State of Colorado

Department of Health Care Policy & Financing

FY 04–05 PIP VALIDATION REPORT

DIABETES CARE FOR RMHP MEMBERS

for

ROCKY MOUNTAIN HEALTH PLAN

June 2005

HSAG
HEALTH SERVICES ADVISORY GROUP

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

HSAG
HEALTH SERVICES
ADVISORY GROUP

CONTENTS

for Rocky Mountain Health Plan

Executive Summary Overview

Background

The Balanced Budget Act of 1997 (Public Law 105-33) (BBA) requires that the states conduct an annual evaluation of their Managed Care Organizations (MCOs) and Prepaid Inpatient Health Plans (PIHPs) to determine the MCOs' and PIHPs' compliance with federal regulations and quality improvement standards. According to the BBA, the quality of health care delivered to Medicaid members enrolled in MCOs and PIHPs must be tracked, analyzed, and reported annually. In addition, federal regulations requires states to review, at least annually, the impact and effectiveness of each MCO's and PIHP's quality assessment and performance improvement program, including the results of each MCO's and PIHP's performance improvement projects (PIPs). For the purpose of this report, health plans will be referred to as MCOs.

The Colorado Department of Health Care Policy & Financing (the Department) has opted to complete this annual review requirement by contracting with an External Quality Review Organization (EQRO). The current EQRO is Health Services Advisory Group, Inc. (HSAG).

Introduction

The purpose of health care quality PIPs is to assess and improve processes and, thereby, outcomes of care. In order for such projects to achieve real improvements in care, and for interested parties to have confidence in the reported improvements, PIPs must be designed, conducted, and reported in a methodologically sound manner. PIPs have been conducted by the MCOs to assess and improve the quality of clinical and nonclinical health services received by members. MCOs submit PIPs to be validated annually. PIPs generally are designed, implemented, analyzed and remeasured over an extended time frame. For the annual validation, the MCO submits to the phase of the PIP completed. This PIP validation is scored based on the phase submitted

This report summarizes the PIP review conducted by HSAG for the *Diabetes Care for RMHP Members* PIP submitted by **Rocky Mountain Health Plan (RMHP).** Evaluation of PIPs is conducted based on Centers for Medicare & Medicaid Services (CMS) guidelines, as outlined in the CMS publication, *Validating Performance Improvement Projects, A Protocol for Use in Conducting External Quality Review Activities,* Final Protocol, Version 1.0, May 1, 2002 (CMS PIP Protocol).

The CMS protocol identifies 10 activities that should be validated for each PIP, although in some cases the PIP may not be at a point where all activities can be validated. These 10 activities are:

- Activity I. Appropriate Study Topic
- Activity II. Clearly Defined, Answerable Study Question
- Activity III. Clearly Defined Study Indicator(s)
- Activity IV. Correctly Identified Study Population
- Activity V. Valid Sampling Techniques (if sampling was used)
- Activity VI. Accurate/Complete Data Collection
- Activity VII. Appropriate Improvement Strategies
- Activity VIII. Sufficient Data Analysis and Interpretation
- Activity IX. Real Improvement Achieved
- Activity X. Sustained Improvement Achieved

Each activity consists of elements necessary for the successful completion of a valid PIP.

These 10 activities are further broken down into 53 specific elements, 11 of which HSAG has designated as "critical" for producing valid and reliable results and for demonstrating a high confidence in the PIP findings. These critical elements must be found to be *Met* for the PIP to be considered in compliance.

If one or more critical elements are *Not Met*, the PIP will be considered invalid. Depending on the specific elements and the phase of the PIP, the required corrective actions may include revising the PIP summary form, submitting additional documentation, and/or modifying or repeating an element of the PIP submitted for validation.

If one or more critical elements are *Partially Met*, the PIP will be considered valid. Depending on the specific elements and the phase of the PIP, the required corrective actions may include revising the PIP summary form, submitting additional documentation, and/or modifying the current PIP or the future PIP.

If all critical elements are *Met*, no corrective action is necessary.

Corrective action plans must be submitted within 30 days of receipt of the final PIP report.

For noncritical elements found to be *Partially Met* or *Not Met*, the report will provide recommendations but no required corrective actions. Responding to these recommendations will improve current and future PIPs but will not change report scores.

Overall Study Summary

RMHP chose to conduct its PIP on diabetes care, since the chronic disease has ranked in the top 20 diagnoses within **RMHP** claims since 1995. Improper diabetes management increases a members' risk for developing complications that might result in renal failure, amputation, blindness, and myocardial infarctions. The study topic was relevant to the **RMHP** Medicaid population because it is a high-volume and high-risk condition that affects 7.4 percent of the enrolled Medicaid population and accounts for $4.8 million in total **RMHP** Medicaid medical expenditures. Diabetes is a Medicaid Quality Improvement Committee (QuIC) area of study.

RMHP chose to use education and interventions for members and providers to improve compliance with laboratory testing and improve test results. The diabetes care indicators focused on included: HbA1c testing and control, LDL screening and control, eye exams, and monitoring for diabetic nephropathy. The education for members was provided through diabetes care checklists and education materials. Providers received annual diabetes care guideline updates, formal education with Continuing Medical Education (CME) credit, newsletters, and updates to the provider manuals. The interventions evolved as the study progressed and root cause analysis was performed.

Overall, **RMHP** showed improvement in its study indicators over four years. The interventions introduced by **RMHP** impacted the results and have led to improvements in the number of tests being performed and in the outcomes of the test results.

Study Methodology

RMHP's study population included Medicaid members, aged 18–75 years as of December 31, with diabetes. Hybrid (medical/treatment records and administrative) data were used to obtain data for the study. RHMP used ViPS MedMeasures software to run all Health Plan Employer Data and Information Set (HEDIS®) measures. Demographic and utilization data were used to evaluate trends in the diabetes-care measures. Chi-square tests of association were used to interpret the statistical significance of year-to-year rate differences within each of the six study indicators.

Study Results

HbA1c testing showed statistically significant improvement from Baseline to Remeasurement 3, with a 15 percent improvement reported overall. **RMHP** exceeded the established industry benchmarks.

HbA1c control showed statistically significant improvement from Baseline to Remeasurement 3, with a decrease of greater than 28 percent overall. **RMHP** exceeded the established industry benchmarks.

LDL testing showed statistically significant improvement from Baseline to Remeasurement 3, with a 22 percent improvement reported overall. **RMHP** exceeded the established industry benchmarks.

HEDIS® is a registered trademark of the National Committee for Quality Assurance (NCQA). HEDIS is a set of standardized performance measures designed to ensure that purchasers and consumers have the information needed to reliably compare the performance of managed health care plans.

LDL control showed statistically significant improvement from Baseline to Remeasurement 3, with a 30 percent improvement reported overall. **RMHP** exceeded the established industry benchmarks.

Eye exams showed statistically significant improvement from Baseline to Remeasurement 2, with an 18 percent improvement reported overall. **RMHP** exceeded the established industry benchmarks.

Nephropathy screening or treatment showed a statistically significant improvement in testing from Baseline to Remeasurement 2, with a 17 percent improvement reported overall. **RMHP** exceeded the industry benchmarks.

Summary of HSAG Validation Findings

For this review, ten activities were validated. The following highlights the overall validation results for the **RMHP's** PIP:

- Total number of critical elements that were evaluated equaled 11; of these:
  - 11 critical elements were *Met*.
- Total number of all PIP elements (including critical elements) that were evaluated equaled 53; of these:
  - 50 evaluation elements were *Met*.
  - 3 evaluation elements were *Not Applicable.*

Table 1-1 and Table 1-2 show **RMHP's** scores based on HSAG's PIP evaluation of *Diabetes Care for RMHP Members*. Each activity has been reviewed and scored according to the HSAG validation methodology outlined in Section 2 of this report.

Table 1-1—FY 04–05 Performance Improvement Project Scores: *Diabetes Care for RMHP Members* for Rocky Mountain Health Plan

Review Activity	Total Possible Evaluation Elements (including Critical Elements)	Total Met	Total Partially Met	Total Not Met	Total N/A	Total Possible Critical Elements	Total Critical Elements Met	Total Critical Elements Partially Met
I. Appropriate Study Topic	6	6	0	0	0	1	1	0
II. Clearly Defined, Answerable Study Question	2	2	0	0	0	1	1	0
III. Clearly Defined Study Indicator(s)	7	6	0	0	1	3	3	0
IV. Correctly Identified Study Population	3	3	0	0	0	2	2	0
V. Valid Sampling Techniques	6	6	0	0	0	1	1	0
VI. Accurate/Complete Data Collection	11	10	0	0	1	1	1	0
VII. Appropriate Improvement Strategies	4	4	0	0	0	No Critical Elements		
VIII. Sufficient Data Analysis and Interpretation	9	8	0	0	1	2	2	0
IX. Real Improvement Achieved	4	4	0	0	0	No Critical Elements		
X. Sustained Improvement Achieved	1	1	0	0	0	No Critical Elements		
Totals for All Activities	**53**	50	0	0	3	**11**	11	0

Table 1-2— FY 04–05 Performance Improvement Project Overall Score: *Diabetes Care for RMHP Members* for Rocky Mountain Health Plan

Percentage Score*	**100%***
Validation Status	**Met**

* Percentage score is calculated by dividing the total *Met* by the sum of the total *Met, Partially Met*, and *Not Met*. However, if any critical elements are scored *Not Met,* the percentage score will automatically be zero.

