Colorado Medicaid
Community Mental Health Services Program

FY 2010–2011 PIP VALIDATION REPORT

Increasing Penetration Rate for Older Adult Medicaid Members Aged 60+

for

Colorado Health Partnerships, LLC

June 2011
for
Validation Year 3

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

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for Colorado Health Partnerships, LLC

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The Balanced Budget Act of 1997 (BBA), Public Law 105-33, requires that 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 in MCOs and PIHPs must be tracked, analyzed, and reported annually. The Colorado Department of Health Care Policy & Financing (the Department) has contractual requirements with each MCO and behavioral health organization (BHO) to conduct and submit performance improvement projects (PIPs) annually.

As one of the mandatory external quality review activities under the BBA, the Department is required to validate the PIPs. To meet this validation requirement, the Department contracted with Health Services Advisory Group, Inc. (HSAG), as the external quality review organization. The primary objective of the PIP validation is to determine compliance with requirements set forth in the Code of Federal Regulations (CFR) at 42 CFR 438.240(b)(1), including:

- Measurement of performance using objective quality indicators.
- Implementation of system interventions to achieve improvement in quality.
- Evaluation of the effectiveness of the interventions.
- Planning and initiation of activities to increase or sustain improvement.

In its PIP evaluation and validation, HSAG used the Centers for Medicare & Medicaid Services (CMS) publication, *Validating Performance Improvement Projects: A Protocol for Use in Conducting Medicaid External Quality Review Activities*, final protocol, Version 1.0, May 1, 2002.

Overview

Colorado Health Partnerships, LLC (**CHP**), submitted its nonclinical PIP, *Increasing Penetration Rate for Older Adult Medicaid Members Aged 60+*, for fiscal year (FY) 2010–2011. This was a third-year PIP submission. The study topic addressed CMS' requirements related to access to care and services. **CHP** collected internal data and found that its penetration rate for members 60 years of age and older who accessed mental health services was lower than other age groups. The goal of **CHP**'s PIP was to increase the rate of members 60 years of age and older who accessed mental health services.

The PIP originally had two study questions and two study indicators. However, **CHP** determined that the second study indicator, which included only members with a diagnosis of depression or anxiety, did not allow change to be captured where it occurred. Therefore, **CHP** discontinued Study Question 2 and Study Indicator 2. **CHP** stated the remaining study question as follows:

- "Can the penetration rate for adult Medicaid members, aged 60+, regardless of diagnosis, be increased, using a multi-faceted information dissemination effort with the following major components: (a) dissemination of age-specific self-administrable assessment tools that target

key problem areas for older adults and encourage the pursuit of further formal evaluation and/or treatment referrals, (b) dissemination of highly customized information packets designed (1) to lay out statistics on the prevalence of common mental disorders, available treatments, and treatment effectiveness rates for older adults, (2) to deconstruct potentially stigmatizing stereotypes about mental health needs among older adults, and (3) to facilitate access to treatment for older adults through the provision of assessment and treatment related contact information that is customized by geographic location and CHP service area?"

CHP defined the remaining study indicator as follows:

◆ "Number of unique eligible Medicaid members aged 60+ (as of the last day of a given measurement period), who were eligible for at least one day during a given measurement period, and who received one or more mental health treatment services during the measurement period for any covered diagnosis."

The study population included all Medicaid-eligible members 60 years of age and older as of the first day of the measurement period. Members must have been eligible for at least one day during the applicable study period. **CHP** included the entire eligible population and did not use a sampling method. The data were collected administratively by a programmed pull from claims/encounters.

Conclusions

For FY 2010–2011, HSAG reviewed and validated 10 activities. In this year's submission, **CHP** discontinued Study Indicator 2 and reported a second remeasurement for the remaining study indicator, which was the percentage of unique, eligible Medicaid members 60 years of age and older who received one or more mental health treatment services during the measurement period for any covered diagnosis. The second remeasurement result of 6.4 percent demonstrated a statistically significant decline from the first remeasurement and was below the baseline result of 7.2 percent. **CHP** interpreted this decline as unrepresentative of its intervention efforts because of a mandatory procedure code change beginning January 1, 2010. The change made one of the study's procedure codes no longer permissible. **CHP** believes the change reduced the ability to accumulate as many treatment encounters during the second remeasurement as during the previous measurement periods. **CHP** requested and HSAG recommended that the PIP be retired from submission for validation. The Department approved the PIP for retirement.

