedback and re-training.

Abstraction was completed in Colorado for all on-site reviews and in Arizona for all mail and fax reviews. During the abstraction process, 15.5 percent of medical records were validated by RTS over all abstractors. At the end of the project, all abstractors maintained a 100-percent reliability rate. Each state completed data entry in separate electronic databases. The final validation step occurred when HSAG performed comprehensive edits on all data elements to compare the two databases and then electronically downloaded the information into Statistical Analysis Software (SAS) for analysis. In addition to examining the frequency distributions and valid range of individual variables, HSAG validated all logical field-to-field comparisons that existed in the data set.

## Caveats and Limitations

Valid exclusions were not replaced by oversampling. Therefore, rates presented in this report may have wide confidence intervals. For example, a statewide rate of 60.0 percent based on 571 valid cases will have a ± 4.1 percent associated with that rate, meaning the true rate will be somewhere between 55.9 percent and 64.1 percent. The ability to generalize the sample results to the entire eligible population decreases as the sample sizes decrease. Confidence intervals have been provided in this report to aide in the interpretation of the results.

### *Medical Record Review*

- Medicaid members tend to be a mobile population. Members who frequently switch primary care physicians can cause medical records to be fragmented. The result is often incomplete or missing medical records rather than a lack of care.
- Services may have been provided in the physician's office, but not documented in the medical record.
- Medical records that could not be located remained in the study and counted against the MCOs, PCPP, FFS, and the aggregate state rates. Overall, 155 of the 571 medical records in the final sample could not be located.

### *Administrative Data*

- Providers who are not paid on a fee-for-service basis (e.g., capitated providers) may render services, but may neglect to submit the encounter to the managed care plan.
- Incorrect administrative provider files or the inability to link sample cases with their appropriate providers may have precluded the location of the required medical record documentation.

### *Identification of Members with Diabetes in the FFS Population*

The population of diabetic members was identified using the HEDIS 2002 technical specifications, which calls for the use of both claims/encounter data and pharmacy data. A member could be identified as diabetic if he or she:

- Had two encounters with different dates of service in an ambulatory setting or non-acute inpatient setting with a diagnosis of diabetes.
- Had one encounter in an acute inpatient or emergency room setting.
- Was dispensed insulin or oral hypoglycemics or antihyperglycemics.

Although members enrolled in Colorado Access, RMHP, or PCPP had assigned primary care physicians, the FFS population did not have assigned primary care physicians. This seemingly slight difference meant that pharmacy data could not be solely used to identify FFS members with diabetes. In other words, it was difficult, at best, to determine where to find medical records when FFS members only had a pharmacy claim for a diabetic medication (and no other office visits). Hence, for the FFS population, pharmacy data could not be used.

## Demographics of Sample

The final sample size for this study consisted of 571 members. The mean age for the sample was 57.7 years. Females comprised 66.7 percent of the sample, and this was very consistent across programs. FFS had a slightly lower proportion of females (61.9 percent) and a sample of older members (who had a mean age of 61.8 years, with 42.9 percent in the 65-to-74-year age group).

**Table 5-1—Colorado Medicaid 2002 Diabetes Quality-of-Care Focused Study: Demographics of Sample, by Age**

| Age | CO Medicaid | RMHP | CO Access | PCPP | FFS |
|---|---|---|---|---|---|
| Mean Age | 57.7 | 55.4 | 55.1 | 58.2 | 61.8 |
| 18–44 | 111<br>19.4% | 36<br>25.4% | 35<br>25.0% | 23<br>16.2% | 17<br>11.6% |
| 45–64 | 268<br>46.9% | 64<br>45.1% | 71<br>50.7% | 72<br>50.7% | 61<br>41.5% |
| 65–74 | 182<br>31.9% | 41<br>28.9% | 33<br>23.6% | 45<br>31.7% | 63<br>42.9% |
| 75 + | 10<br>1.8% | 1<br>0.7% | 1<br>0.7% | 2<br>1.4% | 6<br>4.1% |
| Total | 571<br>100% | 142<br>100% | 140<br>100% | 142<br>100% | 147<br>100% |

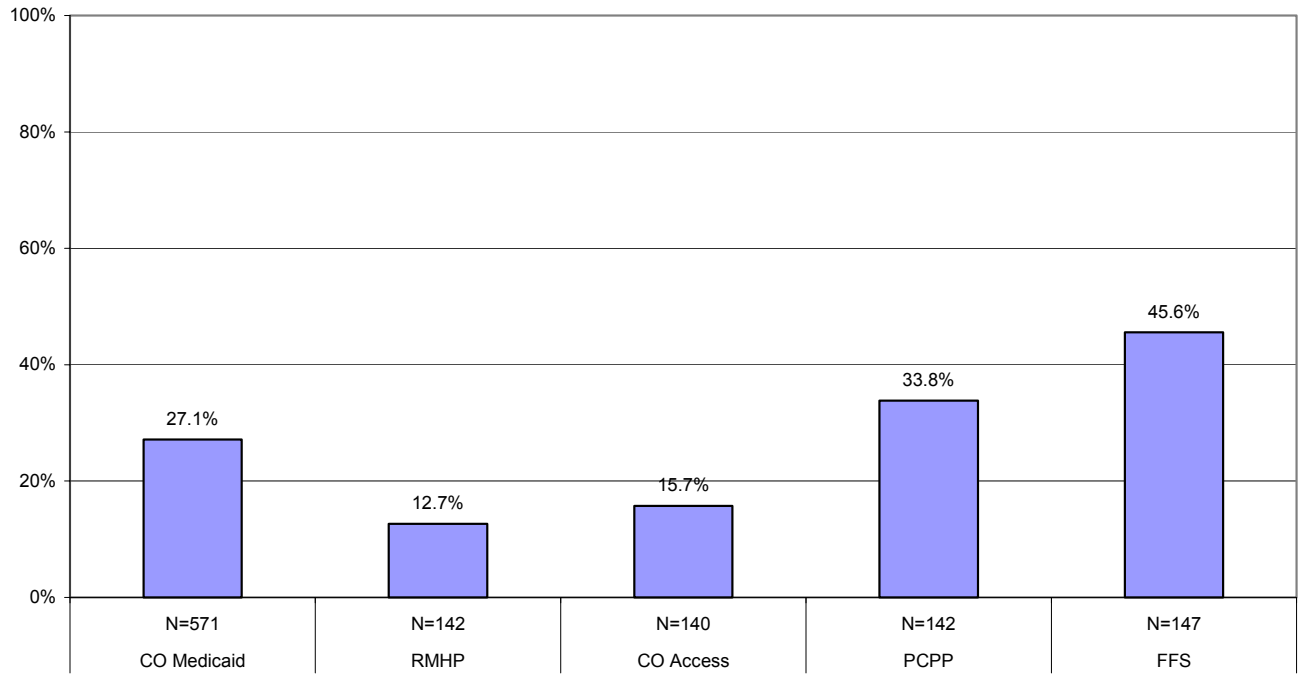
**Table 5-2—Colorado Medicaid 2002 Diabetes Quality-of-Care Focused Study: Demographics of Sample, by Gender**

| Gender | CO Medicaid | RMHP | CO Access | PCPP | FFS |
|---|---|---|---|---|---|
| Female | 381<br>66.7% | 98<br>69.0% | 93<br>66.4% | 99<br>69.7% | 91<br>61.9% |
| Male | 190<br>33.3% | 44<br>31.0% | 47<br>33.6% | 43<br>30.3% | 56<br>38.1% |
| Total | 571<br>100% | 142<br>100% | 140<br>100% | 142<br>100% | 147<br>100% |

## Missing Medical Records

Figure 5-1 shows *missing* medical records by program.

**Figure 5-1—Colorado Medicaid 2002 Diabetes Quality-of-Care Focused Study: Missing Medical Records**




*Note:* Medical records were considered *missing* for any of the following reasons: (a) "not found by physician or health plan," (b) "no response from physician," (c) "no data in medical record in review year," or (d) "physician refused to release record."

Overall, 27.1 percent of the medical records requested fell into the *missing* category. RMHP and CO Access had the lowest rates of missing records (12.7 percent and 15.7 percent, respectively). The rate of missing records was 33.8 percent for PCPP and 45.6 percent for FFS.

Members whose medical records were missing were scored as having no HbA1c tests during the study period (i.e., automatically in poor control). Also, they were scored as receiving neither diabetes education nor screening for depression.

Members in the FFS population do not have primary care physicians and may, in fact, see more than one physician during the year. This factor made medical record retrieval dependent on the accuracy of the claims submitted, as well as that of the provider information. Medical records that could not be located remained in the denominator and negatively impacted the FFS rates. Additionally, the selected FFS members had different population characteristics (e.g., FFS had a larger proportion of older males) than the MCOs and PCPP. Low FFS rates may be due to the different population characteristics, the impact of "missing" records, or a lack of services provided for the selected FFS members.

## Semi-Annual HbA1c Rate

Table 5-3 shows all Medicaid diabetic members between 18 and 75 years of age and the number of HbA1c tests performed in the study year (Quantifiable Measure #1).

**Table 5-3—Colorado Medicaid 2002**
**Diabetes Quality-of-Care Focused Study:**
**Number of HbA1c Tests**

| Number of HbA1c Tests | CO Medicaid | RMHP | CO Access | PCPP | FFS |
|---|---|---|---|---|---|
| 0 | 267<br>46.8% | 43<br>30.3% | 44<br>31.4% | 70<br>49.3% | 110<br>74.8% |
| 1 | 124<br>21.7% | 46<br>32.4% | 35<br>25.0% | 30<br>21.1% | 13<br>8.9% |
| 2 | 180<br>31.5% | 53<br>37.3% | 61<br>43.6% | 42<br>29.6% | 24<br>16.3% |
| Total | 571<br>100% | 142<br>100% | 140<br>100% | 142<br>100% | 147<br>100% |

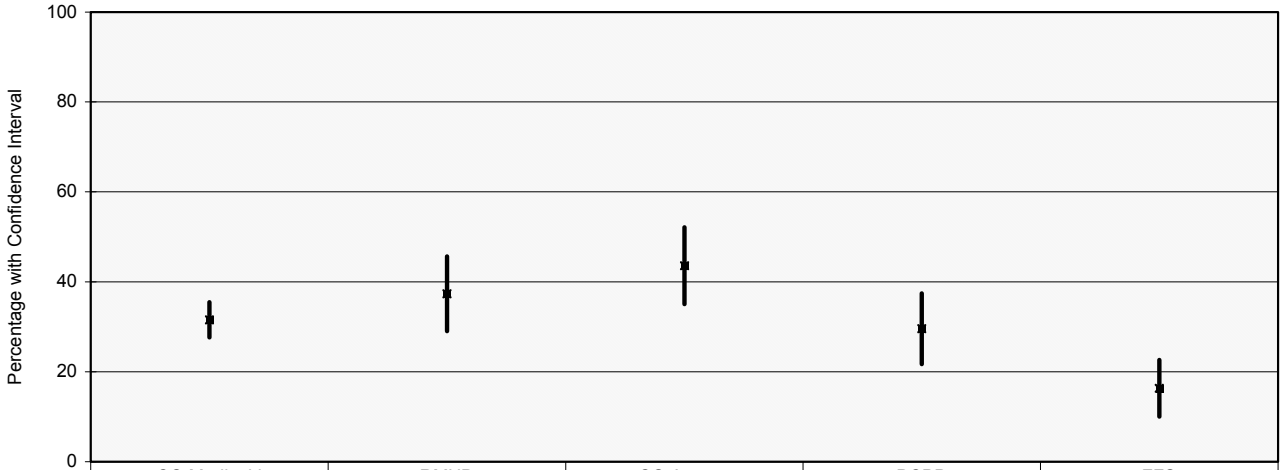
There were 180 members who had at least two HbA1c tests completed in the one-year study period. This gives an overall rate of 31.5 percent (with a weighted rate of 26.7 percent when applied to the full population of 7,484). The range across programs went from a high of 43.6 percent for CO Access to a low of 16.3 percent for FFS. This is a lower rate of compliance than that seen in data from the Colorado Community Health Network Health Disparities Collaborative registry. The registry data show 44.3 percent of their sample having at least two HbA1c tests completed during a year. The registry contains data on 3,437 participants served by 11 clinics.

Table 5-3 shows 21.7 percent of the members receiving one HbA1c test during the study period. FFS had the lowest rate at 8.9 percent. The rate for members receiving no HbA1c testing during the year was 46.8 percent. RMHP and CO Access had the lowest rates (30.3 percent and 31.4 percent, respectively). PCPP had a rate of 49.3 percent, and 74.8 percent of FFS members received no HbA1c tests during the study year.

Figure 5-2 shows the rates for two HbA1c tests and the 95-percent confidence intervals for rates of compliance (two HbA1c tests during the year) by program.