Conclusions and Recommendations

This study addressed the need to improve compliance with diabetes care measures. **RMHP** presented a well-defined study topic that could elicit change in the compliance with diabetes care, which in turn could affect the health and satisfaction of the MCO's Medicaid members. The study indicators were based on HEDIS measures and were well defined, objective, and measurable. **RMHP** clearly and correctly identified its study population and used HEDIS methodologies for selecting the study's sample.

The data collection and analysis process were well defined and data were presented in a clear and easily understood format that included interpretations and significance testing results.

Overall, the six study indicators showed improvement from baseline through the remeasurement periods. **RMHP** indicated that the improvements were a result of the study interventions.

The final validation for **RMHP's** PIP found that all critical elements were *Met*, and a total of 50 out of 53 of all evaluation elements (including critical elements) were *Met*. Three elements were *Not Applicable* for this PIP.

There are no corrective actions identified in the report.

HSAG recommends that **RMHP** use similar method for conducting future PIP studies.

Validation Methodology Overview

Using the PIP validation tool shown in Appendix A, HSAG assessed each component of **RMHP's** PIP, based on the following CMS protocol activities. As explained in the Executive Summary, the methodology requires that 10 activities be reviewed.

The activities are:

- Activity I. Appropriate Study Topic
- Activity II. Clearly Defined, Answerable Study Question
- Activity III. Clearly Defined Study Indicator(s)
- Activity IV. Correctly Identified Study Population
- Activity V. Valid Sampling Techniques (if sampling was used)
- Activity VI. Accurate/Complete Data Collection
- Activity VII. Appropriate Improvement Strategies
- Activity VIII. Sufficient Data Analysis and Interpretation
- Activity IX. Real Improvement Achieved
- Activity X. Sustained Improvement Achieved

Scoring Methodology

Each activity consists of elements necessary for the successful completion of a valid PIP. The elements within each activity were scored by the HSAG review team as *Met*, *Partially Met*, *Not Met*, or *Not Applicable* (*NA*). Some of the elements have been designated "critical" elements for all PIPs (marked with a "critical element" in the Activities section of the PIP evaluation tool, Appendix A of this report). All of the critical elements must be *Met* for the PIP to produce accurate and reliable results. For example, on Activity II of the PIP evaluation tool, if the study question or hypothesis cannot be answered or proven, then this critical element will be scored as *Not Met,* and the PIP will be considered not valid. The MCO submits PIPs annually for validation by the EQRO. The activities that are evaluated may vary from year to year depending on the phase of the study. The MCO submits the completed progress to date for validation. The activities that have not been completed are scored as not assessed and this does not affect the final report score.

All PIPs are scored as follows:

Met	(1) All critical elements were *Met*, **and** (2) 80 percent–100 percent of all elements were *Met*.
Partially Met	(1) All critical elements were *Met*, but less than 80 percent of all elements were *Met*; **or** (2) One or more critical element(s) were *Partially Met*.
Not Met	One or more critical element(s) were *Not Met*.
Not Applicable (NA)	*Not Applicable* elements (including critical elements if they were not assessed) were removed from all scoring.

If one or more critical elements are *Not Met,* the PIP will be considered invalid. Depending on the specific elements and the phase of the PIP, the required corrective actions may include revising the PIP summary form, submitting additional documentation, and/or modifying or repeating an element of the PIP submitted for validation.

If one or more critical elements are *Partially Met,* the PIP will be considered valid. Depending on the specific elements and the phase of the PIP, the required corrective actions may include revising the PIP summary form, submitting additional documentation, and/or modifying the current PIP or the future PIP.

If all critical elements are *Met,* no corrective action is necessary.

For noncritical elements found to be *Partially Met* or *Not Met,* the report will provide recommendations but no required corrective actions. Responding to these recommendations will improve current and future PIPs but will not change report scores.

The scores are calculated as the percentage of elements across all activities that receive a *Met* status. The following four examples demonstrate how the scoring is applied.

Example 1: In this example, an MCO received the following scores: *Met* = 43, *Partially Met* = 2, *Not Met* = 0, *NA* = 8, and all critical elements were *Met*. The MCO would receive an overall *Met* status, indicating the PIP was considered valid. The score for the MCO would be calculated as 43/45 = 95.6 percent. No further action would be required.

Example 2: In this example, an MCO received the following scores: *Met* = 52, *Partially Met* = 0, *Not Met* = 1, *NA* = 0, and one critical element was *Not Met*. The MCO would receive an overall *Not Met* status and the PIP would not be considered valid. The score would be calculated as a zero percentage score. Depending on the specific elements and the phase of the PIP, the required corrective actions may include revising the PIP summary form, submitting additional documentation, and/or modifying or repeating an element of the PIP submitted for validation.

Example 3: In this example, an MCO received the following scores: *Met* = 43, *Partially Met* = 1, *Not Met* = 1, *NA* = 8, and one critical element was *Partially Met*. The MCO would receive an overall *Partially Met* status, indicating the PIP was considered valid. The score for the MCO would be calculated as 43/45 = 95.6 percent. The MCO would need to send in appropriate information to resolve the issues with the *Partially Met* critical element. Depending on the specific element and the phase of the PIP, the required corrective actions may include revising the PIP summary form, submitting additional documentation, and/or modifying the current PIP or the future PIP.

Example 4: In this example, an MCO received the following scores: *Met* = 38, *Partially Met* = 11, *Not Met* = 4, *NA* = 0, and all the critical elements are *Met.* The overall score is less than 80 percent, so the MCO would receive an overall *Partially Met* status, indicating the PIP was considered valid. The score for the MCO would be calculated as 38/53 = 71.7 percent. For noncritical elements found to be *Partially Met*, no corrective actions are required.

Validation and Findings Overview

This section summarizes the activities evaluated for the PIP and identifies the rationale for each activity. For details, see the PIP validation tool in the appendix of this report.

Activity I. Appropriate Study Topic

Rationale

All PIPs should target improvement in relevant areas of clinical care and nonclinical services. Topics selected for study by the MCOs must reflect their Medicaid enrollment in terms of demographic characteristics, prevalence of disease, and the potential consequences (risks) of the disease (CMS PIP Protocol, page 2).

Study Topic

RMHP chose diabetes care for its Medicaid members as its PIP topic. The study topic was relevant to this population because it was a high-volume and high-risk condition. Diabetes affects 7.4 percent of the enrolled Medicaid population and accounted for $4.8 million in total **RMHP** Medicaid medical expenditures. The study topic was also a Medicaid QuIC area of study.

Findings

Table 3-1—Findings for Activity I: Appropriate Study Topic

Review Activity	Total Possible Evaluation Elements (including Critical Elements)	Total Met	Total Partially Met	Total Not Met	Total N/A	Total Possible Critical Elements	Total Critical Elements Met	Total Critical Elements Partially Met
I.	6	6	0	0	0	1	1	0

Six of the six evaluation elements, including the one critical element, were *Met* for this activity.

Strengths

The **RMHP** PIP demonstrated the MCO's ability to select an appropriate and relevant study topic. The study topic selection criteria used by **RMHP** demonstrated that the topic selected for the study affected a significant portion of the members and had potentially significant impact on members' mental health, functional status, or satisfaction.

Corrective Actions (for Critical Elements):

There were no corrective actions for Activity I.

Recommendations (for Noncritical Elements):

The MCO should use similar methods for determining topics for future studies.

Activity II. Clearly Defined, Answerable Study Question

Rationale

It is important for the MCO to clearly state, in writing, the question(s) the study is designed to answer. Stating the question(s) helps maintain the focus of the PIP and sets the framework for data collection, analysis, and interpretation (CMS PIP Protocol, page 5).

Study Question

RMHP's study question was:

Does member and provider education and intervention improve compliance with suggested laboratory testing and subsequent improvement in test results?

Findings

Table 3-2—Findings for Activity II: Clearly Defined, Answerable Study Question

Review Activity	Total Possible Evaluation Elements (including Critical Elements)	Total Met	Total Partially Met	Total Not Met	Total N/A	Total Possible Critical Elements	Total Critical Elements Met	Total Critical Elements Partially Met
II.	2	2	0	0	0	1	1	0

Both evaluation elements in this activity received a *Met* score. The critical element for this activity was *Met*.

Strengths

The **RMHP** PIP demonstrated the MCO's ability to state and define an answerable study question that addressed the problem to be studied in simple terms.

Corrective Actions (for Critical Elements):

There were no corrective actions for Activity II.

Recommendations (for Noncritical Elements):

The MCO should use similar methods for defining its study questions for future studies.

Activity III. Clearly Defined Study Indicator(s)

Rationale

A study indicator is a quantitative or qualitative characteristic (variable) reflecting a discrete event that is to be measured.

Each project should have one or more quality indicators for use in tracking performance and improvement over time. All indicators must be objective, clearly and unambiguously defined, and based on current clinical knowledge or health services research. In addition, all indicators must be capable of objectively measuring either member outcomes—such as health or functional status, member satisfaction, or valid proxies of these outcomes.

Study indicators can be few and simple, many and complex, or any combination thereof—depending on the study question(s), the complexity of existing practice guidelines for a clinical condition, and the availability of data and resources to gather the data.

Indicator criteria are the set of rules by which the data collector or reviewer determines whether an indicator has been met. Pilot or field testing is helpful to the development of effective indicator criteria. Such testing allows the opportunity to add criteria that might not have been anticipated in the design phase. In addition, criteria are often refined over time, based on results of previous studies. However, if criteria are changed significantly, the method for calculating an indicator will not be consistent and performance on indicators will not be comparable over time.