The final validation finding for **CHP**'s PIP showed an overall score of 86 percent, a critical element score of 100 percent, and a *Met* validation status.

Table 1–1 displays the BHO's performance across all activities. The second column represents the total number of evaluation elements *Met* by the BHO compared to the total number of applicable evaluation elements for each activity reviewed, including critical elements. The third column represents the total number of critical elements *Met* by the BHO for each activity reviewed compared to the total number of applicable critical evaluation elements.

Table 1–1—Performance Across All Activities		
Review Activities	Total Number of Evaluation Elements *Met*/Total Number Applicable Evaluation Elements	Total Number of Critical Elements *Met*/Total Number of Applicable Critical Evaluation Elements
I. Select the Study Topic(s)	5/5	1/1
II. Define the Study Question(s)	2/2	2/2
III. Select the Study Indicator(s)	5/5	3/3
IV. Use a Representative and Generalizable Study Population	2/2	2/2
V. Use Sound Sampling Techniques	0/0	0/0
VI. Reliably Collect Data	5/5	0/0
VII. Implement Intervention and Improvement Strategies	2/3	1/1
VIII. Analyze Data and Interpret Study Results	8/8	1/1
IX. Assess for Real Improvement	1/4	No Critical Elements
X. Assess for Sustained Improvement	0/1	No Critical Elements

Overall Validity and Reliability of the Findings

Based on the validation of this PIP, HSAG's assessment determined confidence in the results.

Strengths/PIP Progression

CHP demonstrated strength by documenting a solid study design in compliance with the CMS PIP protocol. **CHP** received *Met* scores for all applicable evaluation elements in Activities I through VI and Activity VIII. In addition, **CHP** completed a causal/barrier analysis and linked the interventions with the barriers. **CHP**'s interventions included distributing educational brochures at a variety of mental health-related events and locations and mass mailing the brochures to all eligible members 60 years of age and older in **CHP**'s service area. The brochure included a mental health assessment tool that could be self-administered.

Opportunities for Improvement and Recommendations

HSAG determines opportunities for improvement based on those evaluation elements that receive a *Partially Met* or a *Not Met* score, indicating that those elements are not in full compliance with CMS protocols. The PIP also includes *Points of Clarification* as opportunities for improvement. For a detailed explanation of opportunities for improvement, see the PIP Validation Tool section of this report under the corresponding activity.

CHP should address all *Points of Clarification* and all *Not Met* scores, as noted in the discussion that follows.

Activity II: Define the Study Question(s)

The plan should strike through Study Question 2 since it is no longer reporting the Study Indicator 2 result.

Activity III: Select the Study Indicator(s)

The plan should strike through Study Indicator 2 since it is no longer reporting the Study Indicator 2 result.

Activity VI: Reliably Collect Data

The plan documented in Activity VI of the PIP Summary Form that administrative data were 99 percent complete for Remeasurement 2; however, the plan also documented that data for Remeasurement 2 were 100 percent complete. The plan should ensure that the information presented in the PIP is accurate and consistent.

Activity VII: Implement Intervention and Improvement Strategies

The Remeasurement 2 result demonstrated a statistically significant decline, and the plan did not revise the current interventions or develop new interventions. The plan should reassess the causes and barriers and revise the current interventions and/or develop new interventions.

Activity VIII: Analyze Data and Interpret Study Results

The plan reported that the study indicator result for Remeasurement 2 decreased by 2.6 percent; however, the decrease was 2.6 percentage points. In addition, on page A-32, the plan commented on the change from 8.7 percent for Remeasurement 1 to 6.4 percent for Remeasurement 2; however, the recalculated Remeasurement 1 rate was 9 percent.