For the total sample, the rate equals 31.5 percent ± 3.9 percent. The widest interval was for CO Access (43.6 percent ± 8.5 percent).

**Figure 5-2—Colorado Medicaid 2002**
**Diabetes Quality-of-Care Focused Study:**
**Percentage of Members Who Received Two HbA1c Tests**




| | CO Medicaid | RMHP | CO Access | PCPP | FFS |
|---|---|---|---|---|---|
| Rate | 31.5 | 37.3 | 43.6 | 29.6 | 16.3 |
| Upper Limit | 35.4 | 45.6 | 52.1 | 37.4 | 22.6 |
| Lower Limit | 27.6 | 29.0 | 35.0 | 21.7 | 10.0 |

The FFS rate was significantly lower than the rates for RMHP and CO Access. This means there was a true difference in the percentage of diabetic members who received two HbA1c tests based on enrollment in FFS versus the MCOs, or PCPP. It was not determined whether the differences in rates were due to the different population characteristics (e.g., the FFS members had a larger proportion of older males), the impact of "missing" records, or a lack of services provided for the selected FFS members.

Table 5-4 shows the number of HbA1c tests by gender.

**Table 5-4—Colorado Medicaid 2002 Diabetes Quality-of-Care Focused Study: Number of HbA1c Tests, by Gender**

| Gender | 0 HbA1c tests | 1 HbA1c test | 2 HbA1c tests | Total |
|---|---|---|---|---|
| Female | 162<br>42.5% | 84<br>22.0% | 135<br>35.4% | 381<br>100% |
| Male | 105<br>55.3% | 40<br>21.1% | 45<br>23.7% | 190<br>100% |
| Total | 267 | 124 | 180 | 571 |

There was a significant difference between males and females in the number of HbA1c tests received during the study year (p-value < 0.01). Of the 190 males in the sample, 55.3 percent received zero tests (compared with 42.5 percent of the females). For members who received one test, the proportions were approximately equal (21.1 percent of males and 22.0 percent of females). However, 35.4 percent of the females received two tests, in contrast with 23.7 percent of the males.

## HbA1c Results

Table 5-5 and Table 5-6 show the ranges of HbA1c results for Medicaid diabetic members who had either one or two tests.

**Table 5-5—Colorado Medicaid 2002**
**Diabetes Quality-of-Care Focused Study:**
**HbA1c Results for Patients With One Test**

| HbA1c Results | CO Medicaid | RMHP | CO Access | PCPP | FFS |
|---|---|---|---|---|---|
| < 7.0% | 43<br>34.7% | 15<br>32.6% | 16<br>45.7% | 5<br>16.7% | 7<br>53.9% |
| 7.0%–9.5% | 52<br>41.9% | 23<br>50.0% | 12<br>34.3% | 12<br>40.0% | 5<br>38.5% |
| > 9.5% | 29<br>23.4% | 8<br>17.4% | 7<br>20.0% | 13<br>43.3% | 1<br>7.7% |
| Total | 124<br>100% | 46<br>100% | 35<br>100% | 30<br>100% | 13<br>100% |

**Table 5-6—Colorado Medicaid 2002**
**Diabetes Quality-of-Care Focused Study:**
**HbA1c Results for Patients With Two Tests**

| HbA1c Results | CO Medicaid | RMHP | CO Access | PCPP | FFS |
|---|---|---|---|---|---|
| < 7.0% | 52<br>28.9% | 19<br>35.8% | 14<br>23.0% | 11<br>26.2% | 8<br>33.3% |
| 7.0%–9.5% | 89<br>49.4% | 25<br>47.2% | 30<br>49.2% | 20<br>47.6% | 14<br>58.3% |
| > 9.5% | 39<br>21.7% | 9<br>17.0% | 17<br>27.8% | 11<br>26.2% | 2<br>8.4% |
| Total | 180<br>100% | 53<br>100% | 61<br>100% | 42<br>100% | 24<br>100% |

*Note:* For those with two tests, the higher of the two results was used for this table.

There were no statistical differences between HbA1c levels of members who had only one test versus those members who had two tests. The mean HbA1c levels (not shown) for those with one test and those with two tests were 8.2 percent and 8.3 percent, respectively.

## Semi-Annual HbA1c Poor Control

Table 5-7 shows the number of diabetic Medicaid clients with HbA1c in poor control. *Poor control* for this measure was defined as: (a) there were no HbA1c results in the study year; or (b) there was only one HbA1c result in the study year; or (c) either of the two most recent HbA1c results during the study year was greater than 9.5 percent (Quantifiable Measure #2).

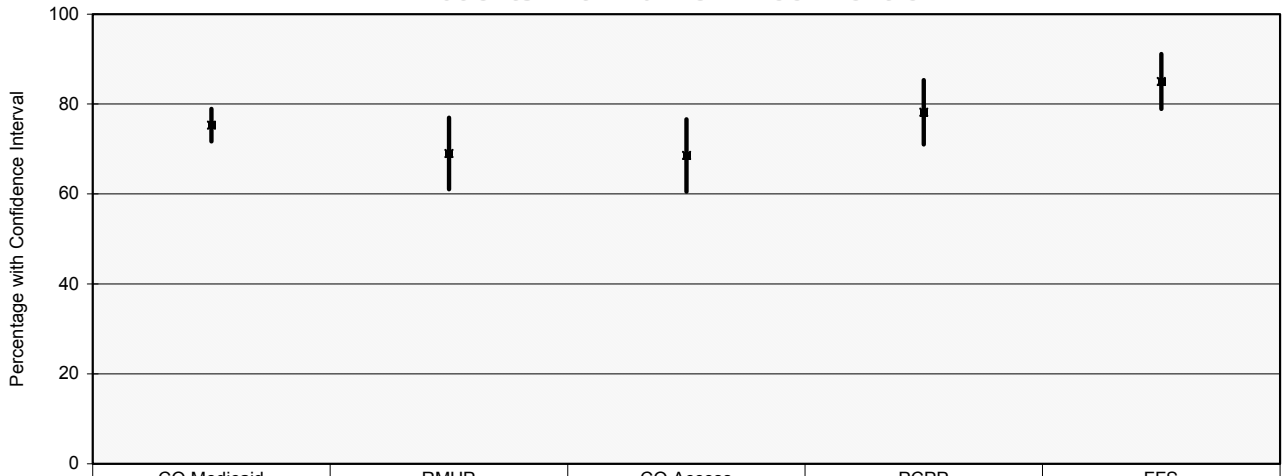
**Table 5-7—Colorado Medicaid 2002**
**Diabetes Quality-of-Care Focused Study:**
**All Patients With HbA1c in Poor Control**

| All With HbA1c in Poor Control | CO Medicaid | RMHP | CO Access | PCPP | FFS |
|---|---|---|---|---|---|
| All with HbA1c in poor control | 430 | 98 | 96 | 111 | 125 |
| Total | 571 | 142 | 140 | 142 | 147 |
| Rate | 75.3% | 69.0% | 68.6% | 78.2% | 85.0% |

There were 430 members with HbA1c in poor control during the one-year study period. This gives an overall rate of 75.3 percent (with a weighted rate of 78.8 percent when applied to the full population of 7,484). The range across programs went from a low of 68.6 percent for CO Access to a high of 85.0 percent for FFS.

Figure 5-3 shows the rates for two HbA1c tests and the 95-percent confidence intervals for rates of members in poor control during the study year, by program.

**Figure 5-3—Colorado Medicaid 2002 Diabetes Quality-of-Care Focused Study: All Patients With HbA1c in Poor Control**




| | CO Medicaid | RMHP | CO Access | PCPP | FFS |
|---|---|---|---|---|---|
| Rate | 75.3 | 69.0 | 68.6 | 78.2 | 85.0 |
| Upper Limit | 78.9 | 77.0 | 76.6 | 85.3 | 91.1 |
| Lower Limit | 71.7 | 61.1 | 60.5 | 71.0 | 78.9 |

For the total sample, the rate equals 75.3 percent ± 3.6 percent. The widest interval was for CO Access (68.6 percent ± 8.0 percent). FFS was significantly higher than RMHP and CO Access. It should be noted that, for this measure, higher rates indicate poorer performance.

This means there was a true difference in the percentage of diabetic members who were in poor control based on enrollment in FFS versus the MCOs. It was not determined whether the differences in rates were due to the different population characteristics (e.g., the FFS members had a larger proportion of older males), the impact of "missing" records, or a lack of services provided for the selected FFS members.

Table 5-8 shows results for members **who had two tests**, with either of the two most recent HbA1c results during the study year greater than 9.5 percent (Quantifiable Measure #2).

**Table 5-8—Colorado Medicaid 2002**
**Diabetes Quality-of-Care Focused Study:**
**Patients With Two Tests and HbA1c in Poor Control**

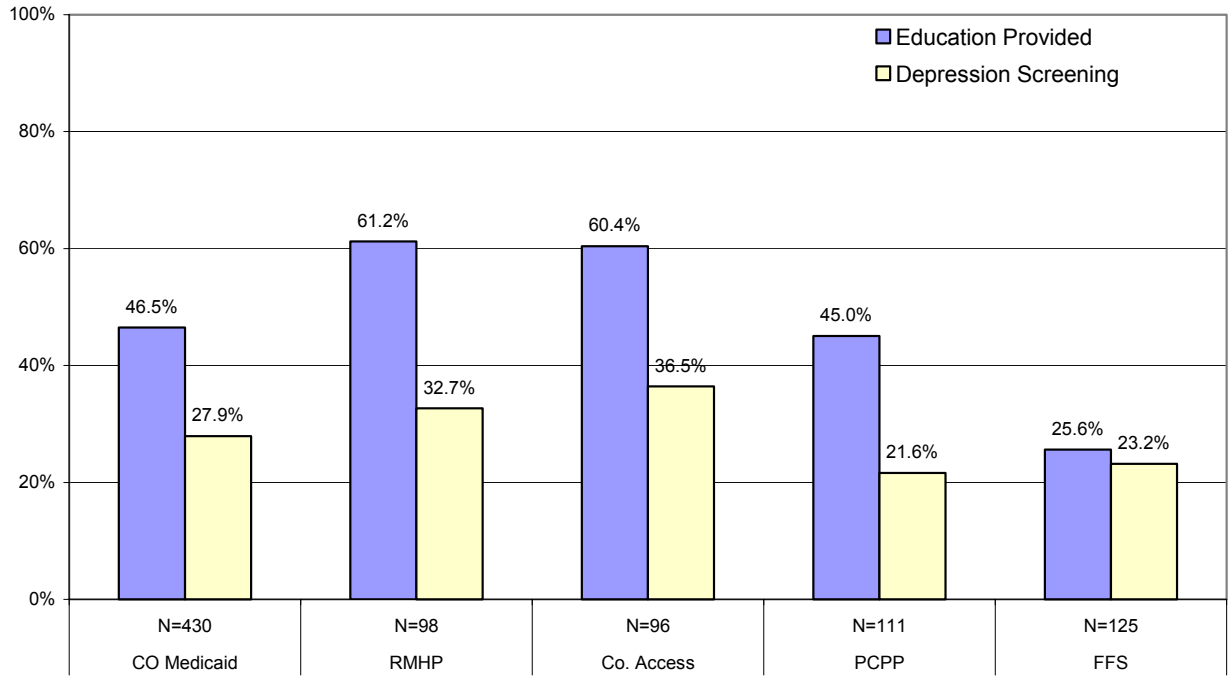
| Semi-Annual HbA1c in Poor Control | CO Medicaid | RMHP | CO Access | PCPP | FFS |
|---|---|---|---|---|---|
| Semi-annual HbA1c in poor control | 39 | 9 | 17 | 11 | 2 |
| Diabetics with 2 or more HbA1c tests in study year | 180 | 53 | 61 | 42 | 24 |
| Rate | 21.7% | 17.0% | 27.9% | 26.2% | 8.3% |
| Confidence Interval | ± 6.0% | ± 10.1% | ± 11.3% | ± 13.3% | ± 11.1% |

Overall, 21.7 percent (39 members) who had two HbA1c tests were in poor control. Although the numbers may be small for individual programs, the overall rate suggests that persons who receive two tests may be less likely to be in poor control than those who receive one test or no tests.

## Diabetes Education and Screening for Depression for Patients With Poor HbA1c Control

Figure 5-4 shows the total members in poor control who received diabetes education and/or screening for depression (Quantifiable Measures #3 and #4).