It is important, therefore, for the indicator criteria to be developed as fully as possible during the design and field testing of data collection instruments (CMS PIP Protocol, page 5).

Study Indicators

RMHP had six study indicators. The study indicators were:

- Comprehensive Diabetes Care – HbA1c Testing
- Comprehensive Diabetes Care – Poor HbA1c Control
- Comprehensive Diabetes Care – LDL Screening Test
- Comprehensive Diabetes Care – LDL Screening Level < 130 mg/dl
- Comprehensive Diabetes Care – Eye Exam
- Comprehensive Diabetes Care – Monitoring for Diabetic Nephropathy

Findings

Table 3-3—Findings for Activity III: Clearly Defined Study Indicator(s)								
Review Activity	Total Possible Evaluation Elements (including Critical Elements)	Total Met	Total Partially Met	Total Not Met	Total N/A	Total Possible Critical Elements	Total Critical Elements Met	Total Critical Elements Partially Met
III.	7	6	0	0	1	3	3	0

Six of the seven evaluation elements, including the three critical elements, received a *Met* score. One element was scored *Not Applicable* because it was not relevant to the study topic.

Strengths

The study indicator selection process used by **RMHP** demonstrated that the indicators selected were well defined, objective, and measurable. The study indicators had data available to be collected and allowed the study question to be answered. They measured changes in mental health and functional status and were based on HEDIS methodologies. The study indicators measured changes in health status.

Corrective Actions (for Critical Elements):

There were no corrective actions for Activity III.

Recommendations (for Noncritical Elements):

The MCO should use similar methods for selecting and defining indicators for future PIPs.

Activity IV. Correctly Identified Study Population

Rationale

Once a topic has been selected, measurement and improvement efforts must be system-wide (i.e., each project must represent the entire Medicaid enrolled population to which the PIP study indicators apply). Once that population is identified, the MCO must decide whether to review data for that entire population or use a sample of that population. Sampling is acceptable as long as the samples are representative of the identified population (CMS PIP Protocol, page 8), as described on page 3-6 of this report (see "Activity V—Valid Sampling Techniques").

Study Population

RMHP's population was defined as Medicaid members with diabetes, aged 18–75 as of December 31 of the measurement year, who were continuously enrolled for the measurement year with no more than one gap in enrollment of up to 45 days.

Findings

Table 3-4—Findings for Activity IV: Correctly Identified Study Population

Review Activity	Total Possible Evaluation Elements (including Critical Elements)	Total Met	Total Partially Met	Total Not Met	Total N/A	Total Possible Critical Elements	Total Critical Elements Met	Total Critical Elements Partially Met
IV.	3	3	0	0	0	2	2	0

All evaluation elements in this activity, including two critical elements, received a *Met* score.

Strengths

RMHP accurately and completely defined its study population, including requirements for the length of members' enrollment. The study population captured all members to whom the study question applied.

Corrective Actions (for Critical Elements):

There were no corrective actions for Activity IV.

Recommendations (for Noncritical Elements):

The MCO should use similar methods for identifying and defining its study population in future PIPS.

Activity V. Valid Sampling Techniques

Rationale

If the MCO uses a sample to select members for the study, proper sampling techniques are necessary to provide valid and reliable (and therefore generalizable) information on the quality of care provided. When conducting a study designed to estimate the rates at which certain events occur, the sample size has a large impact on the level of statistical confidence in the study estimates. Statistical confidence is a numerical statement of the probable degree of certainty or accuracy of an estimate. In some situations, it expresses the probability that a difference could be due to chance alone. In other applications, it expresses the probability of the accuracy of the estimate. For example, a study may report that a disorder is estimated to be present in 35 percent of the population. This estimate might have a 95 percent level of confidence, plus or minus 5 percentage points, implying a 95 percent certainty that between 30 percent and 40 percent of the population has the disease.

The true prevalence or incidence rate for the event in the population may not be known the first time a topic is studied. In such situations, the most prudent course of action is to assume that a maximum sample size is needed to establish a statistically valid baseline for the project indicators (CMS PIP Protocol, page 9).

Sampling Techniques

RMHP used HEDIS methodologies for selecting its sample population for the study. The sample size was 411, plus an oversample.

Findings

Table 3-5—Findings for Activity V: Valid Sampling Techniques

Review Activity	Total Possible Evaluation Elements (including Critical Elements)	Total Met	Total Partially Met	Total Not Met	Total N/A	Total Possible Critical Elements	Total Critical Elements Met	Total Critical Elements Partially Met
V.	6	6	0	0	0	1	1	0

The six evaluation elements in this activity, including the critical element, were *Met*.

Strengths

The sampling methods used by **RMHP** were appropriate for the study. HEDIS methodologies were appropriate and accurate for this study.

Corrective Actions (for Critical Elements):

There were no corrective actions for Activity V.

Recommendations (for Noncritical Elements):

RMHP should use similar sampling methods in future HEDIS-related studies.

Activity VI. Accurate/Complete Data Collection

Rationale

Procedures used by the MCO to collect data for its PIP must ensure that the data collected on the PIP indicators are valid and reliable. Validity is an indication of the accuracy of the information obtained. Reliability is an indication of the repeatability or reproducibility of a measurement. The MCO should employ a data collection plan that includes:

- Clear identification of the data to be collected.
- Identification of the data sources.
- Specification of who will collect the data.
- Identification of instruments used to collect the data.

When data are collected from automated data systems, development of specifications for automated retrieval of the data should be devised. When data are obtained from visual inspection of medical records or other primary source documents, the following steps should be taken to ensure the data are consistently extracted and recorded.

One key to successful manual data collection is the selection of the data collection staff. Appropriately qualified personnel, with conceptual and organizational skills, should be used to abstract the data; however, the specific skills could vary depending on the nature of the data collected and the degree of professional judgment required. For example, if data collection involves searching throughout the medical record to find and abstract information or judging whether clinical criteria are met, experienced clinical staff should collect the data.

Clear guidelines for obtaining and recording data should be established, especially if multiple reviewers are used to perform this activity. The MCO should determine the necessary qualifications of the data collection staff before finalizing the data collection instrument. An abstractor would need fewer clinical skills if the data elements within the data source were more clearly defined. Defining a glossary of terms for each project should be a part of the training of abstractors to ensure consistent interpretation among and between the project staff.

The number of data collection staff used for a given project affects the reliability of the data. A smaller number of staff promotes inter-rater reliability; however, it may also increase the amount of time it takes to complete this task. Intra-rater reliability (i.e., “reproducibility” of judgments by the same abstractor at a different time) should also be considered (CMS PIP Protocol, page 12).

Data Collection

RMHP used the hybrid method (administrative and medical records) for collecting data for the study.

Findings

Table 3-6—Findings for Activity VI: Accurate/Complete Data Collection								
Review Activity	Total Possible Evaluation Elements (including Critical Elements)	Total Met	Total Partially Met	Total Not Met	Total N/A	Total Possible Critical Elements	Total Critical Elements Met	Total Critical Elements Partially Met
VI.	11	10	0	0	1	1	0	1

Ten of the eleven evaluation elements in this activity were *Met,* and one was *Not Applicable.* The critical element was *Met* for this activity.

Strengths

RMHP identified the data elements and sources used to collect the study data. The study report provided clearly defined the process for collecting the data, including a description of the manual data collection process and the staff responsible for collecting the data. The timeline for the collection of baseline and remeasurement data was identified. HEDIS methodologies and software were used as part of the data collection process.

Corrective Actions (for Critical Elements):

There were no corrective actions for Activity VI.

Recommendations (for Noncritical Elements):

For futures studies, **RMHP** should use similar methods for accurately and completely collecting its automated and manual data to be used in the production of study indicators.

Activity VII. Appropriate Improvement Strategies

Rationale

Real, sustained improvements in care result from a continuous cycle of measuring and analyzing performance and from developing and implementing system-wide improvements in care. Actual improvements in care depend far more on thorough analysis and implementation of appropriate solutions than on any other steps in the process.

An improvement strategy is defined as an intervention designed to change behavior at an institutional, practitioner, or beneficiary level. The effectiveness of the intervention activity or activities can be determined by measuring the MCO's change in performance, according to predefined quality indicators. Interventions are key to an improvement project's ability to bring about improved health care outcomes. Appropriate interventions must be identified and/or developed for each PIP to assure the likelihood of effecting measurable change.

If repeat measures of quality improvement (QI) indicate that QI actions are not successful (i.e., did not achieve significant improvement), the problem-solving process should begin again with data analysis to identify possible causes, propose and implement solutions, etc. If QI actions are successful, the new processes should be standardized and monitored (CMS PIP Protocol, page 16).

Improvement Strategies

Improvement strategies are interventions that are implemented to achieve improvement in the study indicators and ultimately answer the study question.

Findings

Table 3-7—Findings for Activity VII: Appropriate Improvement Strategies

Review Activity	Total Possible Evaluation Elements (including Critical Elements)	Total Met	Total Partially Met	Total Not Met	Total N/A	Total Possible Critical Elements	Total Critical Elements Met	Total Critical Elements Partially Met
VII.	4	4	0	0	0	No Critical Elements		

The four evaluation elements for this activity were *Met*.

Strengths

At the time of the study report, the study was not far enough along to assess the intervention strategies.