Activity IX: Assess for Real Improvement

The Remeasurement 2 result demonstrated a statistically significant decline and was lower than the baseline result.

Activity X: Assess for Sustained Improvement

The Remeasurement 2 result demonstrated a statistically significant decline and was lower than the baseline result.

Comparison of Years 1 through 3

Each year, HSAG completes a review and evaluation of the entire PIP. The following table illustrates the PIP's progression, describing the activities completed for each PIP submission and the evaluation scores.

Table 1–2—Year-to-Year Comparison of Results			
Categories Compared	Year 1 2008–2009	Year 2 2009–2010	Year 3 2010–2011
Activities Evaluated	IV	IX	X
Percentage Score of Evaluation Elements *Met*	100	91	86
Percentage Score of Critical Elements *Met*	100	100	100
Validation Status	*Met*	*Met*	*Met*

The FY 2008–2009 PIP was the first annual submission and the PIP progressed through Activity IV. HSAG identified one opportunity for improvement in Activity I. The opportunity for improvement was included as a *Point of Clarification*. Plan-specific data were included in Activity I of the original PIP submission; however, the resubmission did not include the data. HSAG recommended that future submissions of the PIP include plan-specific data in Activity I of the PIP Summary Form.

For FY 2009–2010, the PIP was submitted for the second annual submission. The PIP reported baseline and Remeasurement 1 results and progressed through Activity IX. **CHP** addressed the *Point of Clarification* in Activity I from the previous year's validation. For this year's submission, **CHP** had new opportunities for improvement identified in Activities VII, VIII, and IX.

For FY 2010–2011, the plan progressed to reporting a second annual remeasurement result from calendar year (CY) 2010. **CHP** did not address last year's recommendation in Activity VII, resulting in a *Not Met* score for Evaluation Element III in Activity VII. **CHP**'s interventions were related to causes and barriers identified through a quality improvement process; however, the plan did not revise the current interventions or develop new interventions. The study indicator result demonstrated a decline; therefore, **CHP** should reassess the causes and barriers and revise the current interventions and/or develop new interventions based on the causes/barriers identified. **CHP** addressed the opportunity for improvement in Activity VIII; however, the scores in Activity IX did not improve for this year's validation because the study indicator showed a statistically significant decline that was below the baseline result.

Analysis of Results

Table 1–3 provides a summary of the baseline, Remeasurement 1, and Remeasurement 2 performance and goals for **CHP**'s *Increasing Penetration Rate for Older Adult Medicaid Members Aged 60+* PIP. The entire population was included in the study for the baseline and remeasurement study periods.

Table 1–3—Summary of Results						
	Baseline Measurement		Remeasurement 1		Remeasurement 2	
Study Indicator	Goal	Results	Goal	Results	Goal	Results
Study Indicator 1: Number of unique eligible Medicaid members aged 60+ (as of the last day of a given measurement period), who were eligible for at least one day during a given measurement period, and who received one or more mental health treatment services during the measurement period for any covered diagnosis.	10.5%	7.2%	10.5%	9.0%	10.5%	6.4%
Study Indicator 2: Penetration Rate Among Those with Anxiety or Depression	3.5%	3.2%	3.5%	3.1%	Discontinued	

For the baseline and Remeasurement 1 study periods, **CHP** reported that 7.2 percent and 9.0 percent of the eligible Medicaid members 60+ years of age received one or more mental health treatment services (Study Indicator 1), respectively. The 1.8 percentage point difference between the baseline and Remeasurement 1 results was statistically significant. Neither the baseline nor Remeasurement 1 result met the goal of 10.5 percent.

The difference between the baseline and Remeasurement 1 result for Study Indicator 2 was minimal. The rate decreased from 3.2 percent to 3.1 percent from baseline to Remeasurement 1. This difference was not statistically significant with a *p* value equal to 0.6421. In addition, neither rate met the goal of 3.5 percent.