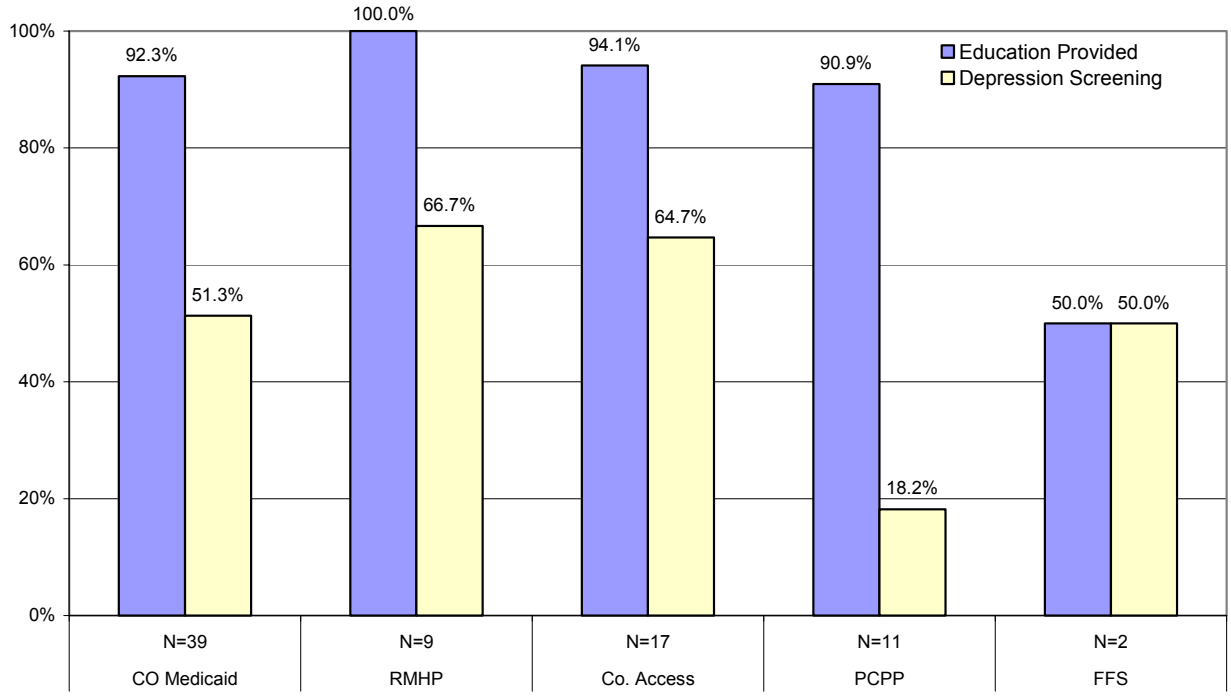
**Figure 5-4—Colorado Medicaid 2002**
**Diabetes Quality-of-Care Focused Study:**
**Education and Depression Screening for All Patients With HbA1c in Poor Control**




Of the patients with HbA1c in poor control (all of whom should have received diabetes education and a screening for depression), 46.5 percent received diabetes education and 27.9 percent received screening for depression. Across programs, with the exception of FFS, members were much more likely (1.7 times to 2.1 times) to receive diabetes education than they were to receive screening for depression. RMHP and CO Access show a remarkable similarity in their service delivery pattern for education and screening.

Figure 5-5 shows the members in poor control from the group **that received two HbA1c tests** during the study year (Quantifiable Measures #3 and #4).

**Figure 5-5—Colorado Medicaid 2002**
**Diabetes Quality-of-Care Focused Study:**
**Education and Depression Screening for Patients With Two Tests and HbA1c in Poor Control**




For patients who had two Hba1c tests and were in poor control, 92.3 percent received diabetes education, and 51.3 percent received screening for depression. Across programs, with the exception of FFS, members were much more likely to receive diabetes education than they were to receive screening for depression. In this sample as well, RMHP and CO Access are similar in their service delivery pattern for education and screening.

**Caution should be exercised in interpreting the results shown in this table, due to the small sample sizes.**

# 6. Conclusions and Recommendations

## Program-Specific Conclusions and Recommendations

### *Rocky Mountain Health Plans*

RMHP's Quality Improvement Project Plan (dated September 28, 2001) identifies diabetes as one of its priorities for quality improvement initiatives. Specific goals and interventions are defined to improve the care received by plan members. RMHP has a comprehensive disease management program for diabetes that is available on-line at *http://www.rmhmo.org*. RMHP Disease State Guidelines incorporate ADA's recommendations.

Resources for members and providers in the management of diabetes include decision support tools, such as a list of in-network organizations for diabetes education and the use of a diabetes registry to track the population and identify needs. Member outreach is done through the use of reminders and by newsletter. At least annually, diabetes is discussed in one of the newsletters directed to the member and provider. A chronic disease case manager is available for all diabetic members to contact directly.

#### Semi-Annual HbA1c Rate

The ADA's guidelines for having two HbA1c tests in a year were met by 53 of the 142 members, or 37.3 percent of the time. Following HEDIS specifications, 69.7 percent received at least one HbA1c test. Differences in HbA1c levels between those who had one test and those who had two tests were not statistically significant.

#### Recommendations to Improve Semi-Annual HbA1c Testing

- Use the members' quarterly newsletter and follow-up reminders to educate members on glycemic control and HbA1c testing.
- Survey the providers on utilization of the current tools available and on ADA's guidelines. The purpose would be to find out why providers are not following ADA guidelines and to identify barriers.

#### Semi-Annual HbA1c Poor Control

The results showed 69.0 percent (98 out of 142 members) were in poor control. However, of the 53 members who received two HbA1c tests, 17.0 percent (nine members) were in poor control (i.e., had a level above 9.5 percent). For the 46 members who received only one test, 17.4 percent (eight members) had a level above 9.5 percent. Conversely, most members who had at least one HbA1c test had a level below 9.5 percent.

#### Recommendations to Reduce Poor HbA1c Control

- Collaborate with the provider community to redesign the reminders and incorporate information on the status of members regarding diabetes indicators.
- Consider designing and implementing the use of provider profiles for performance feedback regarding diabetes care rendered.
- Continue annual distribution of practice guidelines.

### Education and Screening for Patients in Poor Control

Providers at RMHP do not routinely screen for depression, especially for diabetes patients in poor control. Members in poor control received diabetes education 61.2 percent of the time, though only 32.7 percent of members in poor control had screening for depression.

### Recommendations to Improve Diabetes Education and Screening for Depression

- Consider incorporating depression-screening guidelines as part of the diabetes guidelines at the time of practice guideline review.
- Utilize the current tools, such as the newsletter and continuing medical education (CME) program, to communicate the increased risk of depression in patients with chronic conditions such as diabetes.

## Colorado Access

In its 2001 Quality Improvement Program Evaluation (August 23, 2002), Colorado Access identifies diabetes as an area of importance and points out multiple initiatives in place to improve outcomes. Colorado Access adopted the Diabetes Guidelines developed by the Colorado Clinical Guidelines Collaborative (CCGC). These guidelines are distributed to the provider community with the diabetes provider profiles. CCGC guidelines support ADA's recommendations for HbA1c testing and education and indicate that a referral to a Mental Health Specialist may be required. In November 2000, provider profiling was initiated and was well received by the provider community. The profile identifies all diabetic members and the most recent service for specific categories. It includes the provider's overall rate for each of the following tests: HbA1c, LDL-C, microalbumin screening, urinalysis, and eye exams. Provider performance for each indicator is compared to the primary care network-specific rate and plan-wide rate. Further analysis is recommended to understand why the overall rates of HbA1c testing are low, given the current program of dissemination of diabetes clinical guidelines and direct feedback to the individual provider.

The Colorado Access website is *http://www.coaccess.com*. The member information site was reviewed; however, the provider information section could not be accessed without an ID/password. The member information site includes a CCGC pamphlet titled, *Continuing Care for Your Diabetes–A Guide for Adults*. The section "Your Lab Tests" includes a recommendation that the HbA1c test be done once or twice a year—maybe more or less frequently, as recommended by the doctor. Another section titled, "Make Sure Your Health Care Visit includes…" asks, under blood sugar and hemoglobin A1c, "Are you told what your numbers are and what they mean? Are they below 140 mg/dL and 8% HbA1c?" This communication reflects ADA's previous goal of 8.0 percent.

Care coordinators do outreach and case management for all diabetes patients. There is an annual mailing of health education materials to all diabetic members.

### Semi-Annual HbA1c Rate

The ADA's guidelines for having two HbA1c tests in a year were met by 61 of the 140 members, or 43.6 percent of the time. Following HEDIS specifications, 68.6 percent received at least one HbA1c test. Differences in HbA1c levels between those who had one test and those who had two tests were not statistically significant.

### Recommendations to Improve Semi-Annual HbA1c Testing

- Educate the members on understanding the correlation of daily home blood sugar checks to HbA1c testing. Colorado Access AccuCheck Program promotes the use of the glucometer to check blood sugar daily. The member may not realize that there is a difference between tests. One measures the blood sugar at a specific time and the other looks at results over a two- to three-month period.

- Survey the providers on utilization of the current tools available and on ADA's guidelines. The purpose would be to find out why providers are not following ADA guidelines and to identify barriers. It appears the provider profile reports that began in November 2000 use typical HEDIS specifications that may need to be updated to meet the ADA guideline of two HbA1c tests per year.
- Utilize administrative data to link member status to services or tests required, and send out reminder lists to providers and members.

### Semi-Annual HbA1c Poor Control

The results showed 68.6 percent (96 out of 140 members) were in poor control. However, of the 61 members who received two HbA1c tests, 27.9 percent (17 members) were in poor control (i.e., had a level above 9.5 percent). For the 35 members who received only one test, 20.0 percent (seven members) had a level above 9.5 percent. Conversely, most members who had at least one HbA1c test had a level below 9.5 percent.

### Recommendations to Reduce Poor HbA1c Control

- Continue the use of provider profiles for performance feedback regarding diabetes care rendered. Update provider profiles, if necessary, to reflect the ADA guidelines.
- Work in collaboration with CCGC to update the member pamphlet to reflect the current ADA target goal of HbA1c equal to or less than 7.0 percent.
- Share with QuIC the findings of the interventions used with stratification of members in levels I, II, and III. In these results, include details about what has been successful and what needs improvement.

### Education and Screening for Patients in Poor Control

Providers at CO Access do not routinely screen for depression, especially for diabetes patients in poor control. Members in poor control received diabetes education 60.4 percent of the time, though only 36.5 percent of members in poor control had screening for depression.

### Recommendations to Improve Diabetes Education and Screening for Depression

- Consider incorporating depression-screening guidelines as part of the diabetes guidelines at the time of practice guideline review.
- Utilize the current tools, such as the newsletter and CME program, to communicate the increased risk of depression in patients with chronic conditions such as diabetes.

## Primary Care Physician Program

In 2002, the Department initiated a disease management pilot to improve access to services and quality of care for 250 diabetic members. The pilot design emphasized education and offered tools for self-management.

In the PCPP, a member may select an individual provider, a clinic, or a community clinic responsible for overseeing the member's care. Most Federally Qualified Health Centers (FQHC) are involved in the Diabetes Collaborative, which started approximately four years ago with the goal of delaying or decreasing the complications of diabetes. The emphasis is on education for self-management, clinical decision support, positive delivery system redesign, and the use of clinical information systems and partnerships with community organizations.

Two of the Diabetes Collaborative goals are for 90 percent of diabetics to receive two HbA1c tests annually, at least three months apart, with the average HbA1c to be less than or equal to 7.0 percent. Many Medicaid members receive care at these clinics throughout the state and are benefiting from this effort. Many other provider clinics have diabetes clinical coordinators on staff.

### Semi-Annual HbA1c Rate

The ADA's guidelines for having two HbA1c tests in a year were met by 42 of the 142 members, or 29.6 percent of the time. Following HEDIS specifications, 50.7 percent received at least one HbA1c test. Differences in HbA1c levels between those who had one test and those who had two tests were not statistically significant.

### Recommendations to Improve Semi-Annual HbA1c Testing

- Continue to improve information systems data capture to facilitate implementing a tracking system to identify members with chronic diseases and notify the PCPP providers of these members.
- Communicate to the provider community support for ADA's guidelines, especially regarding the need for HbA1c testing.

### Semi-Annual HbA1c Poor Control

The results showed 78.2 percent (111 out of 142 members) were in poor control. However, of the 42 members who received two HbA1c tests, 26.2 percent (11 members) were in poor control (i.e., had a level above 9.5 percent). For the 30 members who received only one test, 43.3 percent (13 members) had a level above 9.5 percent. Conversely, most members who had at least one HbA1c test had a level below 9.5 percent.

### Recommendations to Reduce Poor HbA1c Control

- Evaluate the results of the Diabetes Disease Management pilot and determine if the program would be beneficial for all diabetic members in this program.

## Education and Screening for Patients in Poor Control

PCPP providers do not routinely screen for depression, especially for diabetes patients in poor control. Members in poor control received diabetes education 45.0 percent of the time, though only 21.6 percent of members in poor control had screening for depression.