Corrective Actions (for Critical Elements):

There were no critical elements in Activity VII.

Recommendations (for Noncritical Elements):

For future submissions, **RMHP** should evaluate and implement intervention strategies using methods that are consistent with this PIP.

Activity VIII. Sufficient Data Analysis and Interpretation

Rationale

Review of MCO data analysis begins with examining the MCO's calculated plan performance on the selected clinical or nonclinical indicators. The review examines the appropriateness of, and the MCO's adherence to, the statistical analysis techniques defined in the data analysis plan (CMS PIP Protocol, page 17).

Data Analysis and Interpretation

RMHP used SAS and Microsoft Access to research trends in the data. Chi-square tests of Association were used to interpret the statistical significance of year-to-year rate differences within each of the six indicators.

Findings

Table 3-8—Findings for Activity VIII: Sufficient Data Analysis and Interpretation

Review Activity	Total Possible Evaluation Elements (including Critical Elements)	Total Met	Total Partially Met	Total Not Met	Total N/A	Total Possible Critical Elements	Total Critical Elements Met	Total Critical Elements Partially Met
VIII.	9	8	0	0	1	2	2	0

Eight of the nine evaluation elements for this activity, including the critical elements, were *Met*. One element was *Not Applicable* to the study.

Strengths

RMHP analyzed data according to the plan outlined in the study report. HEDIS methodologies were used throughout the study and, therefore, ensured generalizability. The results were presented in a clear and easily understood format that included interpretations of the results and statistical significance testing results.

Corrective Actions (for Critical Elements):

There were no corrective actions for Activity VIII.

Recommendations (for Noncritical Elements):

For future PIPs, **RMHP** should use data analysis plans that yield the most accurate and reliable results. As in this report, the results should be clearly presented and include interpretations of the findings.

Activity IX. Real Improvement Achieved

Rationale

When an MCO reports a change in its performance, it is important to know whether the reported change represents "real" change or is an artifact of a short-term event unrelated to the intervention, or random chance. The external quality review organization (EQRO) will need to assess the probability that reported improvement is actually true improvement. This probability can be assessed in several ways but is most confidently assessed by calculating the degree to which an intervention is statistically significant. While this protocol does not specify a level of statistical significance that must be met, it does require that EQROs assess the extent to which any changes in performance reported by a MCO can be found to be statistically significant. States may choose to establish their own numerical thresholds for finding reported improvements to be significant (CMS PIP Protocol, page 18).

Real Improvement Achieved

The PIP study showed statistical improvement, and **RMHP** indicated that the improvements were a result of the planned interventions.

Findings

Table 3-9—Findings for Activity IX: Real Improvement Achieved

Review Activity	Total Possible Evaluation Elements (including Critical Elements)	Total Met	Total Partially Met	Total Not Met	Total N/A	Total Possible Critical Elements	Total Critical Elements Met	Total Critical Elements Partially Met
IX.	4	4	0	0	0	No Critical Elements		

All of the evaluation elements for this activity were *Met*.

Strengths

RMHP used HEDIS methodologies for the PIP, and the methodologies stayed the same throughout the entire study. The report provided documented improvement in processes and outcomes of care, and the statistically significant improvements were a result of the interventions.

Corrective Actions (for Critical Elements):

There were no critical elements in Activity IX.

Recommendations (for Noncritical Elements):

RMHP should use this study as a reference for conducting future PIPs.

Activity X. Sustained Improvement Achieved

Rationale

Real change results from changes in the fundamental processes of health care delivery. Such changes should result in sustained improvements. In contrast, a spurious "one time" improvement can result from unplanned accidental occurrences or random chance. If real change has occurred, the MCO should be able to document sustained improvement (CMS PIP Protocol, page 19).

Sustained Improvement Achieved

The study demonstrated sustained improvement in two or more remeasurement periods.

Findings

Table 3-10—Findings for Activity X: Sustained Improvement Achieved

Review Activity	Total Possible Evaluation Elements (including Critical Elements)	Total Met	Total Partially Met	Total Not Met	Total N/A	Total Possible Critical Elements	Total Critical Elements Met	Total Critical Elements Partially Met
X.	1	1	0	0	0	No Critical Elements		

Strengths

Improvement was demonstrated in two or more remeasurement periods for five of the six study indicators.

Corrective Actions (for Critical Elements):

There were no critical elements in Activity X.

Recommendations (for Noncritical Elements):

Sustained improvement is assessed on two or more remeasurement periods of data. Future studies will be evaluated on this activity when enough data is available.

Appendices

Introduction

The appendices consist of the documentation that supported the validation process conducted by HSAG, utilizing the Centers for Medicare & Medicaid Services (CMS) protocols for validating Performance Improvement Projects. Appendix A provides the PIP study evaluation with scoring; Appendix B is the study submitted to HSAG for review.

- Appendix A: FY 04-05 PIP Validation Tool
- Appendix B: **RMHP's** PIP Study: *Diabetes Care for RMHP Members*

HSAG
HEALTH SERVICES ADVISORY GROUP

Appendix A: FY 04–05 PIP Validation Tool
Diabetes Care for RMHP Members
for Rocky Mountain Health Plan

DEMOGRAPHIC INFORMATION	
MCO Name or ID: Rocky Mountain Health Plans	
Study Leader Name:	
Telephone Number:	
Name of Project/Study: *Diabetes Care for RMHP Members*	
Type of Study: ☐ Clinical ☐ Nonclinical	
Date of Study Period:	
Type of Delivery System – check all that apply: ☐ Staff Model ☐ MCP ☐ Network ☐ PHP ☐ Direct IPA ☐ MCCN ☐ IPA Organization ☐ PIHP	_____ Number of Medicaid Members in MCO _____ Number of Medicaid Members in Study _____ Total Number of MCO Members in Study
Number of MCO Primary Care Physicians (if applicable) _____ Number of MCO Specialty Physicians (if applicable) _____ Number of Physicians in Study (if applicable) _____	

Appendix A: FY 04–05 PIP Validation Tool
Diabetes Care for RMHP Members
for Rocky Mountain Health Plan

ACTIVITIES		EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation				
Assess the Study Methodology				
I. Appropriate Study Topic		**The study topic:**		
Noncritical element		1. Reflects high-volume or high-risk conditions (or was selected by the State).	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The study reflected the high-risk condition of diabetes.
Noncritical element		2. Is selected following collection and analysis of data (or was selected by the State).	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The study was selected based on its relevance to RMHP, with 7.4 percent of its Medicaid population affected, which accounted for nearly $5 million in medical expenditures in 2003.
Noncritical element		3. Addresses a broad spectrum of care and services (or was selected by the State).	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The study addressed a broad spectrum of care.
Noncritical element		4. Includes all eligible populations that meet the study criteria.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The study used HEDIS methodology and included all relevant populations.
Noncritical element		5. Does not exclude consumers with special health care needs.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The methodology did not exclude members with special health care needs.
Critical element		6. Has the potential to affect consumer health, functional status, or satisfaction.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The study had a goal to improve health outcomes and, therefore, affect member health status.
Total Critical Elements for Activity I	1		**6** Met **0** Partially Met **0** Not Met **0** N/A	

Appendix A: FY 04–05 PIP Validation Tool
Diabetes Care for RMHP Members
for Rocky Mountain Health Plan

ACTIVITIES		EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation				
Assess the Study Methodology				
II. Clearly Defined, Answerable Study Question		**The written study question or hypothesis:**		
Noncritical element		1. States the problem to be studied in simple terms.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The study question was applicable and easily understood. Note: Quality indicator #5 was not addressed by the study question since it was not a laboratory test. Should the study be continued, the study question should be modified to include this indicator by removing the word "laboratory" in the study question.
Critical element		2. Is answerable/provable.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	
Total Critical Elements for Activity II	1		**2** Met **0** Partially Met **0** Not Met **0** N/A	

Appendix A: FY 04–05 PIP Validation Tool
Diabetes Care for RMHP Members
for Rocky Mountain Health Plan

ACTIVITIES		EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation				
Assess the Study Methodology				
III. Clearly Defined Study Indicator(s)		**Study indicators:**		
Critical element		1. Are well defined, objective, and measurable.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The study indicators used HEDIS methodology and were well defined.
Noncritical element		2. Are based on practice guidelines, with sources identified.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The study indicators used HEDIS methodology and were well defined.
Critical element		3. Allow for the study question/hypothesis to be answered or proven.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The study indicators allowed the study question to be answered.
Noncritical element		4. Measure changes (outcomes) in health or functional status, consumer satisfaction, or valid process alternatives.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	Changes over time could readily be ascertained by the study indicators.
Critical element		5. Have available data that can be collected on each indicator.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The data were readily available for the study indicators.
Noncritical element		6. Are nationally recognized measures such as HEDIS, when appropriate.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The study indicators used HEDIS methodology.
Noncritical element		7. Include the basis on which each indicator was adopted, if internally developed.	☐ Met ☐ Partially Met ☐ Not Met ☒ N/A	The study indicators used HEDIS methodology and were not developed internally.
Total Critical Elements for Activity III	3		**6** Met **0** Partially Met **0** Not Met **1** N/A	

Appendix A: FY 04–05 PIP Validation Tool
Diabetes Care for RMHP Members
for Rocky Mountain Health Plan