CHP discontinued Study Indicator 2 for the current measurement period. The following explanation was documented in the PIP Summary Form, "Indicator 2 was dropped prior to the reporting of Remeasure 2, as it was discovered through post-hoc analysis that providers use of Deferred Diagnosis (799.9) had spiked with age 60+ members and as a result the use of any specific diagnoses (such as those involving depression and/or anxiety) could not be expected to be reliable for purposes of assessing intervention impact. Post-hoc data mining also indicated that deferred diagnosis (799.9) codes used with age 60+ members persisted to be used across consecutive treatment encounters for an average of 3.8 sessions following the initial diagnosis. Again, we believe this was largely due to provider sensitivity to the elevated stigmatization experienced by older adults."

For Remeasurement 2, **CHP** reported a decrease for Study Indicator 1 from 9.0 percent to 6.4 percent. The decrease was statistically significant with a *p* value of less than 0.0001. The rate was below the goal of 10.5 percent. **CHP** has standardized several interventions; however, it has not added any new interventions since September 2009. The HSAG PIP Review Team recommends doing an updated causal/barrier analysis to determine new interventions.

PIP Scores

For this PIP, HSAG reviewed Activities I through X. Table 1–4 and Table 1–5 show **CHP**'s scores based on HSAG's PIP evaluation of *Increasing Penetration Rate for Older Adult Medicaid Members Aged 60+*. Evaluators reviewed and scored each activity according to HSAG's validation methodology.

	Table 1–4—FY 2010–2011 PIP Validation Report Scores *for Increasing Penetration Rate for Older Adult Medicaid Members Aged 60+* *for* Colorado Health Partnerships, LLC									
Review Activity	**Total Possible Evaluation Elements** (Including Critical Elements)	**Total Met**	**Total Partially Met**	**Total Not Met**	**Total NA**	**Total Possible Critical Elements**	**Total Critical Elements Met**	**Total Critical Elements Partially Met**	**Total Critical Elements Not Met**	**Total Critical Elements NA**
I. Select the Study Topic(s)	6	5	0	0	1	1	1	0	0	0
II. Define the Study Question(s)	2	2	0	0	0	2	2	0	0	0
III. Select the Study Indicator(s)	7	5	0	0	2	3	3	0	0	0
IV. Use a Representative and Generalizable Study Population	3	2	0	0	1	2	2	0	0	0
V. Use Sound Sampling Techniques	6	0	0	0	6	1	0	0	0	1
VI. Reliably Collect Data	11	5	0	0	6	1	0	0	0	1
VII. Implement Intervention and Improvement Strategies	4	2	0	1	1	1	1	0	0	0
VIII. Analyze Data and Interpret Study Results	9	8	0	0	1	2	1	0	0	1
IX. Assess for Real Improvement	4	1	0	3	0	No Critical Elements				
X. Assess for Sustained Improvement	1	0	0	1	0	No Critical Elements				
Totals for All Activities	**53**	30	0	5	18	13	10	0	0	3

Table 1–5—FY 2010–2011 PIP Validation Report Overall Score *for Increasing Penetration Rate for Older Adult Medicaid Members Aged 60+* *for* Colorado Health Partnerships, LLC	
Percentage Score of Evaluation Elements Met*	**86%**
Percentage Score of Critical Elements Met**	**100%**
Validation Status***	*Met*

* The percentage score for all evaluation elements *Met* is calculated by dividing the total *Met* by the sum of all evaluation elements *Met*, *Partially Met*, and *Not Met*.

** The percentage score for critical elements *Met* is calculated by dividing the total critical elements *Met* by the sum of the critical elements *Met*, *Partially Met*, and *Not Met*.

*** *Met* equals high confidence/confidence that the PIP was valid.
 Partially Met equals low confidence that the PIP was valid.
 Not Met equals reported PIP results that were not valid.

Scoring Methodology

Below is the scoring methodology HSAG uses to evaluate PIPs conducted by the BHO to determine if a PIP is valid and to rate the percentage of compliance with the CMS protocol for conducting PIPs.