## Recommendations to Improve Diabetes Education and Screening for Depression

- Educate the provider community about the recent benefit change that allows education for diet and exercise to be reimbursed.
- Persuade other providers to follow the chronic disease model for diabetes from the Diabetes Collaborative.
- Adopt and disseminate practice guidelines on depression and diabetes to all PCPP providers.

## Fee-For-Service

Care coordination is particularly challenging for the FFS population, since a primary care physician is not responsible for overseeing and coordinating the member's care.

### Semi-Annual HbA1c Rate

The ADA's guidelines for having two HbA1c tests in a year were met by 24 of the 147 members, or 16.3 percent of the time. Following HEDIS specifications, 25.2 percent received at least one HbA1c test. Differences in HbA1c levels between those who had one test and those who had two tests were not statistically significant.

### Recommendations to Improve Semi-Annual HbA1c Testing

- Continue to improve information systems data capture to facilitate implementing a tracking system to identify members with chronic diseases.
- Communicate to the provider community support for ADA's guidelines, especially regarding the need for HbA1c testing.

### Semi-Annual HbA1c Poor Control

The results showed 85.0 percent (125 out of 147 members) were in poor control. However, of the 24 members who received two HbA1c tests, 8.3 percent (two members) were in poor control (i.e., had a level above 9.5 percent). For the 13 members who received only one test, 7.7 percent (one member) had a level above 9.5 percent.

### Recommendations to Reduce Poor HbA1c Control

- Evaluate the results of the Diabetes Disease Management pilot and determine if the program would be beneficial for all FFS diabetic members.

### Education and Screening for Patients in Poor Control

FFS physicians screen for depression and provide diabetes education at nearly the same frequency. Members in poor control received diabetes education 25.6 percent of the time, and 23.2 percent of members in poor control had screening for depression.

### Recommendations to Improve Diabetes Education and Screening for Depression

- Educate the provider community about the recent benefit change that allows education for diet and exercise to be reimbursed.
- Consider using data from the Diabetes Disease Management program to identify and track patient information for providers.

## Conclusions and Recommendations for All Programs

The results of this baseline study are intended as a tool to assist the MCOs and the Department in identifying opportunities and meaningful interventions to improve the care provided to diabetic members. Several areas require focused attention by the individual programs and the Department. All programs have the opportunity to improve in all quantifiable measures.

Members in the FFS population do not have a primary care physician and may, in fact, see more than one physician during the year. This made medical record retrieval dependent on the accuracy of the claims submitted along with the provider information. Medical records that could not be located remained in the denominator and negatively impacted the FFS rates. Additionally, the selected FFS members had different population characteristics (e.g., FFS had a larger proportion of older males) than the MCOs and PCPP. Low FFS rates may be due to the different population characteristics, the impact of "missing" records, or a lack of services provided for the selected FFS members.

Overall, 31.5 percent (180 members) received two HbA1c tests during the measurement period, and 75.3 percent (430 out of 571 members) were considered in poor control. HbA1c tells the provider how well a patient's blood sugar has been controlled over the past two to three months. Without this information, providers cannot aggressively manage the patient's care to achieve glycemic control and reduce or prevent the complications of diabetes.

The low results may indicate:

- Members may not understand the importance of HbA1c testing.
- Members may not be in compliance with their treatment plans.
- Providers may not have incorporated HbA1c testing frequency in the management of their diabetic members as recommended by ADA.
- Providers may be focused on HEDIS specifications, which require only one HbA1c test per year.

The health programs may want to consider administering a provider survey to obtain information on the providers' perspectives on ADA's recommendations and to identify barriers to compliance. In their newsletters and other communication with providers, programs may wish to emphasize their support of ADA's recommendation. Providers and health plans need to develop a mechanism to identify, track, and monitor diabetic members. The MCOs have diabetes disease management programs, but need to evaluate their design to identify opportunities to improve these results.

The MCOs and PCPP provide more education management than FFS. Overall results show that 46.5 percent of members in poor control received education in one of the areas of diet, exercise, and medication management. The rates for the RMHP, CO Access and PCPP were statistically higher than FFS. It may be beneficial to specifically identify diabetic members in FFS and mail educational support material to those members.

Overall screening for depression occurred in 27.9 percent of members in poor control. The benefit of screening is to rule out whether depression is contributing to the member's status as being uncontrolled. If depression is left untreated, the provider may perform other activities to improve glycemic control and not achieve the desired results. Providers need to have increased awareness that diabetes patients, especially women, are at a higher risk for depression.

Another recommendation to consider is the adaptation of a standard diabetes flow sheet to improve overall documentation of diabetes care. It was noted during medical record review that a limited number of records utilized diabetes flow sheets. Using a flow sheet allows the documentation to be centralized in the chart and serves as a reminder to providers of the patient's status, tests, and required screenings. RMHP's Diabetes Disease Management program has a diabetes flow sheet that could be considered as a model.

## Overall Recommendations

- Identify collaborative interventions for all programs as well as program-specific interventions. The intervention period will officially start July 1, 2003 and continue through June 30, 2004. The MCOs and the Department need to identify and implement the interventions early in the time period so that the effectiveness of these interventions and their impact on the outcome can be re-evaluated at the time of remeasurement. The remeasurement period is targeted for July 1, 2004 through June 30, 2005.
- Collaborate on the design and implementation of provider profiling to identify patients at risk based on high HbA1c levels or lack of HbA1c testing.
- Educate members and providers regarding the importance of glycemic control and of appropriate frequency of HbA1c testing.
- Identify educational resources for diabetes that are available to the programs' networks and to the community. As an example, the ADA website (which can be accessed at *http://www.diabetes.org/education/eduprogram.asp*) identifies facilities in Colorado that have diabetes education programs recognized for excellence.
- Consider designing and implementing the use of provider profiles for performance feedback regarding diabetes care rendered.
- Share the results of diabetes disease management programs and pilot studies with the MCOs, PCPP, and the FFS providers.
- Work with the provider community to develop a diabetes flow sheet, which all providers can use for documentation, and for the initiation of patient reminders for preventive care.
- Continue the use of provider newsletters and programs to communicate the increased risk of depression in patients with chronic conditions, such as diabetes.
- Collaborate with community organizations on interventions and education to improve and coordinate outreach efforts.
- Consider alternative approaches for finding medical records and/or reporting rates for the FFS members. Medical records that could not be located had a greater impact on the FFS rates. Additionally, the FFS population appears to have significant differences in population characteristics that should be adjusted prior to comparisons to the MCOs and PCPP.
- Small sample sizes may not allow generalization of the results to the entire Medicaid diabetic population. Improper interventions could be inadvertently made based on the results from too few cases. Caution should be used when sample sizes are small. Future studies, or remeasurement, should use a larger sample size along with an oversample to replace invalid cases.

# 7. References


[2-1] Colorado Department of Public Health & Environment. *Prevalence, Health Behaviors, and Prevention Health Practices Among Adult Coloradans with Diagnosed Diabetes: Results from the Behavioral Risk Factor Surveillance System, 1997 – 2000.* 2002;4.

[2-2] Colorado Department of Public Health & Environment. *Diabetes Statistics*. Available at: http://www.cdphe.state.co.us/pp/diabetes/stats/asp. Accessed March 31, 2003.

[2-3] American Diabetes Association. Standards of medical care for patients with diabetes mellitus. *Diabetes Care.* 2002*;* 25:1.

[2-4] Ibid.

[2-5] Ibid.

[2-6] National Committee for Quality Assurance. Comprehensive Diabetes Care, *HEDIS® 2002 Technical Specifications*, Volume 2. Washington, DC. 2001.

[3-1] National Committee for Quality Assurance. *The State of Health Care Quality*. 2002.

[3-2] Colorado Department of Public Health & Environment. *Prevalence, Health Behaviors, and Prevention Health Practices Among Adult Coloradans with Diagnosed Diabetes: Results from the Behavioral Risk Factor Surveillance System, 1997 – 2000.* 2002;4.

[3-3] Colorado Department of Public Health & Environment. *Diabetes Statistics*. Available at: http://www.cdphe.state.co.us/pp/diabetes/stats/asp. Accessed March 31, 2003.

[3-4] Centers for Disease Control and Prevention. *Diabetes: Disabling, Deadly, and on the Rise, 2002*. Available at: http://www.cdc.gov/diabetes/pubs/glance.htm. Accessed July 2, 2002.

[3-5] American Diabetes Association. Standards of medical care for patients with diabetes mellitus. *Diabetes Care.* 2002*;* 25:1.

[3-6] Ibid.

[3-7] Colorado Department of Health Care Policy and Financing. *Colorado Medicaid PCP, HMO, and FFS HEDIS®Report Total for 1999, 2000, 2001*.

[3-8] Physician Consortium for Performance Improvement. *A Consensus Document from the American Medical Association, The Joint Commission on Accreditation of Healthcare Organizations, and The National Committee for Quality Assurance*. April 19, 1999.

[3-9] Griffin M. *Beyond Blood Sugar: Testing A1C.* American Diabetes Association. March 18, 2003.

[3-10] American Diabetes Association. Standards of medical care for patients with diabetes mellitus. *Diabetes Care* 2002; 25:1.

[3-11] Kaplan R, Hartwell S, Wilson D, Wallace J. Effects of diet and exercise interventions on control and quality of life in non-insulin-dependent diabetes mellitus. *J Gen Intern Med*. 1987; 2:220-227.

[3-12] Norris S, Engelgau M, Narayan V. Effectiveness of self-management training in type 2 diabetes. *Diabetes Care*. 2001; 24:561-587.

[3-13] Colorado Department of Public Health & Environment. *Prevalence, Health Behaviors, and Prevention Health Practices Among Adult Coloradans with Diagnosed Diabetes: Results from the Behavioral Risk Factor Surveillance System, 1997 - 2000*. 2002;4.

[3-14] Griffith LS, Lustman PJ. Depression in women with diabetes. *Diabetes Spectrum*. 1997; 10:2216-223.

[3-15] Nichols GA. Unadjusted and adjusted prevalence of diagnosed depression in type 2 diabetes. *DiabetesCare*. 2003; 26:744-749.

[3-16] Egede L, Zheng D, Simpson K. Comorbid depression is associated with increased health care use and expenditures in individuals with diabetes. *DiabetesCare*. 2002; 25:464-470.

[3-17] Anderson R, Freedland K, Clouse R, Lustman P. The prevalence of comorbid depression in adults with diabetes. *DiabetesCare*. 2001; 24:1069-1078.

[4-1] National Committee for Quality Assurance. Comprehensive diabetes care. *HEDIS® 2002 Technical Specifications*. Volume 2. Washington, DC. 2001.

[4-2] Ibid.

# 8. Glossary

| Acronyms | |
|---|---|
| A1C | *see* HbA1c |
| ADA | American Diabetes Association |
| CDHCPF | Colorado Department of Health Care Policy and Financing |
| CDPHE | Colorado Department of Public Health and Environment |
| CCGC | Colorado Clinical Guidelines Collaborative |
| CCHN | Colorado Community Health Network Health Disparities Collaborative |
| CQI | Continuous Quality Improvement |
| DCCT | Diabetes Control and Complications Trial |
| the Department | see CDHCPF |
| EQRO | External Quality Review Organization |
| FFS | Fee-for-Service |
| HbA1c | Test that measures blood glucose level over a two- to three-month time period. |
| HEDIS® | Health Plan Employer Data and Information Set<br>HEDIS® is a registered trademark of the National Committee for Quality Assurance. |
| HSAG | Health Services Advisory Group, Inc. |
| MCO | Managed Care Organization |
| MRR | Medical Record Review |
| PCPP | Primary Care Physician Program |
| QIA | Quality Improvement Activity |
| QuIC | Quality Improvement Committee |
| RMHP | Rocky Mountain Health Plans |
| SAS | Statistical Analysis Software |
| STARS | Services Tracking, Analysis and Reporting System |
| UKPDS | United Kingdom Prospective Diabetes Study |

# APPENDIX A. Quality Improvement Activity Form

This appendix contains the Quality Improvement Activity (QIA) Form, which includes these sections:

- Section I: Activity Selection and Methodology
- Section II: Data/Results Table
- Section III: Analysis Cycle
- Section IV: Interventions Table
- Section V: Chart or Graph (Optional)

**Study Name:** Quality of Care for Diabetics **Current Phase**: [ x ] Baseline [ ] Intervention [ ] Remeasurement

## Section I: Activity Selection and Methodology

**A. Rationale.** Use objective information (data) to explain your rationale for why this activity is important to members or practitioners *and* why there is an opportunity for improvement.