ACTIVITIES		EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation				
Assess the Study Methodology				
IV. Correctly Identified Study Population		**The method for identifying the eligible population:**		
Critical element		1. Is accurately and completely defined.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The HEDIS methodology clearly defined the eligible population.
Noncritical element		2. Includes requirements for the length of a consumer's enrollment in the health plan.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	Enrollment requirements were discussed and well defined.
Critical element		3. Captures all consumers to whom the study question applies.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The study captured all appropriate members.
Total Critical Elements for Activity IV	2		**3** Met **0** Partially Met **0** Not Met **0** N/A	

Appendix A: FY 04–05 PIP Validation Tool
Diabetes Care for RMHP Members
for Rocky Mountain Health Plan

ACTIVITIES		EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation				
Assess the Study Methodology				
V. Valid Sampling Techniques		**Sampling techniques:**		
Noncritical element		1. Consider and specify the true or estimated frequency of occurrence (or the number of eligible consumers in the population).	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The HEDIS methodology was used; RMHP indicated that 7.4 percent of its Medicaid population had diabetes.
Noncritical element		2. Identify the sample size (or use the entire population).	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The sample size of 411 (plus an oversample) was based on HEDIS methodology.
Noncritical element		3. Specify the confidence interval to be used (or use the entire population).	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The HEDIS methodology was used.
Noncritical element		4. Specify the acceptable margin of error (or use the entire population).	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The HEDIS methodology was used.
Critical element		5. Ensure a representative sample of the eligible population.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The HEDIS methodology was used and ensured a representative sample of the population.
Noncritical element		6. Are in accordance with generally accepted principles of research design and statistical analysis.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The HEDIS methodology was used.
Total Critical Elements for Activity V	1		**6** Met **0** Partially Met **0** Not Met **0** N/A	

ACTIVITIES	EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation			
Assess the Study Methodology			
VI. Accurate/ Complete Data Collection	**The data collection techniques provide for the following:**		
Noncritical element	1. Clearly defined data elements to be collected.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	RMHP used a certified software product and had a HEDIS audit performed to verify the results.
Noncritical element	2. Clearly identified sources of data.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	RMHP used administrative claims/encounters and medical record review.
Noncritical element	3. A clearly defined and systematic process for collecting data that includes how baseline and remeasurement data will be collected.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	RMHP used certified software, and the medical record review process was approved through the HEDIS audit process.
Noncritical element	4. A timeline for the collection of baseline and remeasurement data.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	Timelines were not explicitly stated, but RMHP followed HEDIS methodology and must report results by mid-June each year.
Noncritical element	5. Qualified staff and personnel to collect manual data.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	RMHP used its own qualified staff. The medical record review process was approved through the HEDIS audit process.
Critical element	6. A manual data collection tool that ensures consistent and accurate collection of data according to indicator specifications.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The medical record review process was approved through the HEDIS audit process.
Noncritical element	7. A manual data collection tool that supports inter-rater reliability.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The medical record review process was approved through the HEDIS audit process.

Appendix A: FY 04–05 PIP Validation Tool
Diabetes Care for RMHP Members
for Rocky Mountain Health Plan

ACTIVITIES		EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation				
Assess the Study Methodology				
VI. Accurate/ Complete Data Collection		**The data collection techniques provide for the following:**		
Noncritical element		8. Clear and concise written instructions for completing the manual data collection tool.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The medical record review process was approved through the HEDIS audit process.
Noncritical element		9. An overview of the study in written instructions.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The medical record review process was approved through the HEDIS audit process.
Noncritical element		10. Automated data collection algorithms that show steps in the production of indicators.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	RMHP used certified software, and the medical record review process was approved through the HEDIS audit process.
Noncritical element		11. An estimated degree of automated data completeness between:	☐ Met ☐ Partially Met ☐ Not Met ☒ N/A 100%–80% 79%–50% <50% (or not provided)	RMHP used the hybrid method, which includes both administrative and medical record data. Therefore, members without an administrative "hit" due to data completeness issues would have been found through medical record review.
Total Critical Elements for Activity VI	1		**10** Met **0** Partially Met **0** Not Met **1** N/A	

ACTIVITIES		EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation				
Assess the Study Methodology				
VII. Appropriate Improvement Strategies		**Planned/implemented strategies for improvement are:**		
Noncritical element		1. Related to causes/barriers identified through data analysis and QI processes.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	RMHP began some interventions based on findings from the initial measurements and root cause analysis.
Noncritical element		2. System changes that are likely to induce permanent change.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The system changes appeared to have produced permanent changes.
Noncritical element		3. Revised if original interventions are not successful.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	Original interventions were improved based on root cause analysis.
Noncritical element		4. Standardized and monitored if interventions are successful.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	Interventions were successful and continued monitoring through performance measurement occurred.
Total Critical Elements for Activity VII	0		**4** Met **0** Partially Met **0** Not Met **0** N/A	

Appendix A: FY 04–05 PIP Validation Tool
Diabetes Care for RMHP Members
for Rocky Mountain Health Plan

ACTIVITIES	EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation			
Assess the Study Methodology			
VIII. Sufficient Data Analysis and Interpretation	**The data analysis:**		
Critical element	1. Is conducted according to the data analysis plan in the study design.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The analysis was conducted according to the analysis plan.
Critical element	2. Allows for generalization of the results to the study population if a sample was selected.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The HEDIS methodology allowed for generalization to the eligible population.
Noncritical element	3. Identifies factors that threaten internal or external validity of findings.	☐ Met ☐ Partially Met ☐ Not Met ☒ N/A	HEDIS methodology was utilized.
Noncritical element	4. Includes an interpretation of findings.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The study included interpretations of the findings.
Noncritical element	5. Is presented in a way that provides accurate, clear, and easily understood information.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The results were presented in tables, along with statistical significance. The analysis was clear, accurate, and easily understood.
Noncritical element	6. Identifies initial measurement and remeasurement of study indicators.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The study identified the baseline measurement and remeasurement of the study indicators.
Noncritical element	7. Identifies statistical differences between initial measurement and remeasurement.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	Statistical differences were provided, including appropriate p-values.
Noncritical element	8. Identifies factors that affect ability to compare initial measurement with remeasurement.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	HEDIS methodology was utilized. However, RMHP mentioned that the HEDIS specifications changed between years for diabetic nephropathy monitoring.

ACTIVITIES		EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation				
Assess the Study Methodology				
VIII. Sufficient Data Analysis and Interpretation		**The data analysis:**		
Noncritical element		9. Includes the extent to which the study was successful.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	A discussion was included about the success of the project.
Total Critical Elements for Activity VIII	2		**8** Met **0** Partially Met **0** Not Met **1** N/A	

ACTIVITIES		EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation				
Assess the Study Methodology				
IX. Real Improvement Achieved		**There is evidence of "real" improvement based on the following:**		
Noncritical element		1. Remeasurement methodology is the same as baseline methodology.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	HEDIS methodology was utilized.
Noncritical element		2. There is documented improvement in processes or outcomes of care.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	Results showed statistically significant improvement.
Noncritical element		3. The improvement appears to be the result of intervention(s).	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The improvement in the rates appeared to be a result of the direct interventions by RMHP.
Noncritical element		4. There is statistical evidence that observed improvement is true improvement.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	The improvement in the rates was statistically significant.
Total Critical Elements for Activity IX	0		**4** Met **0** Partially Met **0** Not Met **0** N/A	

ACTIVITIES		EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation				
Assess the Study Methodology				
X. Sustained Improvement Achieved		**There is evidence of sustained improvement based on the following:**		
Noncritical element		1. Repeated measurements over comparable time periods demonstrate sustained improvement, or the decline in improvement is not statistically significant.	☒ Met ☐ Partially Met ☐ Not Met ☐ N/A	Since the baseline measurement, repeated measurements have continued to improve. Although not all results were statistically significant improvements each year, the results did not decline—except for diabetic nephropathy monitoring, which had noted changes in the HEDIS specifications.
Total Critical Elements for Activity X	0		**1** Met **0** Partially Met **0** Not Met **0** N/A	

Appendix A: FY 04–05 PIP Validation Tool
Diabetes Care for RMHP Members
for Rocky Mountain Health Plan

Table A-1—FY 04–05 Performance Improvement Project Scores *Diabetes Care for RMHP Members* *for* Rocky Mountain Health Plan								
Review Activity	**Total Possible Evaluation Elements** (including Critical Elements)	**Total Met**	**Total Partially Met**	**Total Not Met**	**Total N/A**	**Total Possible Critical Elements**	**Total Critical Elements Met**	**Total Critical Elements Partially Met**
I. Appropriate Study Topic	6	6	0	0	0	1	1	0
II. Clearly Defined, Answerable Study Question	2	2	0	0	0	1	1	0
III. Clearly Defined Study Indicator(s)	7	6	0	0	1	3	3	0
IV. Correctly Identified Study Population	3	3	0	0	0	2	2	0
V. Valid Sampling Techniques	6	6	0	0	0	1	1	0
VI. Accurate/Complete Data Collection	11	10	0	0	1	1	1	0
VII. Appropriate Improvement Strategies	4	4	0	0	0	No Critical Elements		
VIII. Sufficient Data Analysis and Interpretation	9	8	0	0	1	2	2	0
IX. Real Improvement	4	4	0	0	0	No Critical Elements		
X. Sustained Improvement Achieved	1	1	0	0	0	No Critical Elements		
Totals for All Activities	**53**	50	0	0	3	**11**	11	0

Table A-2—FY 04–05 Performance Improvement Project Overall Score *Diabetes Care for RMHP Members* *for* Rocky Mountain Health Plan	
Percentage Score*	**100%***
Validation Status	**Met**

* Percentage score is calculated by dividing the total *Met* by the sum of the total *Met, Partially Met*, and *Not Met*. However, if any critical elements are scored *Not Met,* the percentage score will automatically be zero.