Each PIP activity consists of critical and noncritical evaluation elements necessary for successful completion of a valid PIP. Each evaluation element is scored as *Met*, *Partially Met, Not Met*, *Not Applicable,* or *Not Assessed*. In the PIP Validation Tool (Section 3), the column to the left of the evaluation element description indicates if that evaluation element is a critical element. Critical elements are essential to producing a valid and reliable PIP; therefore, each critical element must have a score of *Met*. For example, for Activity II of the PIP Validation Tool, if the study question cannot be answered, then the critical element is scored as *Not Met* and the PIP is not valid.

The following is an example of how critical elements are designated in the PIP Validation Tool.

	Evaluation Element	Scoring
C	The written study question is answerable.	☐ *Met* ☐ *Partially Met* ☐ *Not Met* ☐ *NA*

HSAG scores each evaluation element as noted above and creates a table that totals all scores (for critical and noncritical elements). From this table (Table 3-1 in Section 3) HSAG calculates percentage scores and a validation status (Table 3-2 in Section 3). The percentage score for all evaluation elements is calculated by dividing the number of elements (including critical elements) *Met* by the sum of evaluation elements that were *Met, Partially Met*, and *Not Met*. The percentage score for critical elements *Met* is calculated by dividing the critical elements *Met* by the sum of critical elements that were *Met, Partially Met*, and *Not Met*. The validation status score is based on the percentage score and whether critical elements were *Met*, *Partially Met*, or *Not Met.* (See the scoring table on page 2-2 for more details.) The scoring methodology also includes the *Not Applicable* designation for those situations in which the evaluation element does not apply to the PIP. For example, in Activity V, if the PIP did not use sampling techniques, HSAG would score the evaluation elements in Activity V as *Not Applicable*. HSAG uses the *Not Assessed* scoring designation when the PIP has not progressed to the remaining activities in the CMS protocol. HSAG uses a *Point of Clarification* when documentation for an evaluation element includes the basic components to meet requirements for the evaluation element (as described in the narrative of the PIP), but enhanced documentation would demonstrate a stronger understanding of CMS protocols.

Due to the importance of critical elements, any critical element scored as *Not Met* will invalidate the PIP. Critical elements that are *Partially Met* and noncritical elements that are *Partially Met* or *Not Met* will not invalidate the PIP; however, will affect the overall percentage score (which indicates the percentage of the PIP's compliance with the CMS protocol for conducting PIPs).

HSAG will provide technical assistance to help the BHO understand the CMS protocol and make necessary revisions to the PIP. For future submissions, the BHO will submit a revised PIP Summary Form that includes additional information to address any *Points of Clarification* and any critical and noncritical areas scored as *Partially Met* or *Not Met* for the next validation cycle.

Met, *Partially Met*, and *Not Met* scores are aggregated to reflect an overall score based on the following criteria:

Met	(1)	All critical elements are *Met*
		and
	(2)	80 to 100 percent of all elements are *Met* across all activities.
Partially Met	(1)	All critical elements are *Met* **and** 60 to 79 percent of all elements are *Met* across all activities
		or
	(2)	One or more critical elements are *Partially Met* and the percentage score for all elements across all activities is 60 percent or more.
Not Met	(1)	All critical elements are *Met* **and** less than 60 percent of all elements are *Met* across all activities
		or
	(2)	One or more critical elements are *Not Met*.
Not Applicable (NA)	*Not Applicable* elements (including critical elements) are removed from all scoring.	
Not Assessed	*Not Assessed* elements (including critical elements) are removed from all scoring.	
Point of Clarification	A *Point of Clarification* is used when documentation for an evaluation element includes the basic components to meet requirements for the evaluation element (as described in the narrative of the PIP); however, enhanced documentation would demonstrate a stronger understanding of CMS protocols.	