The HbA1c test (hemoglobin A1c test or glycosylated hemoglobin test) is a lab test, which reveals average blood glucose over a period of two to three months. HbA1c levels are a leading indicator of many diabetic complications and for this reason are key indicators in any diabetes quality of care study. The American Diabetes Association expert consensus states, "Perform the A1C test at least two times a year in patients who are meeting treatment goals (and who have stable glycemic control) and quarterly in patients whose therapy has changed or who are not meeting glycemic goals" (Standards of Medical Care for Patients With Diabetes Mellitus, American Diabetic Association (2002) *Diabetes Care* Vol 25:1). In 2000, 57.7 percent of persons with diabetes in Colorado Medicaid had poor glycemic control, with HbA1c levels greater than 9.5 percent.

Successful diabetes management programs also include regular delivery of self-management education by diabetes educators. Medical nutrition therapy focusing on the reduction of saturated fat and cholesterol intake, weight loss, and increased physical activity has been shown to improve the lipid profile in patients with diabetes. (Standards of Medical Care for Patients With Diabetes Mellitus, American Diabetic Association (2002) *Diabetes Care* Vol 25:1) In Colorado only 60 percent of persons with diabetes have ever taken a class in managing diabetes (CDPHE).

Major depression is a mental disturbance with well-recognized adverse effects on physical and psychological functioning. Scientific investigation has established an association between the presence of major depression and poor glycemic control, poor adherence to the diabetes regimen, and an increased risk for diabetes complications. Major depression adversely affects health behaviors necessary for good diabetes management (e.g., diet, exercise, smoking cessation programs, and abstinence from substance use). Prevalence of depression in diabetics is 3-4 times that of the general population, with up to 30 percent of diabetics affected (Griffith L.S. and Lustman, P.J. (1997); "Depression in Women With Diabetes" *Diabetes Spectrum* 10:2216-223). Treating underlying depression has been shown to significantly reduce the rate and severity of diabetes (ADA, 2002).

In 1999 diabetes was the eighth leading cause of death in Colorado. Colorado Department of Public Health and Environment (CDPHE) reports prevalence of diabetes is 4.3 percent in the Colorado population overall. However, this rises to 5.9 percent for those with annual household income less than $25,000 and is as high as 6.2 percent for the Hispanic population.

**Study Question: To what extent does diabetes care in the Colorado Medicaid population meet key components of the latest standards of care?**

| **B. Quantifiable Measure(s).** List and define *all* quantifiable measures used in this activity. Include a goal or benchmark for each measure. If a goal was established, list it. If you list a benchmark, state the source. Add sections for additional quantifiable measures as needed. | |
|---|---|
| ***Quantifiable Measure #1:*** | **Semi-annual HbA1c Rate** |
| **Numerator:** | Diabetics in the denominator who had an HbA1C test performed at least twice in the measurement year, per ADA |
| **Denominator:** | Colorado Medicaid members with diabetes Ages 18 to 75 Years as at June 30, 2002 |
| **First measurement period dates:** | Baseline measurement year July 1, 2001 through June 30, 2002 |
| **Baseline Benchmark:** | 31 percent of Arizona Medicaid diabetics had two HbA1c tests at study baseline. |
| **Source of benchmark:** | Arizona AHCCCS QI Project for Management of Diabetes October 1998 – September 1999 (HSAG)<br>This diabetes study was also of a Medicaid population and provides a comparable benchmark. |
| **Baseline goal:** | An increase of 10 percent of the opportunity for improvement. |
| ***Quantifiable Measure #2:*** | **Semi-annual HbA1c Poor Control** |
| **Numerator:** | Diabetics in the denominator with HbA1c in poor control (see section C.6. for a complete definition of poor control) |
| **Denominator:** | Same as numerator #1: Diabetic Medicaid members who had an HbA1c test performed at least twice in the measurement year. |
| **First measurement period dates:** | Baseline measurement year July 1, 2001 through June 30, 2002 |
| **Baseline Benchmark:** | 57.7 percent (comparative indicator) |
| **Source of benchmark:** | HEDIS 2001 Total Colorado Medicaid – note this benchmark looks at result of the last HbA1c test only (not last two) |
| **Baseline goal:** | An increase of 10 percent of the opportunity for improvement |

| | |
|---|---|
| ***Quantifiable Measure #3:*** | **Diabetic Education for Patients with Poor HbA1c Control** |
| **Numerator(s):** | Diabetics in the denominator who received education about diet, exercise or meds at least once during the measure year. |
| **Denominator(s):** | Same as numerator #2: Diabetic Medicaid members with at least one of the last two HbA1c results show poor control |
| **First measurement period dates:** | Baseline measurement year July 1, 2001 through June 30, 2002 |
| **Baseline Benchmarks:** | |
| **Source of benchmark:** | |
| **Baseline goal:** | An increase of 10 percent of the opportunity for improvement |
| ***Quantifiable Measure #4:*** | **Screening for Depression for Diabetic Patients with Poor HbA1c Control** |
| **Numerator(s):** | Diabetics in the denominator who were screened for symptoms of depression. |
| **Denominator(s):** | Same as numerator #2: Diabetic Medicaid members with at least one of the last two HbA1c results show poor control |
| **First measurement period dates:** | Baseline measurement year July 1, 2001 through June 30, 2002 |
| **Baseline Benchmarks:** | |
| **Source of benchmark:** | |
| **Baseline goal:** | An increase of 10 percent of the opportunity for improvement |

| C. Baseline Data Collection Methodology. | |
|---|---|
| **C.1 HEDIS/CAHPS® 2.0H Methodology.** (*Note:* HEDIS/CAHPS® methodology is not required.) **Complete for each quantifiable measure described above.** | |
| Quantifiable Measure #1<br>Semi-annual HbA1c Rate | Was HEDIS/CAHPS® methodology used?<br>[ ] Yes.<br>List the years used:<br>List the HEDIS® measure and/or CAHPS® 2.0H question numbers used and/or the composite questions used:<br>_____<br>_____<br>[ x ] No. HEDIS-like indicator used - HEDIS 2002 specifications were used to identify the diabetic population and for continuous enrollment criteria. |
| Quantifiable Measure #2<br>Semi-annual<br>HbA1c Poor Control | Was HEDIS/CAHPS® methodology used?<br>[ ] Yes.<br>List the years used:<br>List the HEDIS® measure and/or CAHPS® 2.0H question numbers used and/or the composite questions used:<br>_____<br>_____<br>[ x ] No. HEDIS-like indicator used - HEDIS 2002 specifications were used to define control threshold only. |

| | |
|---|---|
| Quantifiable Measure #3<br>Diabetic Education for Patients with Poor HbA1c Control | Was HEDIS/CAHPS® methodology used?<br>[ ] Yes.<br>List the years used:<br>List the HEDIS® measure and/or CAHPS® 2.0H question numbers used and/or the composite questions used:<br>_____<br>_____<br>[ x ] No. |
| Quantifiable Measure #4<br>Screening for Depression for Diabetic Patients with Poor HbA1c Control | Was HEDIS/CAHPS® methodology used?<br>[ ] Yes. HEDIS 2002 Specifications were used only to identify the diabetic population.<br>List the years used:<br>List the HEDIS® measure and/or CAHPS® 2.0H question numbers used and/or the composite questions used:<br>_____<br>_____<br>[ x ] No. |

| **C.2 Data Sources.** | | |
|---|---|---|
| Quantifiable Measure #1<br>Semi-annual HbA1c Rate | [ ] Medical/treatment records<br>[ ] Administrative data:<br>[ ] Claims/encounter data<br>[ ] Complaints<br>[ ] Appeals<br>[ ] Telephone service data<br>[ ] Appointment/access data<br>[ x ] Hybrid (medical/treatment records and administrative)<br>[ ] Pharmacy data | [ ] Survey data (attach the survey tool and the complete survey protocol)<br>[ ] Other (list and describe): |

| | | |
|---|---|---|
| Quantifiable Measure #2<br>Semi-annual<br>HbA1c Poor Control | [ x ] Medical/treatment records<br>[ ] Administrative data:<br>[ ] Claims/encounter data<br>[ ] Complaints<br>[ ] Appeals<br>[ ] Telephone service data<br>[ ] Appointment/access data<br>[ ] Hybrid (medical/treatment records and administrative)<br>[ ] Pharmacy data | [ ] Survey data (attach the survey tool and the complete survey protocol)<br>[ x ] Other (list and describe):<br>Lab result in medical record. |
| Quantifiable Measure #3<br>Diabetic Education for Patients with Poor HbA1c Control | [ x ] Medical/treatment records<br>[ ] Administrative data:<br>[ ] Claims/encounter data<br>[ ] Complaints<br>[ ] Appeals<br>[ ] Telephone service data<br>[ ] Appointment/access data<br>[ ] Hybrid (medical/treatment records and administrative)<br>[ ] Pharmacy data | [ ] Survey data (attach the survey tool and the complete survey protocol)<br>[ ] Other (list and describe): |
| Quantifiable Measure #4<br>Screening for Depression for Diabetic Patients with Poor HbA1c Control | [ x ] Medical/treatment records<br>[ ] Administrative data:<br>[ ] Claims/encounter data<br>[ ] Complaints<br>[ ] Appeals<br>[ ] Telephone service data<br>[ ] Appointment/access data<br>[ ] Hybrid (medical/treatment records and administrative)<br>[ ] Pharmacy data | [ ] Survey data (attach the survey tool and the complete survey protocol)<br>[ x ] Other (list and describe):<br>Depression screening tools in medical record |

If HEDIS/CAHPS®methodology was used for all measures, *skip to Section I - D.*
Complete Sections I - C3–C6 only for each measure that does not use HEDIS/CAHPS® methodology.

**C.3 Data Collection Methodology.** Check all that apply and enter the measure number from Section B next to the appropriate methodology.

| | | |
|---|---|---|
| Quantifiable Measure #1, #2, #3, #4. | If medical/treatment records, check below:<br>[ x ] Medical/treatment record abstraction<br>If survey, check all that apply:<br>[ x ] Personal interview #4 depression screen<br>[ ] Mail<br>[ ] Phone with CATI script<br>[ ] Phone with IVR<br>[ ] Internet<br>[ ] Incentive provided<br>[ ] Other (list and describe):<br>_____ | If administrative, check all that apply:<br>[ ] Programmed pull from claims/encounter files of all eligible members<br>[ x ] Programmed pull from claims/encounter files of a sample of members<br>[ ] Complaint/appeal data by reason codes<br>[ ] Pharmacy data<br>[ ] Delegated entity data<br>[ ] Vendor file<br>[ ] Automated response time file from call center<br>[ ] Appointment/access data<br>[ ] Other (list and describe): |

**C.4 Sampling.** If sampling was used, provide the following information.

| Measure | Population Size | **Sample Size** | **Method of Determining Size** | **Sampling Method** *(describe)* |
|---|---|---|---|---|
| A single sample was selected across all study measures. | Eligible population:<br>CHPR 310<br>CO Access 1,333<br>RMHMO 774<br>PCPP 2,652<br>FFS 3,096<br>Statewide **8,165** | Sample sizes:<br>CHPR 150<br>CO Access 150<br>RMHMO 150<br>PCPP 150<br>FFS 150<br>Statewide **750** | Sample size was selected to achieve a margin of error at the health plan level of +/- 8 percent and at the statewide level of +/- 3.6 percent at the 95 percent confidence level. | Random sample by health plan of diabetic members who meet HEDIS eligibility criteria. |

| C.5. Measurement Cycle | Data Collection Cycle | Data Analysis Cycle | Comments |
|---|---|---|---|
| See Comments | [ ] Once a year<br>[ ] Twice a year<br>[ ] Once a season<br>[ ] Once a quarter<br>[ ] Once a month<br>[ ] Once a week<br>[ ] Once a day<br>[ ] Continuous<br>[ x ] Other (list and describe):<br>see comments | [ ] Once a year<br>[ ] Once a season<br>[ ] Once a quarter<br>[ ] Once a month<br>[ ] Continuous<br>[ x ] Other (list and describe):<br>_____<br>__<br>_____<br>__<br>see comments | Baseline (contract year 02 –03)<br>July 1, 2001 to June 30, 2002<br><br>Interventions (after report available)<br>June 30, 2003 to June 30, 2004<br><br>Remeasurement (contract year 05–6)<br>July 1, 2004 to June 30, 2005 |

**C.6 Other Pertinent Methodological Features.** Complete only if needed.

1. HEDIS 2002 methodology will be used to identify the eligible population, including continuous enrollment criteria.
2. Poor HbA1c Control is defined as diabetics in the sample with either:
   a) no HbA1c results in the study year, or
   b) only one HbA1c result in the study year, or
   c) either one of the two of the most recent HbA1c results during the study year greater than 9.5 percent.

Other acceptable terms used to identify tests may include: A1C, hemoglobin A1c, Glycohemoglobin A1c, HgbA1c, glycated hemoglobin, glycosylated hemoglobin. Results reported as glycated hemoglobin or glycohemoglobin will be converted to HbA1c using the (HEDIS 2002) formula: HbA1c = (0.685 glycohemoglobin) + (1.2).