Appendix A: FY 04–05 PIP Validation Tool
Diabetes Care for RMHP Members
for Rocky Mountain Health Plan

EVALUATION OF THE OVERALL VALIDITY AND RELIABILITY OF PIP/STUDY RESULTS
HSAG assessed the implications on the validity and reliability of the MCO PIP findings and reviewed the study based on demonstrated confidence in the reported PIP findings. Determining when an accumulation of threats to validity and reliability and PIP design problems reach a point at which the PIP findings are no longer credible is always a judgment call. (See CMS Protocol for Validating PIPs, Activity 3, page 21).
***Met* = High confidence/Confidence in reported MCO PIP results** ****Partially Met* =Low confidence in reported MCO results** *****Not Met* =Reported MCO results not credible**
Summary of Aggregate Validation Findings *☒ **Met** **☐ **Partially Met** ***☐ **Not Met**
Summary statement of the validation findings: Based on the validation of this PIP study, HSAG's assessment determined high confidence in the reported PIP results.

HSAG
HEALTH SERVICES ADVISORY GROUP

Appendix B: PIP Summary Form: *Diabetes Care for RMHP Members* *for* Rocky Mountain Health Plan

Performance Improvement Project (PIP) Name: *Diabetes Care for RMHP Members*
Activity I: Select the Study Topic(s)
A. Step One: Choose the Selected Study Topic. Topics selected for study should reflect the Medicaid enrollment in terms of demographic characteristics, prevalence of disease, and the potential consequences (risks) of the disease. Topics could also address the need for a specific service. The goal of the project should be to improve processes and outcomes of health care. The topic may be specified by the State Medicaid agency or on the basis of Medicaid enrollee input.
Study Topic: Care of RMHP members with Diabetes The American Diabetes Association reports that diabetes affects 18.2 million people or 6.3% of the population. It is estimated that at least an additional one third of the cases are undiagnosed. Diabetes is the fifth leading cause of death by disease in the United States. Diabetes also contributes to higher rates of morbidity – people with diabetes are at a higher risk for heart disease, blindness, kidney failure, extremity amputations and other chronic conditions. It is estimated that direct medical and indirect expenditures for people with diabetes in 2002 was around $132 billion. RMHP identified Diabetes as a chronic disease for guideline development and intervention based on the following: since 1995 Diabetes has ranked in the top 20 diagnoses within RMHP claims, evidence based guidelines for diabetes were available, RMHP's ability to support interventions through our benefit structure and case management program, and improper diabetes management increases members' risk for developing complications that may result in renal failure, amputation, blindness and myocardial infarction. This study is relevant to the Medicaid population, as it is a high volume and high risk condition. Diabetes affects 7.4% of the enrolled RMHP Medicaid population and accounts for $4,817,000 in total RMHP Medicaid medical expenditures (based on 2003 data.) This study was originally selected by RMHP but it is also a Medicaid QuIC area of study.
B. Step Two: The Study Question. Stating the question(s) helps maintain the focus of the PIP and sets the framework for data collection, analysis, and interpretation.
Study Question: Does member and provider education and intervention improve compliance with suggested laboratory testing and subsequent improvement in test results?

HSAG
HEALTH SERVICES ADVISORY GROUP

APPENDIX B: PIP SUMMARY FORM: DIABETES CARE FOR RMHP MEMBERS for ROCKY MOUNTAIN HEALTH PLAN

Performance Improvement Project (PIP) Name: *Diabetes Care for RMHP Members*	
C. Step Three: Selected Study Indicators. A study indicator is a quantitative or qualitative characteristic or variable that reflects a discrete event (e.g., an older adult has not received a flu shot in the last twelve months), or a status (e.g., a member's blood pressure is/is not below a specified level) that is to be measured. The selected indicators should track performance or improvement over time. The indicators should be objective, clearly and unambiguously defined, and based on current clinical knowledge or health services research.	
Study Indicator #1:	Comprehensive Diabetes Care – HbA1C Testing
Numerator:	One or more HbA1C tests conducted during the measurement year identified either through administrative claims data or medical record review. (HEDIS 2004 Specifications)
Denominator:	A systematic sample drawn from the eligible Medicaid population.
First Measurement Period Dates:	1/1/00 – 12/31/00
Benchmark:	83%
Source of Benchmark:	NCQA reported 90th percentile for 2003
Baseline Goal:	78% (2000) increased to 83% (2003)
Study Indicator #2:	Comprehensive Diabetes Care – Poor HbA1C Control
Numerator:	The most recent HbA1C level performed during the measurement year is >9.0% as documented through automated laboratory data or medical record review. If there is no level reported for the measurement year, the level is considered to be >9.0%. (HEDIS 2004 Specifications) HEDIS 2001 – HEDIS 2003 Specifications measured levels >9.5%.
Denominator:	A systematic sample drawn from the eligible Medicaid population.
First Measurement Period Dates:	1/1/00 – 12/13/00
Benchmark:	86% (lower result is desired outcome – RMHP questions the benchmark reported by NCQA)
Source of Benchmark:	NCQA reported 90th percentile for 2000
Baseline Goal:	44% (2000) decreased to 21% at >9.5% (previous HEDIS measurement) (2003)

HSAG
HEALTH SERVICES ADVISORY GROUP

APPENDIX B: PIP SUMMARY FORM: *DIABETES CARE FOR RMHP MEMBERS* *for* ROCKY MOUNTAIN HEALTH PLAN

Performance Improvement Project (PIP) Name: *Diabetes Care for RMHP Members*	
Study Indicator #3:	Comprehensive Diabetes Care – LDL Screening Test
Numerator:	An LDL test done during the measurement year or year prior to the measurement year as determined by claim/encounter or automated laboratory data or medical record review. (HEDIS 2004 Specifications)
Denominator:	A systematic sample drawn from the eligible Medicaid population.
First Measurement Period Dates:	1/1/00 – 12/31/00
Benchmark:	74%
Source of Benchmark:	NCQA reported 90th percentile for 2003
Baseline Goal:	62% (2000) increased to 80% (2003)
Study Indicator #4:	Comprehensive Diabetes Care – LDL screening level <130mg/dl
Numerator:	The most recent LDL level (during the measurement year or year prior) is <130mg/dl, as documented through automated laboratory data or medical record review. If there is not a valid LDL test within the last two measurement years or if the results for the most recent LDL is not available, the level is considered to be >130mg/dl. (HEDIS 2004 Specifications)
Denominator:	A systematic sample drawn from the eligible Medicaid population.
First Measurement Period Dates:	1/1/00 – 12/31/00
Benchmark:	41%
Source of Benchmark:	NCQA reported 90th percentile for 2000
Baseline Goal:	36% (set in 2000) increased to 60% (2003)

HSAG
HEALTH SERVICES ADVISORY GROUP

APPENDIX B: PIP SUMMARY FORM: DIABETES CARE FOR RMHP MEMBERS for ROCKY MOUNTAIN HEALTH PLAN

Performance Improvement Project (PIP) Name: *Diabetes Care for RMHP Members*	
Study Indicator #5:	Comprehensive Diabetes Care – Eye Exam
Numerator:	An eye screening for diabetic retinal disease. This includes those diabetics who had a retinal or dilated eye exam by an eye care professional in the measurement year as documented through either administrative data or medical record review. Also allowed to count a negative retinal exam performed in the year prior to the measurement year if the member meets both of the following criteria: the member was not prescribed or dispensed insulin during the measurement year and the members most recent HbA1C level (performed during the measurement year) is <8.0% (HEDIS 2004 Specifications). HEDIS 2001 – HEDIS 2003 Specifications allowed for two out of the three criteria for a prior year's examination (negative exam, use of insulin or HbA1C <8.0%.)
Denominator:	A systematic sample drawn from the eligible Medicaid population.
First Measurement Period Dates:	1/1/00 – 12/31/00
Benchmark:	60%
Source of Benchmark:	NCQA reported 90th percentile for 2003
Baseline Goal:	53% (2000) increased to 70% (2003)
Study Indicator #6:	Comprehensive Diabetes Care – Monitoring for diabetic nephropathy
Numerator:	Screening for nephropathy or evidence of nephropathy, as documented through either administrative data or medical record review. This measure is intended to assess if diabetic patients are being monitored for nephropathy. Allowed to count toward the numerator: patients who have been screened for microalbuminuria or patients who already have evidence of nephropathy, as demonstrated by either evidence of medical attention for nephropathy or a positive macroalbuminuria test (not included for trace readings) (HEDIS 2004 Specifications). HEDIS 2001 – HEDIS 2003 Specifications allowed for use of a prior years screening test if the member was not on insulin and if their HbA1C was <8.0% within the current measurement year.
Denominator:	A systematic sample drawn from the eligible Medicaid population.
First Measurement Period Dates:	1/1/00 – 12/31/00
Benchmark:	55%
Source of Benchmark:	NCQA reported 90th percentile for 2000
Baseline Goal:	50% (2000) increased to 60% (2003)