HSAG then calculates an overall percentage and validation status score as follows:

Percentage Score of Evaluation Elements *Met* *	**%**
Percentage Score of Critical Elements *Met* **	**%**
Validation Status* **	***<Met/Partially Met/Not Met>***

*   The percentage score for all evaluation elements *Met* is calculated by dividing the total *Met* by the sum of all evaluations elements *Met*, *Partially Met*, and *Not Met*.

**   The percentage score for critical elements *Met* is calculated by dividing the total critical elements *Met* by the sum of the critical elements *Met*, *Partially Met*, and *Not Met*.

***   *Met* equals high confidence/confidence that the PIP was valid.
     Partially Met equals low confidence that the PIP was valid.
     Not Met equals reported PIP results that were not credible.

The scoring methodology is designed to ensure that critical elements are a must-pass step. If at least one critical element is *Not Met*, the overall validation status is *Not Met*. In addition, the methodology addresses the potential situation in which all critical elements are *Met*; however, suboptimal performance is observed for noncritical elements. The final outcome would be based on the overall percentage score.

Scoring Methodology Examples

HSAG calculates the score for the BHO as the percentage of elements across all activities that receive a *Met* score. The following examples demonstrate how scoring is applied.

Example 1:

The PIP scores are as follows: *Met*=43, *Partially Met*=1, *Not Met*=1, *NA*=8, and one critical element is *Partially Met*. The BHO receives an overall *Partially Met* validation status, indicating a valid PIP. The percentage score of evaluation elements *Met* for the BHO is calculated as 43/45=95.6 percent. The percentage score of critical elements *Met* is calculated as 12/13=92 percent.

Example 2:

The PIP scores are as follows: *Met*=38, *Partially Met*=11, *Not Met*=4, *NA*=0, and all the critical elements are *Met*. The BHO receives an overall *Partially Met* status, indicating a valid PIP. The percentage score of evaluation elements *Met* for the BHO is calculated as 38/53=71.7 percent. The percentage score of critical elements *Met* is calculated as 13/13=100 percent.

DEMOGRAPHIC INFORMATION

Health Plan Name:	Colorado Health Partnership, LLC

Study Leader Name:	Erica Arnold-Miller	Title:	Director of Quality Management

Phone Number:	(719) 538-1450	E-mail Address:	erica.arnold-miller@valueoptions.com

Name of Project/Study:	Increasing Penetration Rate for Older Adult Medicaid Members Aged 60+

Type of Study:	Nonclinical	☐ Collaborative	☐ HEDIS

Date of Study:	1/1/2008 to 12/31/2010

Type of Delivery System:	BHO	Number of Medicaid Consumers in BHO:	16,715
		Number of Medicaid Consumers in Study:	1,072

Year 3 Validation	Annual Submission	Validated through Activity:	X

Results:	Remeasurement 2		
Submission Date:	2/23/2011	Validation Date:	3/8/2011

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
I. **Select the Study Topic(s): Topics selected for the study should reflect the Medicaid-enrolled population in terms of demographic characteristics, prevalence of disease, and the potential consequences (risks) of 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 based on input from Medicaid consumers. The study topic:**		
1. Reflects high-volume or high-risk conditions.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	The PIP was a nonclinical study.
2. Is selected following collection and analysis of data. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	Selection of the PIP topic followed the collection and analysis of plan-specific data.
3. Addresses a broad spectrum of care and services. The score for this element will be Met or Not Met.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The PIP addressed a broad spectrum of care and services.
4. Includes all eligible populations that meet the study criteria. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The PIP included all eligible populations that met the study criteria.
5. Does not exclude consumers with special health care needs. The score for this element will be Met or Not Met.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The PIP did not exclude consumers with special health care needs.
C* 6. Has the potential to affect consumer health, functional status, or satisfaction. The score for this element will be Met or Not Met.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The PIP has the potential to affect health, functional status, or satisfaction.

Results for Activity I									
# of Total Evaluation Elements					**# of Critical Elements**				
Total Evaluation Elements**	Met	Partially Met	Not Met	Not Applicable	Critical Elements***	Met	Partially Met	Not Met	Not Applicable
6	5	0	0	1	1	1	0	0	0

* "C" in this column denotes a critical evaluation element.