**D. Changes to Baseline Methodology.** Describe any changes in methodology from measurement to measurement.

Include, as appropriate:

- Measure and time period covered
- Type of change
- Rationale for change
- Changes in sampling methodology, including changes in sample size, method for determining size and sampling method
- Any introduction of bias that could affect the results

None – this is the baseline year _____

_____

_____

_____

_____

_____

_____

_____

## Section II: Data / Results Table

**Complete for each quantifiable measure; add additional sections as needed.**

**#1 Quantifiable Measure: Semi-annual HbA1c Rate**

| Time Period Measurement Covers | Measurement Phase | Numerator | Denominator | Rate or Results | Comparison Benchmark | Comparison Goal | Statistical Test and Significance* |
|---|---|---|---|---|---|---|---|
| July 1, 01 to June 30, 02 | ***Baseline:*** | | | | | | |
| July 1, 04 to June 30, 05 | Remeasurement 1: | | | | | | |

**#2 Quantifiable Measure: Semi-annual HbA1c Poor Control**

| Time Period Measurement Covers | Measurement Phase | Numerator | Denominator | Rate or Results | Comparison Benchmark | Comparison Goal | Statistical Test and Significance* |
|---|---|---|---|---|---|---|---|
| July 1, 01 to June 30, 02 | Baseline: | | | | | | |
| July 1, 04 to June 30, 05 | Remeasurement 1: | | | | | | |

**#3 Quantifiable Measure: Diabetic Education for Patients with Poor HbA1c Control**

| Time Period Measurement Covers | Measurement Phase | Numerator | Denominator | Rate or Results | Comparison Benchmark | Comparison Goal | Statistical Test and Significance* |
|---|---|---|---|---|---|---|---|
| July 1, 01 to June 30, 02 | Baseline: | | | | | | |
| July 1, 04 to June 30, 05 | Remeasurement 1: | | | | | | |

**#4 Quantifiable Measure: Screening for Depression for Diabetic Patients with Poor HbA1c Control**

| Time Period Measurement Covers | Measurement Phase | Numerator | Denominator | Rate or Results | Comparison Benchmark | Comparison Goal | Statistical Test and Significance* |
|---|---|---|---|---|---|---|---|
| July 1, 01 to June 30, 02 | Baseline: | | | | | | |
| July 1, 04 to June 30, 05 | Remeasurement 1: | | | | | | |

*If used, specify the test, p value, and specific measurements (e.g., baseline to remeasurement #1, remeasurement #1 to remeasurement #2, etc., or baseline to final remeasurement) included in the calculations. NCQA does not require statistical testing.

## Section III: Analysis Cycle
**Complete this section for EACH analysis cycle presented.**

**A. Time Period and Measures That the Analysis Covers.**

Same as C.5.c :
Baseline (contract year 2002 –2003) July 1, 2001 to June 30, 2002;
Interventions (after report available) June 30, 2003 to June 30, 2004
Remeasurement (contract year 2005 –2006) July 1, 2004 to June 30, 2005

**B. Identifying and Analyzing Opportunities for Improvement.** Describe the analysis and include the points listed below.

B.1 *For the **quantitative** analysis*, include the analysis of the following:

1) Comparison with the goal/benchmark; 2) Reasons for changes to goals; 3) If benchmark(s) changed since the baseline, list source and date of change(s); 4) Comparison with previous measurements; 5) Trends, increases or decreases in performance or changes in statistical significance (if used); 6) Impact of any methodological changes that could impact the results; 7) For a survey, include the overall response rate and the implications of the survey response rate

Will be completed following baseline analysis and reporting

B.2 *For the **qualitative** analysis*, describe any analysis that identifies causes for less than desired performance (barrier/causal analysis) and include the following:

1)Techniques and data (used) in the analysis; 2) Expertise (e.g., titles; knowledge of subject matter) of the work group or committees conducting the analysis; 3) Citations from literature identifying barriers (if any); 4) Barriers/opportunities identified through the analysis; 5) Impact of interventions

Will be completed following baseline analysis and reporting

## Section IV: Interventions Table

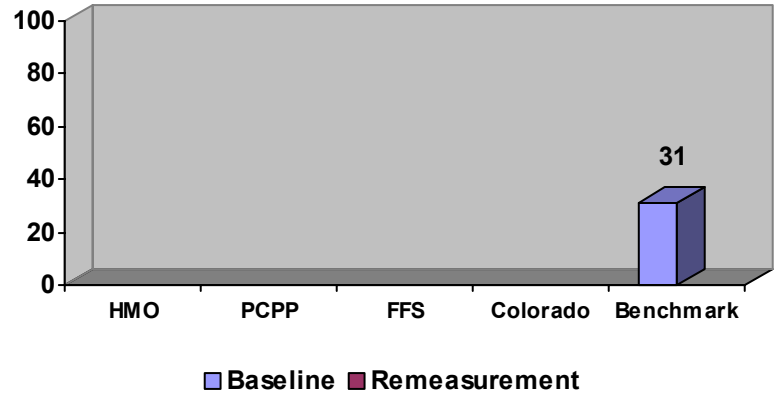
**Interventions Taken for Improvement as a Result of Analysis.** List chronologically the interventions that have had the most impact on improving the measure. Describe only the interventions and provide quantitative details whenever possible (e.g., "hired 4 customer service reps" as opposed to "hired customer service reps").
Do not include intervention planning activities.

| Date Implemented (MM / YY) | Check if Ongoing | Interventions | Barriers That Interventions Address |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

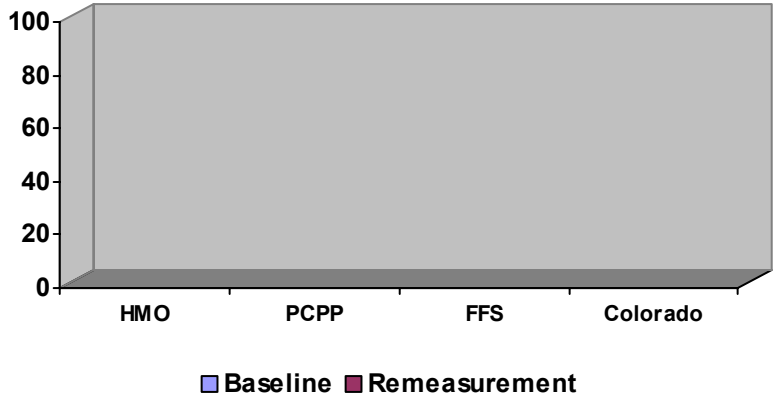
## Section V: Chart or Graph (Optional)

Attach a chart or graph for any activity having more than two measurement periods that shows the relationship between the timing of the intervention (cause) and the result of the remeasurements (effect). Present one graph for each measure unless the measures are closely correlated, such as average speed of answer and call abandonment rate. Control charts are not required, but are helpful in demonstrating the stability of the measure over time or after the implementation.

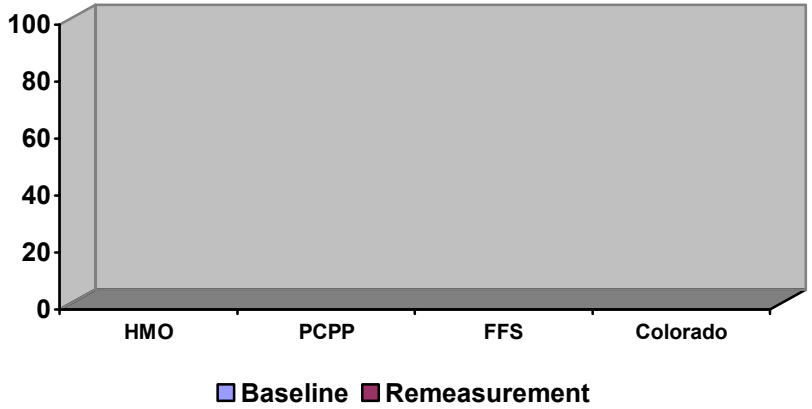
#1 Semi-annual HbA1c Rate



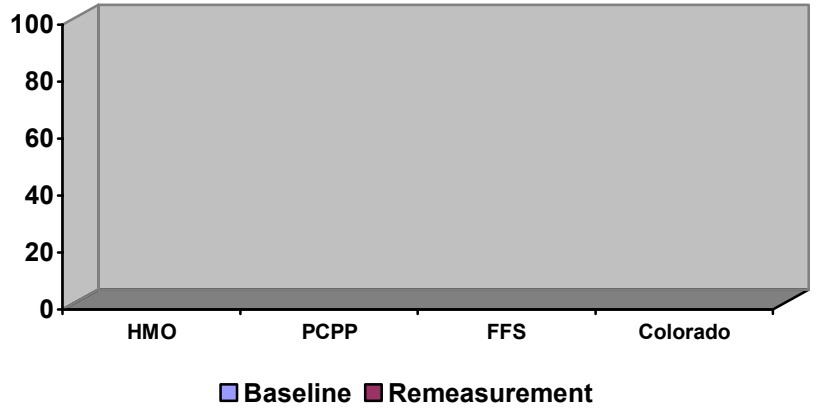

#2 Semi-Annual HbA1c Poor Control




#3 Diabetic Education for Patients with Poor HbA1c Control




#4 Depression Screening for Patients with Poor HbA1c Control



# APPENDIX B. Medical Record Review Tool and Instructions

This appendix contains the Medical Record Review Tool and instructions for using it for data abstraction.

# Colorado Medicaid 2002 Diabetes Quality-of-Care Focused Study
# Medical Record Review Tool

## *PATIENT DEMOGRAPHIC INFORMATION*

**Last Name:** **First Name:**
**D.O.B.:** **Gender: (circle one) M F**
**Member ID#:** **Plan Name:**

**If No Medical Record is available, indicate the Reason:**
☐ **Patient not seen or no data in the review year.**
☐ **Patient medical record could not be found.**
☐ **Provider refuses to release the medical record.**

**General Instructions:**
a) Verify the pre-filled information against the medical record to make sure that you have identified the correct patient.
b) All information must be obtained within the review period.
c) Review the medical record and answer the questions on the tool.

Check **Valid Exclusion**, if there is documentation in the medical record of the patient
☐ **having steroid induced diabetes**, ☐ **is not a diabetic**, or ☐ **has gestational diabetes**.
If any box is checked STOP HERE.

## *A. SEMI-ANNUAL HbA1c RATE*

Measure

**Date and results of two of the most recent HbA1c tests completed during the review period: (7/1/01 thru 6/30/02)**
**The date and results must be documented in the medical record.**

**Date** _____/_____/_____ **Level** _____ ☐ **Not Found** ☐ **Glycated hemoglobin or Glycohemoglobin**
**Date** _____/_____/_____ **Level** _____ ☐ **Not Found** ☐ **Glycated hemoglobin or Glycohemoglobin**

If glycated hemoglobin or glycohemoglobin in box A, complete B, C, and D.

If **no** HbA1c result or **only one** HbA1c date and result **is found** in box A, complete B, C, and D.

If **either** of the above HbA1c results is **greater than 9.5 percent**, complete B, C and D.

If **both** HbA1c results are **less than or equal to 9.5 percent** – **SKIP B AND C,** complete D.

## *B. SCREENING FOR DIABETIC EDUCATION IN PATIENTS WITH POOR HbA1c CONTROL*

Measure

Did the patient receive education regarding diet, exercise, or medication during the review period: (7/1/01 thru 6/30/02)
Yes ☐ No ☐

## C. SCREENING FOR DEPRESSION FOR DIABETIC PATIENTS WITH POOR HbA1c CONTROL

Measure

Was the patient screened for symptoms of depresson during the review period: (7/1/01 thru 6/30/02)
Yes ☐ No ☐

## D. ABSTRACTOR INFORMATION

ID# _____ ABSTRACTION TIME: _____ ABSTRACTION DATE: _____

# Colorado Medicaid 2002 Diabetes Quality-of-Care Focused Study
# Data Abstraction Instructions

**General Instructions:**

- Verify the pre-filled information against the medical record to make sure that you have identified the correct patient.
- All information must be obtained within the review period.
- Review the medical record and answer the questions on the tool.
- Check the appropriate reason if NO medical records are available.
- Check the appropriate valid exclusion box if there is documentation in the medical record of the patient having steroid induced diabetes, is not a diabetic, or has gestational diabetes. If any of these boxes are checked, STOP.

**A. Semi-Annual HbA1c Rate**

Fill in the date and test result of the two **most recent** HbA1c tests completed during the review period of 7/1/01 through 6/30/02. Both the date and test result must be documented in the medical record.

A dated progress note or consultation regarding HbA1c test with results between 7/1/01 and 6/30/02 is acceptable.

If only ONE test was completed during the review period, enter the date and test result on the first line and check the Not Found box on the second line.

If NO results are found, check the Not Found box for each line.