HSAG
HEALTH SERVICES ADVISORY GROUP

APPENDIX B: PIP SUMMARY FORM: DIABETES CARE FOR RMHP MEMBERS for ROCKY MOUNTAIN HEALTH PLAN

Performance Improvement Project (PIP) Name: *Diabetes Care for RMHP Members*
D. Step 4: Identified Study Population. The selected topic should represent the entire Medicaid enrolled population with system-wide measurement and improvement efforts to which the PIP study indicators apply. Once the population is identified, a decision must be made whether to review data for the entire population or a sample of that population.
Identified Study Population: Medicaid members ages 18 – 75 as of December 31 of the measurement year. Continuously enrolled for the measurement year with no more than one gap in enrollment of up to 45 days during the measurement year. For Medicaid members whose enrollment is verified monthly, the member may not have more than one month gap in coverage. Members must be eligible as of December 31 of the measurement year. Event/diagnosis: Two methods are provided to identify diabetic members; pharmacy data and claims/encounter data. Must use both methods to identify the eligible population. However, a member only needs to be identified in one method to be included in the measure. Members may be identified as having diabetes during the measurement year or the year prior to the measurement year. Pharmacy data. Members who were dispensed insulin or oral hypoglycemic/antihyperglycemics during the measurement year or year prior to the measurement year on an ambulatory basis. Claim/encounter data. Members who had two face-to-face encounters with different dates of service in an ambulatory setting or non-acute inpatient setting or one face-to-face encounter in an acute inpatient or emergency room setting during the measurement year or the year prior to the measurement year with a diagnosis of diabetes. May count services that occur over both years. (HEDIS 2004 Specifications)

HSAG
HEALTH SERVICES ADVISORY GROUP

APPENDIX B: PIP SUMMARY FORM: DIABETES CARE FOR RMHP MEMBERS for ROCKY MOUNTAIN HEALTH PLAN

Performance Improvement Project (PIP) Name: *Diabetes Care for RMHP Members*

E. Step 5: Sampling Methods. If sampling is to be used to select members of the study, proper sampling techniques are necessary to provide valid and reliable information on the quality of care provided. The true prevalence or incidence rate for the event in the population may not be known for the first time a topic is studied.

Measure	Sample Size	Population	Method for Determining Size (*describe*)	Sampling Method (*describe*)
All Diabetes related measures. One sample is selected on which all of the diabetes measures are conducted.	411 plus valid over-sample (Over-sample rates 2000 = 5%, 2001 = 10%, 2002 = 10%, 2003 = 15%)	As identified above in Step 4	See HEDIS 2004 technical specs on sample size for hybrid measures	See HEDIS 2004 technical specs on guidelines for systematic sampling methodology. RMHP uses VIPS MedMeasure software to generate the diabetic population and sample. This software has been certified by NCQA and is reviewed annually by an independent HEDIS auditor.

F. Step 6: Data Collection Procedures. Data collection must ensure that the data collected on the PIP indicators are valid and reliable. Validity is an indication of the accuracy of the information obtained. Reliability is an indication of the repeatability or reproducibility of a measurement.

[X] Clear identification of the data to be collected
[X] Identification of the data sources and how and when the baseline and repeat indicator data will be collected
[X] Specification of who will collect the data
[X] Identification of instruments used to collect the data
[X] Medical/treatment records
[X] Administrative data:
[X] Claims/encounter data [ ] Complaints [ ] Appeals [ ] Telephone service data [ ] Appointment/access data [X] Lab values from vendors
[X] Hybrid (medical/treatment records and administrative)
[X] Pharmacy data
[ ] Survey data (attach the survey tool and the complete survey protocol)
[X] Other (list and describe):
See attached HEDIS Audit Certificate.

RMHP uses VIPS MedMeasures software to run all HEDIS measures. RMHP uses VIPS MedCapture software to enter abstracted hybrid data.

HSAG
HEALTH SERVICES ADVISORY GROUP

APPENDIX B: PIP SUMMARY FORM: *DIABETES CARE FOR RMHP MEMBERS* *for* ROCKY MOUNTAIN HEALTH PLAN

Performance Improvement Project (PIP) Name: *Diabetes Care for RMHP Members*	
RMHP uses its own staff to abstract hybrid data. Both MedMeasures and MedCapture software are NCQA certified.	
If medical/treatment records, check below: [X] Medical/treatment record abstraction If survey, check all that apply: [ ] Personal interview [ ] Mail [ ] Phone with CATI script [ ] Phone with IVR [ ] Internet [ ] Incentive provided [ ] Other (list and describe):	If administrative, check all that apply: [ ] Programmed pull from claims/encounter files of all eligible members [X] Programmed pull from claims/encounter files of a sample of members [ ] Complaint/appeal data by reason codes [X] Pharmacy data [ ] Delegated entity data [X] Vendor file [ ] Automated response time file from call center [ ] Appointment/access data [ ] Other (list and describe):

HSAG
HEALTH SERVICES ADVISORY GROUP

APPENDIX B: PIP SUMMARY FORM: *DIABETES CARE FOR RMHP MEMBERS* *for* ROCKY MOUNTAIN HEALTH PLAN

Performance Improvement Project (PIP) Name: *Diabetes Care for RMHP Members*	
F. Step 6a: Data Collection Cycle.	**Data Analysis Cycle.**
[X] Once a year [ ] Twice a year [ ] Once a season [ ] Once a quarter [ ] Once a month [ ] Once a week [ ] Once a day [ ] Continuous [ ] Other (list and describe):	[X] Once a year [ ] Once a season [ ] Once a quarter [ ] Once a month [ ] Continuous [ ] Other (list and describe):
F. Step 6b. Other Pertinent Methodological Features. Complete only if needed.	

HSAG
HEALTH SERVICES ADVISORY GROUP

APPENDIX B: PIP SUMMARY FORM: DIABETES CARE FOR RMHP MEMBERS for ROCKY MOUNTAIN HEALTH PLAN

Performance Improvement Project (PIP) Name: *Diabetes Care for RMHP Members*

G. Step 7. Improvement Strategies. Real, sustained improvements in care result from a continuous cycle of measuring and analyzing performance, and developing and implementing system-wide improvements in care. Describe interventions designed to change behavior at an institutional, practitioner, or beneficiary level.

Describe interventions.

RMHP began working on a diabetes management program in 1996-1997. It was felt that with the development of diabetes guidelines, tools, education and a case management program RMHP could effect change in health outcomes for members with diabetes. Once the guidelines were developed (by a multi-disciplinary task force) and approved (by the RMHP QI Committee), the following interventions were set in motion.

Interventions ongoing since start of RMHP Diabetes program:

Provide member education:
a) Distribution of diabetes care checklist to members identified with diabetes
b) Distribution of additional education materials by the Diabetes Case Manager to members identified for case management

Provide specialized case management for members with diabetes:
a) Coordination of care and services by Case Manager
b) Development of individual case management plans
c) Development of Diabetes self-management education tools
d) Implement plan to maximize member benefits when medically necessary
e) Monitored effectiveness/improvement in health status of members with diabetes

Provision of education to physicians and other healthcare professionals regarding the Diabetes Guidelines:
a) Annual update and mailing of guidelines to practitioners
b) Formal education for CME credit
c) Publish Guidelines in Quality Newsline (provider newsletter)
d) Guidelines added to Provider Manual

Diabetes information placed on the RMHP web site to include: RMHP benefits/diabetes case management, diabetes care checklist, and linkage to diabetes source information.

HSAG
HEALTH SERVICES ADVISORY GROUP

APPENDIX B: PIP SUMMARY FORM: DIABETES CARE FOR RMHP MEMBERS for ROCKY MOUNTAIN HEALTH PLAN

As the RMHP diabetes program evolved, root cause analysis was conducted along with an annual literature search. During RMHP annual study review and planning meetings, including input from the QI Committee, additional interventions were developed and implemented each year.

Interventions implemented throughout the evolution of the RMHP Diabetes program:

Provide member education and case management programs:

a) Development and on-going use of patient registry for purposes of case management and reporting
b) Diabetes Education Resource List placed on RMHP web site
c) Send annual reminder cards for eye exams that included a note to have a report sent to PCP of record
d) Send annual flu shot reminder cards
e) Continue to send translated diabetes information for members who speak Spanish
f) Chronic Care Model (CCM)
    1. Ongoing program implementation and evaluation
    2. Identification of opportunities to implement the CCM in additional practices
g) Develop a quarterly report listing members with acute complications for case management intervention and continually re-evaluate management needs
h) Prepare a quarterly report for case manager of those members without LDL control including whether they are on lipid lowering medications
i) Prepare a quarterly report of those members without HgbA1C control or no test for case manager evaluation
j) Continue work on issue of diabetes education by CDE's no longer being a benefit for Medicaid members (from implementation of diabetes study until 7/03 this was a covered benefit)

Provision of education to physicians and other healthcare professionals regarding diabetes:

a) Development and on-going use of patient registry for purposes of case management and reporting
b) Developed letter to educate Eye Care Practitioners about billing for dilated eye exams for members with diabetes and include tips for preparing eye exam reports
c) Diabetes Education Resource List placed on RMHP web site
d) Chronic Care Model (CCM)
    1. Ongoing program implementation and evaluation
    2. Identification of opportunities to implement the CCM in additional practices
e) Educate specialists on the need to send consult reports to PCPs
f) Mesa County Physician IPA Pay for Performance project

HSAG
HEALTH SERVICES ADVISORY GROUP

APPENDIX B: PIP SUMMARY FORM: DIABETES CARE FOR RMHP MEMBERS for ROCKY MOUNTAIN HEALTH PLAN

Performance Improvement Project (PIP) Name: *Diabetes Care for RMHP Members*

H. Step 8. Data analysis and interpretation of study results: Describe the data analysis process on the selected clinical or non-clinical study indicators. Include the statistical analysis techniques utilized.