** Total Evaluation Elements includes critical elements.

*** This number is a tally of the total number of critical evaluation elements for this review activity.

HSAG HEALTH SERVICES ADVISORY GROUP

Section 3: Colorado FY 10-11 PIP Validation Tool:
Increasing Penetration Rate for Older Adult Medicaid Members Aged 60+
for Colorado Health Partnership, LLC

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
II.	**Define the Study Question(s): Stating the study question(s) helps maintain the focus of the PIP and sets the framework for data collection, analysis, and interpretation. The study question:**	
C*	1. States the problem to be studied in simple terms. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study question was clear and stated in simple terms using the CMS PIP protocol X/Y format. Point of Clarification: The plan should strike through Study Question 2 since it is no longer reporting the Study Indicator 2 result.
C*	2. Is answerable. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study question(s) was answerable and presented in the CMS PIP protocol X/Y format.

Results for Activity II									
# of Total Evaluation Elements					**# of Critical Elements**				
Total Evaluation Elements**	Met	Partially Met	Not Met	Not Applicable	Critical Elements***	Met	Partially Met	Not Met	Not Applicable
2	2	0	0	0	2	2	0	0	0

* "C" in this column denotes a critical evaluation element.

** Total Evaluation Elements includes critical elements.

*** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
III. **Select the Study Indicator(s): A study indicator is a quantitative characteristic or variable that reflects a discrete event (e.g., an older adult has not received an influenza vaccination in the last 12 months) or a status (e.g., a consumer's blood pressure is or 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. The study indicators:**		
C* 1. Are well-defined, objective, and measurable. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study indicator(s) were objective, clear, and unambiguously defined. The PIP provided correct codes, when applicable, for the numerator(s). The documentation provided a description of the study indicator(s) as well as the definition(s) for the numerator(s) or denominator(s). Point of Clarification: The plan should strike through Study Indicator 2 since it is no longer reporting the Study Indicator 2 result.
2. Are based on current, evidence-based practice guidelines, pertinent peer-reviewed literature, or consensus expert panels.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Current, evidence-based practice guidelines and pertinent, peer-reviewed literature do not exist for this PIP topic.
C* 3. Allow for the study question to be answered. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study indicator(s) aligned with the study question(s), and the results of the study indicator(s) would answer the study question(s).
4. Measure changes (outcomes) in health or functional status, consumer satisfaction, or valid process alternatives. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study indicator(s) measured change in health, functional status, satisfaction, or valid process alternatives.
C* 5. Have available data that can be collected on each indicator. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	Data were available for collection on each study indicator(s).

* "C" in this column denotes a critical evaluation element.

** Total Evaluation Elements includes critical elements.

*** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
III. **Select the Study Indicator(s): A study indicator is a quantitative characteristic or variable that reflects a discrete event (e.g., an older adult has not received an influenza vaccination in the last 12 months) or a status (e.g., a consumer's blood pressure is or 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. The study indicators:**		
6. Are nationally recognized measures, such as HEDIS technical specifications, when appropriate. The scoring for this element will be Met or NA.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	The study indicator(s) were not nationally recognized measures.
7. Includes the basis on which each indicator(s) was adopted, if internally developed.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The plan provided the basis for adoption of the study indicator(s).

Results for Activity III									
# of Total Evaluation Elements					**# of Critical Elements**				
Total Evaluation Elements**	**Met**	**Partially Met**	**Not Met**	**Not Applicable**	**Critical Elements*****	**Met**	**Partially Met**	**Not Met**	**Not Applicable**
7	5	0	0	2	3	3	0	0	0

* "C" in this column denotes a critical evaluation element.

** Total Evaluation Elements includes critical elements.

*** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
IV. **Use a Representative and Generalizable Study Population: The selected topic should represent the entire eligible Medicaid-enrolled population, with systemwide measurement and improvement efforts to which the study indicators apply. The study population:**		
C* 1. Is accurately and completely defined. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The PIP accurately and completely defined the study population, providing correct codes, when applicable, for the denominator(s).
2. Includes requirements for the length of a consumer's enrollment in the BHO.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Length of enrollment was not applicable to the PIP.
C* 3. Captures all consumers to whom the study question applies. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The eligible population captured all consumers to whom the study question(s) applied.