**Other acceptable terms used to identify tests may include: A1C, HbA1c, hemoglobin A1c, Glycohemoglobin A1c, HgbA1c, glycated hemoglobin, glycosylated hemoglobin.**

Results reported as glycated hemoglobin or glycohemoglobin will be converted to HbA1c by the Project Manager. Documented the date, results, and check the box glycated hemoglobin or glycohemoglobin in box A, complete B, C, and D.

If glycated hemoglobin or glycohemoglobin in box A, complete B, C, and D.

If **no** HbA1c result or **only one** HbA1c date and result **are found** in box A, complete B, C, and D.

If **either** of the HbA1c results is **greater than 9.5 percent**, complete B, C, and D.

If **both** HbA1c results are **less than or equal to 9.5 percent** – **SKIP B and C**, complete D.

## B. Screening for Diabetic Education in Patients with Poor HbA1c Control

Check **Yes**, if there is documentation of at least one of the following educational components during the review period of 7/1/01 through 6/30/02.

If the provider uses a diabetic flow sheet and a box marked "Education" is checked, this is acceptable.

**Diet** - acceptable documentation includes that the patient received information about the importance of a diabetic diet. Such as, "discussion about", "taught about", or "referred to" ADA diet; diet reviewed; diet; need to go on a diet; need to lose weight; or referred to a dietician or diabetic educator.

**Medications** – acceptable documentation includes that the patient received information about their diabetic medication; type of medication; dosage; frequency or side effects; patient's tolerance to injections; rotating sites of injection; when to take medication; change in dosage; importance of regularly taking meds; new medication; and/or sent to class on medication.

If a provider documents a **new** medication and/or dosage, this is considered acceptable as education.

If a provider documents that the patient continues to be on the same medication and dosage, this is **not** considered as education.

***Abstractor Reference***
***List of Diabetic Medications***

Insulin Medication: Regular insulin, NPH, Lente, Lispro, Humulin, 70/30, Novolin, Ultralente, Multiple Daily Injections, Continuous Subcutaneous Infusion of Insulin, Insulin Pump, Insulin Pen, Semilente, Novolin, Penfill, Ultralente, Velosulin, Humalog, NovoLog, Nordisk, Beef Regular Iletin II, Insulatard, Mixtard, Pork Lente, Pork NHP Isophane, Pork Regular Iletin II, Protamine Zinc, PZI, Regular Iletin, Lantus

Oral Hypoglycemics/Antihyperglycemics Medication: Acarbose, Actose, Acetohexamide, Amaryl, Chlorpropamide, Diabeta, Diabinese, Dymelor, Glimepiride, Glipizide, Glipizide XL, Glucamide, Glucophage, Glucotrol, Glucotrol XL, Glyburide, Glynase, Metformin, Micronase, Orinase, Oramide, Prandin (Repaglinide), Precose, Tolazamide, Tolamide, Tolbutamide, Tolinase, Troglitazone, Alpha-Gilbenclamide, Apo-Chlorpropamide, Apo-Tolbutamine, Avandia, Glucovance, Glyset, Meglitol, Mobenol, Novabutamide, Novopropamide, Pioglitazone, Ronase, Rosiglitazone, Storzolamide

**Exercise** – acceptable documentation includes that the patient received information on the importance of exercise. Such as, "discussion about" or "taught about" or given handouts on exercise; a referral to an exercise therapist; note to increase activity; note describing current activity level and if any modifications are required; type of exercise; frequency of exercise (i.e. patient rides a bike 3 times a week); how to monitor your pulse before, during, or after exercise.

Check **No**, if there is **no acceptable** documentation of education on diet, medication, or exercise during the review period. Complete boxes C and D.

## C. Screening for Depression for Diabetic Patients with Poor Control

Check **Yes**, if there is documentation of **any one** of the following in the medical record during the review period of 7/1/01 through 6/30/02.

- Reference to the results or name of, a depression screening tool in the medical record (see below).
- Reference to DSM-IV symptoms of depression, as shown on the symptom list below.
- Documentation that the patient is on any anti-depressant medications, listed below.
- Current diagnosis of depression found on a problem list, progress note, or consultation report.
- Referral to a Behavioral Health provider.

| **Screening Tools**<br>Colorado Guideline | **Diagnostic**<br>DSM-IV Symptom List | **Medications**<br>Colorado Guideline |
|---|---|---|
| ■ Beck (or BDI)<br>■ CES-D<br>■ HAM-D (or Hamilton)<br>■ HANDS<br>■ Mini Patient Health Survey<br>■ Prime MD<br>■ Zung<br>**Or**<br>any screener including :<br>■ In the past year have you had 2 weeks or more during which you felt sad, blue or depressed; or when you lost interest or pleasure in things that you usually cared about or enjoyed?<br>■ In the past year, have you felt depressed or sad much of the time?<br>■ Have you ever had 2 years or more in your life when you felt depressed or sad most days, even if you felt okay sometimes? | ■ **Depressed mood**, most of the day, nearly every day, **or**<br>■ **Markedly diminished interest or pleasure** in almost all activities most of the day, nearly every day (as indicated either by subjective account or observation by others of apathy most of the time).<br>■ Evaluated Mood<br>■ Evaluated Emotions<br>■ Suicide risk | ■ Adapin<br>■ Amitriptyline<br>■ Amoxapine<br>■ Anafranil<br>■ Asendine<br>■ Aventyl<br>■ Bupropion<br>■ Sertraline<br>■ Celexa<br>■ Citalopram<br>■ Clompiramine<br>■ Desipramine<br>■ Desyrel<br>■ Doxepin<br>■ Effexor<br>■ Effexor-XR<br>■ Elavil<br>■ Fluoxetine<br>■ Fluvomaxine<br>■ Imipramine<br>■ Ludiomil<br>■ Luvox<br>■ Maprotiline<br>■ Mirtazapine<br>■ Nefazodone<br>■ Norpramin<br>■ Nortriptyline<br>■ Pamelor<br>■ Paroxetine<br>■ Paxil<br>■ Protriptyline<br>■ Prozac<br>■ Remeron<br>■ Serzone<br>■ Sinequan<br>■ Surmontil<br>■ Tofranil<br>■ Trazodone<br>■ Trimipramine<br>■ Venlafaxine<br>■ Vivactil<br>■ Wellbutrin<br>■ Wellbutrin SR<br>■ Zoloft |

**Check No,** if there is **NO** acceptable documentation of screening for depression during the review period, complete D.

### *D. Abstractor Information*

Fill in your ID number, abstraction time, and date of the review.

# APPENDIX C. Medical Record Request Forms and Letters

The following pages display the documents used to request medical records and appointments for site visits for this study:

- First Letter Requesting Medical Records for Desk Review
- First Form Requesting Medical Records for Desk Review
- Letter Introducing the Study
- Letter Confirming Appointment for On-Site Medical Record Review
- Form Requesting Medical Records for On-Site Medical Record Review
- Second Letter Requesting Medical Records for Desk Review
- Second Form Requesting Medical Records for Desk Review

[Date]

«Provider_First_Name» «Provider_Last_Name»
Attention: «Contact_Person»
«Business_Name»
«Street_Address» «Address_2»
«City», «State» «Zipcode»

**Via Facsimile**
«Fax»

Dear «Contact_Person»:

Colorado Medicaid and contracted managed care organizations that provide care to the Colorado Medicaid population are conducting a **statewide study of diabetes care** as part of its annual quality oversight activities. Health Services Advisory Group (HSAG), the External Quality Review Organization (EQRO) for the Colorado Medicaid program, will be conducting the study. The study includes a sample of members with diabetes and measures HbA1c testing, education and screening for clinical depression.

An HSAG representative recently contacted your staff by telephone to describe the study and request your participation by providing copies of your patient medical records. Attached is the list of patient records requested. One year of medical record information is needed for the period July 1st 2001, through June 30th 2002. **We ask that you please fax, or photocopy and mail by traceable carrier, the requested information to HSAG for receipt no later than [day], [date]** [Letter + 14 days].

Mailing Address: Health Services Advisory Group
Attn: Janet Lucchesi, RN, MHS
3025 S. Parker Road, Suite 722
Aurora, CO 80014

Or Fax to: 303-755-4940

All abstracted and copied medical record information will be kept confidential and will be used only for purposes of the contract with Colorado Medicaid. In addition, HSAG complies with the regulations outlined in the Health Insurance Portability and Accountability Act of 1996 (HIPAA) concerning data confidentiality. The Medicaid client's application for Medicaid coverage and your agreement with the Medicaid program provides for the release of medical record information to the Colorado Department of Health Care Policy and Financing (CDHCPF) or its designee (Staff Manual Volume 8 – Medical Assistance, 8.100.82); **thus, a separate authorization for release of information is not necessary for this review request.** As an authorized representative of CDHCPF, HSAG is allowed to review medical records upon request (Staff Manual Volume 8 – Medical Assistance, 8.079.86).

We look forward to the opportunity to work with you on this study of Quality of Care for Diabetics. Should you have any questions about the study, please feel free to contact Janet Lucchesi, RN, Project Manager, at 303-755-1912 ext. 103. Thank you in advance for your assistance.

Sincerely,

Emad Alkhoudairy
EQRO Contract Manager – (303) 866-2086

**Health Services Advisory Group, Inc.**
**Colorado Medicaid Quality of Care for Diabetics**

Record Request: All medical records from 7-1-01 through 6-30-02 for each member listed
Please complete and return this patient list and the requested medical records by mail or fax to
Health Services Advisory Group: 3025 S. Parker Road, Suite 722, Aurora, CO 80014 FAX#: 303-755-4940

**Physician Name:** «Provider_First_Name» «Provider_Last_Name**»** **Physician ID:**
**Address:** «Street_Address»
«City», «State» «Zipcode»

If the chart is not available for review please enter a reason code in the box below.
1 –- Patient Not Seen Or No Data In The Review Year.
2 –- Patient Medical Record Could Not Be Found.
3 –- Provider Refuses To Release The Medical Record.

| Patient Name (L, F) | Medicaid ID | SEX | DOB | SSN | Chart Availability | No. of Pages |
|---|---|---|---|---|---|---|
| Last Name, First Name | | | | | | |
| Last Name, First Name | | | | | | |
| Last Name, First Name | | | | | | |

[Date]

[Physician Name]
Attention: [Contact Person]
[Practice Name]
[Street Address]
[City, State, Zip]

**Via Facsimile**
(xxx) xxx-xxxx

Dear Dr. [Last Name]:

Colorado Medicaid and contracted managed care organizations that provide care to the Colorado Medicaid population are conducting a **statewide study of diabetes care** as part of its annual quality oversight activities. Health Services Advisory Group (HSAG), the External Quality Review Organization (EQRO) for the Colorado Medicaid program, will be conducting the study. The study includes a sample of members with diabetes and measures HbA1c testing, education and screening for clinical depression. An HSAG representative recently contacted your staff by telephone to describe the study and schedule a site visit for medical record review.

All abstracted and copied medical record information will be kept confidential and will be used only for purposes of the contract with Colorado Medicaid. In addition, HSAG complies with the regulations outlined in the Health Insurance Portability and Accountability Act of 1996 (HIPAA) concerning data confidentiality. The Medicaid client's application for Medicaid coverage and your agreement with the Medicaid program provides for the release of medical record information to the Colorado Department of Health Care Policy and Financing (CDHCPF) or its designee (Staff Manual Volume 8 – Medical Assistance, 8.100.82); **thus, a separate authorization for release of information is not necessary for this review request.** As an authorized representative of CDHCPF, HSAG is allowed to review medical records upon request (Staff Manual Volume 8 – Medical Assistance, 8.079.86).

We look forward to the opportunity to work with you on this study of Quality of Care for Diabetics. Should you have any questions about the study, please feel free to contact Janet Lucchesi, RN, Project Manager, at 303-755-1912 ext. 103. Thank you in advance for your assistance.

Sincerely,

Emad Alkhoudairy
EQRO Contract Manager
303-866-2086

[Date]

[Physician Name]
Attention: [Contact Person]
[Practice Name]
[Street Address]
[City, State, Zip]

**Via Facsimile**
(xxx) xxx-xxxx

Dear Dr. [Last Name]:

This letter is to confirm the on-site review of medical records for the diabetes care study at your office on [insert date] at [insert time] a.m./p.m. Attached is the list of patient records selected for review. Your cooperation in making these records available on the day of the visit is appreciated.

All abstracted and copied medical record information will be kept confidential and will be used only for purposes of the contract with Colorado Medicaid. HSAG complies with the regulations outlined in the Health Insurance Portability and Accountability Act of 1996 (HIPAA) concerning data confidentiality.

We look forward to the opportunity to work with you on this study of Quality of Care for Diabetics. Should you have any questions about the study, please feel free to contact me at 303-755-1912 ext. 103. Thank you in advance for your assistance.