Using the hybrid methodology described in step 6, the results for each of the study indicators are calculated. Once this information is gathered, all available information (demographic and utilization) is pulled from available resources and the search for possible trends begins. Using SAS® and Microsoft Access®, Chi-Square Tests of Association are used to interpret the statistical significance of year-to-year rate differences within each of the six study indicators. Then, using available demographic information, logistic regression modeling is used in an attempt to identify significant predictor variables that may contribute to a service or outcome being performed. The sampled population results are also compared to other known population rates in an attempt to further define and understand the population and its utilization.

I. Step 9. Reported Improvement: Describe any meaningful change in performance observed during baseline measurement that was demonstrated.

#1 Quantifiable Measure: Comprehensive Diabetes Care – HbA1C Testing

Time Period Measurement Covers	Baseline Project Indicator Measurement	Numerator	Denominator	Rate or Results	Industry Benchmark	Statistical Test[2] and Significance*
1/1/00 - 12/31/00	***Baseline:***	304	411	74%	Not yet est	
1/1/01 – 12/31/01	**Remeasurement 1:**	325	411	79%	85%	p=0.084, R1 to Baseline
1/1/02 – 12/31/02	**Remeasurement 2:**	349	411	85%	85%	p=0.029, R2 to R1
1/1/03 – 12/31/03	**Remeasurement 3:**	365	411	89%	83%	p=0.099, R3 to R2
	Remeasurement 4:					
	Remeasurement 5:					

HSAG
HEALTH SERVICES ADVISORY GROUP

APPENDIX B: PIP SUMMARY FORM: DIABETES CARE FOR RMHP MEMBERS for ROCKY MOUNTAIN HEALTH PLAN

Performance Improvement Project (PIP) Name: *Diabetes Care for RMHP Members*						
#2 Quantifiable Measure: Comprehensive Diabetes Care – Poor HbA1C Control						
Time Period Measurement Covers	**Baseline Project Indicator Measurement**	**Numerator**	**Denominator**	**Rate or Results**	**Industry Benchmark**	**Statistical Test[2] and Significance***
1/1/00 - 12/31/00	***Baseline:***	193	411	47%	Not yet est	
1/1/01 – 12/31/01	**Remeasurement 1:**	140	411	34%	86%	p<0.001, R1 to Baseline
1/1/02 – 12/31/02	**Remeasurement 2:**	106	411	26%	86%	p=0.010, R2 to R1
1/1/03 – 12/31/03	**Remeasurement 3:**	79	411	19%[1]	86%	N/A
	Remeasurement 4:					
	Remeasurement 5:					
#3 Quantifiable Measure: Comprehensive Diabetes Care – LDL Screening Test						
Time Period Measurement Covers	**Baseline Project Indicator Measurement**	**Numerator**	**Denominator**	**Rate or Results**	**Industry Benchmark**	**Statistical Test[2] and Significance***
1/1/00 - 12/31/00	***Baseline:***	247	411	60%	Not yet est	
1/1/01 – 12/31/01	**Remeasurement 1:**	300	411	73%	68%	p<0.001, R1 to Baseline
1/1/02 – 12/31/02	**Remeasurement 2:**	308	411	75%	68%	p=0.525, R2 to R1
1/1/03 – 12/31/03	**Remeasurement 3:**	337	411	82%	74%	p=0.014, R3 to R 2
	Remeasurement 4:					
	Remeasurement 5:					

HSAG
HEALTH SERVICES ADVISORY GROUP

APPENDIX B: PIP SUMMARY FORM: DIABETES CARE FOR RMHP MEMBERS for ROCKY MOUNTAIN HEALTH PLAN

Performance Improvement Project (PIP) Name: *Diabetes Care for RMHP Members*						
#4 Quantifiable Measure: Comprehensive Diabetes Care – LDL screening level <130mg/dl						
Time Period Measurement Covers	**Baseline Project Indicator Measurement**	**Numerator**	**Denominator**	**Rate or Results**	**Industry Benchmark**	**Statistical Test[2] and Significance***
1/1/00 - 12/31/00	***Baseline:***	135	411	33%	Not yet est	
1/1/01 – 12/31/01	**Remeasurement 1:**	206	411	50%	41%	p<0.001, R1 to Baseline
1/1/02 – 12/31/02	**Remeasurement 2:**	221	411	54%	41%	p=0.295, R2 to R1
1/1/03 – 12/31/03	**Remeasurement 3:**	259	411	63%	41%	p=0.007, R3 to R2
	Remeasurement 4:					
	Remeasurement 5:					
#5 Quantifiable Measure: Comprehensive Diabetes Care – Eye Exam						
Time Period Measurement Covers	**Baseline Project Indicator Measurement**	**Numerator**	**Denominator**	**Rate or Results**	**Industry Benchmark**	**Statistical Test[2] and Significance***
1/1/00 - 12/31/00	***Baseline:***	209	411	51%	Not yet est	
1/1/01 – 12/31/01	**Remeasurement 1:**	255	411	62%	61%	p=0.001, R1 to Baseline
1/1/02 – 12/31/02	**Remeasurement 2:**	284	411	69%	61%	p=0.033, R2 to R1
1/1/03 – 12/31/03	**Remeasurement 3:**	288	411	70%[1]	61%	N/A
	Remeasurement 4:					
	Remeasurement 5:					

HSAG
HEALTH SERVICES ADVISORY GROUP

APPENDIX B: PIP SUMMARY FORM: *DIABETES CARE FOR RMHP MEMBERS* *for* ROCKY MOUNTAIN HEALTH PLAN

Performance Improvement Project (PIP) Name: *Diabetes Care for RMHP Members*						
#6 Quantifiable Measure: Comprehensive Diabetes Care – Screening for Diabetic Nephropathy						
Time Period Measurement Covers	**Baseline Project Indicator Measurement**	**Numerator**	**Denominator**	**Rate or Results**	**Industry Benchmark**	**Statistical Test[2] and Significance***
1/1/00 - 12/31/00	***Baseline:***	193	411	47%	Not yet est	
1/1/01 – 12/31/01	**Remeasurement 1:**	226	411	55%	55%	p=0.021, R1 to Baseline
1/1/02 – 12/31/02	**Remeasurement 2:**	263	411	64%	55%	p=0.009, R2 to R1
1/1/03 – 12/31/03	**Remeasurement 3:**	238	411	58%[1]	54%	N/A
	Remeasurement 4:					
	Remeasurement 5:					

***** 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.

[1] Noted changes in the HEDIS 2004 technical specification for these three measures. These changes may make comparison to prior years and to industry benchmarks invalid.

[2] The statistical test used was a Chi-Square Test of Association.

HSAG
HEALTH SERVICES ADVISORY GROUP

APPENDIX B: PIP SUMMARY FORM: DIABETES CARE FOR RMHP MEMBERS for ROCKY MOUNTAIN HEALTH PLAN

Performance Improvement Project (PIP) Name: *Diabetes Care for RMHP Members*
J. Step 10. Sustained improvement: Describe any demonstrated improvement through repeated measurements over comparable time periods. Discuss any random year-to-year variation, population changes, and sampling error that may have occurred during the remeasurement process.

Overall all of the diabetes measures showed incremental improvements over the reported four years. While outside variables likely had some influence on the resulting improvements, RMHP diabetes program including education to members and providers have impacted the results. Education to members on the meaning and importance of these tests and education to providers on when and how often to perform the tests have resulted in improvements in the numbers of tests being performed and in improvements in the outcomes of the test results.

HgbA1C Testing – There has been statistically significant improvement in testing from the baseline year to remeasurement 3, with a 15% improvement reported overall. RMHP has exceeded the RMHP goals that were set and has exceeded established industry benchmarks.

HgbA1C Poor Control – There has been statistically significant improvement in testing from the baseline year to remeasurement 3, with a decrease of greater than 28% overall. RMHP has exceeded the RMHP goals that were set and has exceeded established industry benchmarks.

LDL Testing – There has been statistically significant improvement in testing from the baseline year to remeasurement 3, with a 22% improvement reported overall. RMHP has exceeded the RMHP goals that were set and has exceeded established industry benchmarks.

LDL Level <130 – There has been statistically significant improvement in testing from the baseline year to remeasurement 3, with a 30% improvement reported overall. RMHP has exceeded the RMHP goals that were set and has exceeded established industry benchmarks.

Eye Exam – There has been statistically significant improvement in testing from the baseline year to remeasurement 2, with an 18% improvement reported overall. RMHP has exceeded the RMHP goals that were set and has exceeded established industry benchmarks. Since there was a change in the HEDIS measure for diabetes eye exams, remeasurement 3 is not being compared.

Nephropathy Screening or Treatment – There has been statistically significant improvement in testing from the baseline year to remeasurement 2, with a 17% improvement reported overall. RMHP has exceeded the RMHP goals that were set and has exceeded established industry benchmarks. Since there was a change in the HEDIS measure for screening for diabetes nephropathy, remeasurement 3 is not being compared.

Population Variations – RMHP had a withdrawal of Medicaid membership from selected areas of the state in July 2003. This resulted in the 2003 remeasurement population being based primarily on the west slope versus a more diverse statewide membership. RMHP believes that this change in demographics of the reported population did not have any effect on the remeasurement results in 2003.