Sincerely,

Janet Lucchesi, RN, MHS
Manager, Colorado EQRO

**Health Services Advisory Group, Inc.**
**Colorado Medicaid Quality of Care for Diabetics**

Record Request: All medical records from 7-1-01 through 6-30-02 for each member listed

Please complete and return this patient list and the requested medical records by mail or fax to

Health Services Advisory Group: 3025 S. Parker Road, Suite 722, Aurora, CO 80014 FAX#: 303-755-4940

**Physician Name:** **Provider ID:**

**Address:**

If the chart is not available for review please enter a reason code in the box below.
1 – Patient not seen or no data in the review year.
2 – Patient medical record could not be found.
3 – Provider refuses to release the medical record.

| Patient Name (L, F) | Medicaid ID | SEX | DOB | SSN | Chart Availability | No. of Pages |
|---|---|---|---|---|---|---|
| Last Name, First Name | | | | | | |
| Last Name, First Name | | | | | | |
| Last Name, First Name | | | | | | |

[Date]

[Physician Name]
Attention: [Contact Person]
[Practice Name]
[Street Address]
[City, State, Zip]

**Via Facsimile**
(xxx) xxx-xxxx

Dear Dr. [Last Name]:

This letter is a follow-up to a previous letter sent from the Department of Health Care Policy & Financing (CDHCPF). Colorado Medicaid and contracted managed care organizations that provide care to the Colorado Medicaid population are conducting a **statewide study of diabetes care** as part of its annual quality oversight activities. Health Services Advisory Group (HSAG), the External Quality Review Organization (EQRO) for the Colorado Medicaid program, is conducting the study. Approximately two weeks ago, HSAG contacted your office by facsimile to request patient medical records for this study but has not received the records to date. If you are unable to locate or provide any of the medical records on the attached list, please notify me as soon as possible.

Attached is the list of patient records requested. One year of medical record information is needed for the period July 1st 2001, through June 30th 2002. **We ask that you please fax, or photocopy and mail by traceable carrier, the requested information to HSAG for receipt no later than [day], [date]** [Letter + 14 days].

Mailing Address: Health Services Advisory Group
Attn: Janet Lucchesi, RN, MHS
3025 S. Parker Road, Suite 722
Aurora, CO 80014

Or Fax to: 303-755-4940

All abstracted and copied medical record information will be kept confidential and will be used only for purposes of the contract with Colorado Medicaid. HSAG complies with the regulations outlined in the Health Insurance Portability and Accountability Act of 1996 (HIPAA) concerning data confidentiality.

**Should you have any questions about the study, please feel free to contact me at 303-755-1912 ext. 103. Thank you in advance for your assistance.**

Sincerely,

Janet Lucchesi, RN, MHS
Manager, Colorado EQRO

**Health Services Advisory Group, Inc.**
**Colorado Medicaid Quality of Care for Diabetics**

Record Request: All medical records from 7-1-01 through 6-30-02 for each member listed

Please complete and return this patient list and the requested medical records by mail or fax to

Health Services Advisory Group: 3025 S. Parker Road, Suite 722, Aurora, CO 80014 FAX#: 303-755-4940

**Physician Name:** **Provider ID:**

**Address:**

If the chart is not available for review please enter a reason code in the box below.
1 – Patient not seen or no data in the review year.
2 – Patient medical record could not be found.
3 – Provider refuses to release the medical record.

| Patient Name (L, F) | Medicaid ID | SEX | DOB | SSN | Chart Availability | No. of Pages |
|---|---|---|---|---|---|---|
| Last Name, First Name | | | | | | |
| Last Name, First Name | | | | | | |
| Last Name, First Name | | | | | | |

# APPENDIX D. Data Specifications

This appendix contains the specifications for the data requested for this study.

# Colorado Medicaid 2002 Diabetes Quality-of-Care Focused Study
# Data Specifications

Goal

Sample a population of Medicaid clients with Type I and Type II diabetes in order to validly and reliably compare the standard of care provided to diabetic clients in the two health plans, FFS and PCPP programs.

Overview

Standard HEDIS methodology will be used to identify Colorado Medicaid members with diabetes. Plans may use existing HEDIS code to identify and extract the eligible population, however the measurement year should be adjusted to the period **July 1, 2001 through June 30, 2002**.

1. Ages 18-75 years old as of June 30, 2002.
2. Continuously enrolled for the measurement year July 1, 2001, through June 30, 2002.
3. No more than one month gap in Medicaid coverage.
4. Still enrolled as of June 30, 2002, of the measurement year.
5. Diabetic, as identified using both pharmacy data and claims/encounter data as specified in HEDIS 2002. A member only needs to be identified by one method to be included. Members may be identified as having diabetes between July 1, 2000, through June 30, 2002.

Using these data, HSAG will select the final study sample.

Detailed Specification

Each plan should follow these steps to create the dataset for HSAG:

1. Select all members born **between** July 1st, 1926, and July 1st, 1984.
   This will ensure the sample includes only those who are between 18 and 75 years of age during the measurement year.
2. Determine those members in step one who were currently enrolled in your health plan as of June 30, 2002 (last day of measurement year).
3. Determine the number of months of eligibility each member in step two had between January 1, 2002, and June 30, 2002.
   * Store as a variable called month6.
4. Determine the number of months of eligibility each member in step two had between July 1, 2001, and June 30, 2002.
   * Store as a variable called month12.

   * If you are unable to create a month6 and a month12 variable, you may instead submit a binomial (0/1) variable named for each month of enrollment between July 2001 and June 2002, with 0 = non-eligible and 1= eligible.

5. Select members who meet HEDIS population criteria for Comprehensive Diabetes Care using two methods: pharmacy data and claims/encounter data. While health plans must use BOTH methods to identify the eligible population, a member only needs to be identified in one method to be included in the study. Members may be identified as having diabetes during the measurement year, or the year prior to the measurement year, i.e. between **July 1, 2000, and June 30, 2002**.

   **Pharmacy data**: those who were dispensed insulin and/or oral hypo-glycemics/anti-hyperglycemics between **July 1, 2000, and June 30, 2002,** on an ambulatory basis. Refer to HEDIS 2002 Vol. 2 page 88 Table E11-A.

   **Claims/Encounters**: Those who had <u>two</u> face to face encounters, with different dates of service, in an ambulatory setting or non-acute inpatient setting **or** <u>one</u> face to face encounter in an acute inpatient or emergency room setting between **July 1, 2000, and June 30, 2002,** with a diagnosis of diabetes. Health plans may count services that occur over both years. Use the codes in HEDIS 2002 Vol. 2 page 88 Table E11-B to identify ambulatory or non-acute inpatient and acute inpatient or ED encounters.

6. Include all
   a. All inpatient visit dates (see note below), and
   b. All claims/encounters with CPT code 83036 (hemoglobin, glycated) or automated laboratory record with a service date occurring in the measurement year July 1, 2001, and June 30, 2002.

   If you have 'home-grown' codes you should provide a crosswalk table of internal codes with ICD-9-CM and CPT codes.

   **Note: every member identified in step two should have at least one record in the submitted data file, whether or not a visit is identified in step five. Members with more than one visit should have a record for <u>each</u> visit.**

   **Each** claim/encounter/date of service should be a **new** record on the file.
   For example, if a member has three visits in the period then the member should be listed three times in the database. If a member has no visits, then the member should have one record in the database, listing everything except visit information.

   **Technical questions related to the construction, content and/or submission of data should be addressed to David Mabb, 602-665-6145.**

7. Save the file in a dBase IV or Excel format on either a CD-ROM, 3.5" IBM compatible floppy disk, or encrypted email. Zipped formats must have an IBM compatible format and file system.

8. Required data elements for the members are shown below:

| Element | Field Type |
|---|---|
| Health Plan Name | Text |
| Unique Member ID | Text |
| Member first name | Text |
| Member middle initial | Text |
| Member last name | Text |
| Member gender (M=male; F=Female) | Text |
| Member date of birth (mm/dd/yyyy) | Text |
| Member race/ethnicity (if field is captured) | Text |
| Month6 (see definition step 3 above) | Numeric |
| Month12 (see definition step 4 above) | Numeric |
| Jul01 [a] | Numeric |
| Aug01 [a] | Numeric |
| Sep01 [a] | Numeric |
| Oct01 [a] | Numeric |
| Nov01 [a] | Numeric |
| Dec01 [a] | Numeric |
| Jan02 [a] | Numeric |
| Feb02 [a] | Numeric |
| Mar02 [a] | Numeric |
| Apr02 [a] | Numeric |
| May02 [a] | Numeric |
| Jun02 [a] | Numeric |
| Date of Service (mm/dd/yyyy) | Text |
| Provider Name | Text |
| Unique Provider ID | Text |
| HbA1c screening CPT code 83036 | Numeric |
| HbA1c value[b] | Text (xx.x) |
| Homegrown codes (send mapping info) | Text |

[a] only required if month6 and month12 field can NOT be calculated.

[b] if laboratory values are captured. Plans may convert glycated hemoglobin or glycohemoglobin to HbA1c using the formula
HbA1c = (0.685 glycohemoglobin) + (1.2)

9. Please send file to:

   David Mabb, MS. CHCA,
   Director, Applied Statistics,
   Health Services Advisory Group, Inc.
   1600 East Northern Avenue, Suite 100
   Phoenix, Arizona 85020

   **For receipt no later than Friday, November 8th, 2002**

10. Using these data, HSAG will select the final study sample.

# Colorado Medicaid 2002 Diabetes Quality-of-Care Focused Study
# EQRO Data Request

## Primary Care Practitioner (PCP) File

Health Services Advisory Group (HSAG) will be contacting providers, pursuing medical records and abstracting the data for the diabetes focused study. In order to locate the medical record, your health plan needs to provide a file with the most current information for each of the 150 selected sample cases. A file has been provided with the name, date of birth, sex and Medicaid ID number for each member selected from your health plan. **The following provider information will be needed for each member in the sample:**

| Variable | Description | Value |
|---|---|---|
| MEMID | Member's Medicaid ID Number | String |
| PCPID | PCP Identification Number | String |
| PCPLAST | PCP Last Name | String |
| PCPFIRST | PCP First Name | String |
| PCPADDR1 | PCP Main Address | String |
| PCPADDR2 | PCP Additional Address Info | String |
| PCPCITY | PCP City | String |
| PCPSTATE | PCP State | String |
| PCPZIP | PCP Zip Code | String/Numeric |
| PCPPHONE | PCP Phone Number with Area Code | String |
| PCPFAX | PCP Fax Number with Area Code | String |

The member's Medicaid ID number (MEMID) will be necessary to link the provider information back to the selected sample. Please provide the current Primary Care Practitioner information for the selected member. You should provide information for up to two providers per member.

**File Format:** Please send the file in a an Excel or dBase IV file format on a CD or a 3.5" diskette, or you may email the files to dmabb@hsag.com provided you zip the files.

**We would appreciate your response by Monday December 16th at the latest.**

**Contact:** If you have any questions, please contact
David Mabb at (602) 665-6145 or dmabb@hsag.com

# APPENDIX E. Study Timeline

This appendix lists deliverables and due dates for the baseline study.

| | Task | By | Due Date |
|---|---|---|---|
| 1. | Study design reviewed with QuIC | QuIC | Sep 4, 2002 |
| 2. | Revised study design reviewed with QuIC | QuIC | Oct 2, 2002 |
| 3. | Send member data request to health plans | HSAG | Oct 11, 2002 |
| 4. | Review draft medical record review tool | QuIC | Nov 6, 2002 |
| 5. | Health plan eligible populations due to HSAG | MCOs | Nov 8, 2002 |
| 6. | Develop and test sampling, with sample sizes submitted to the Department, including minimum abstracted records required for contract compliance. | HSAG | Nov 27, 2002 |
| 7. | Send provider data request to health plans | CDHCPF | Dec 2, 2002 |
| 8. | Approval of medical record review tool | CDHCPF | Dec 5, 2002 |
| 9. | Approval of written medical record request letters | CDHCPF | Dec 12, 2002 |
| 10. | Health plans submit provider information for members in their sample | MCOs | Dec 16, 2002 |
| 11. | Start sending medical record requests to providers | HSAG | Dec 16, 2002 |
| 12. | Start medical record reviews | HSAG | Jan 13, 2003 |
| 13. | Complete medical record reviews | HSAG | Feb 28, 2003 |
| 14. | Study report (Draft 1) entirely complete and submitted to Department for review | HSAG | Apr 16, 2003 |
| 15. | Department comments on draft 1 due to HSAG | CDHCPF | Apr 30, 2003 |
| 16. | Incorporate Department comments and send to HMOs for review - Draft 2 | HSAG | May 14, 2003 |
| 17. | HMO and Department comments on Draft 2 due to HSAG | HMOs CDHCPF | May 28, 2003 |
| 18. | Final report with final incorporation of HMO and Department comments | HSAG | Jun 27, 2003 |