Results for Activity IV									
# of Total Evaluation Elements					**# of Critical Elements**				
Total Evaluation Elements**	Met	Partially Met	Not Met	Not Applicable	Critical Elements***	Met	Partially Met	Not Met	Not Applicable
3	2	0	0	1	2	2	0	0	0

* "C" in this column denotes a critical evaluation element.

** Total Evaluation Elements includes critical elements.

*** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
V. **Use Sound Sampling Techniques: (This activity is scored only if sampling is used.) If sampling is used to select consumers 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 the first time a topic is studied. Sampling methods:**		
1. Consider and specify the true or estimated frequency of occurrence.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Sampling techniques were not used in this study.
2. Identify the sample size.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Sampling techniques were not used in this study.
3. Specify the confidence level.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Sampling techniques were not used in this study.
4. Specify the acceptable margin of error.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Sampling techniques were not used in this study.
C* 5. Ensure a representative sample of the eligible population.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Sampling techniques were not used in this study.
6. Are in accordance with generally accepted principles of research design and statistical analysis.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Sampling techniques were not used in this study.

Results for Activity V									
# of Total Evaluation Elements					**# of Critical Elements**				
Total Evaluation Elements**	Met	Partially Met	Not Met	Not Applicable	Critical Elements***	Met	Partially Met	Not Met	Not Applicable
6	0	0	0	6	1	0	0	0	1

* "C" in this column denotes a critical evaluation element.

** Total Evaluation Elements includes critical elements.

*** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
VI.	**Reliably Collect Data: Data collection must ensure that the data collected on the study 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.**	
1. The identification of data elements to be collected. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The documentation included the identification of data elements for collection.
2. The identification of specified sources of data. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The documentation clearly specified the sources of data.
3. A defined and systematic process for collecting baseline and remeasurement data.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	The PIP used only administrative data collection.
4. A timeline for the collection of baseline and remeasurement data. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The documentation provided a timeline with dates that delineate data collection in both the baseline and remeasurement periods.
5. Qualified staff and personnel to abstract manual data.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	The PIP did not use manual data collection.
C*	6. A manual data collection tool that ensures consistent and accurate collection of data according to indicator specifications.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	The PIP did not use manual data collection.
7. A manual data collection tool that supports interrater reliability.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	The PIP did not use manual data collection.
8. Clear and concise written instructions for completing the manual data collection tool.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	The PIP did not use manual data collection.
9. An overview of the study in written instructions.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	The PIP did not use manual data collection.
10. Administrative data collection algorithms/flow charts that show activities in the production of indicators.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The PIP used administrative data collection, and the documentation included the development of the step(s) in the production of the study indicator(s).

* "C" in this column denotes a critical evaluation element.

** Total Evaluation Elements includes critical elements.

*** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
VI.	**Reliably Collect Data: Data collection must ensure that the data collected on the study 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.**		

11. An estimated degree of administrative data completeness. Met = 80 - 100% Partially Met = 50 - 79% Not Met = <50% or not provided	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The estimated degree of administrative data completeness was between 80 percent and 100 percent, and the documentation explained how the health plan determined administrative data completeness. Point of Clarification: The plan documented in Activity VI of the PIP Summary Form that administrative data were 99 percent complete for Remeasurement 2; however, the plan also documented that data for Remeasurement 2 were 100 percent complete. The plan should ensure that the information presented in the PIP is accurate and consistent.

Results for Activity VI									
# of Total Evaluation Elements					**# of Critical Elements**				
Total Evaluation Elements**	Met	Partially Met	Not Met	Not Applicable	Critical Elements***	Met	Partially Met	Not Met	Not Applicable
11	5	0	0	6	1	0	0	0	1

* "C" in this column denotes a critical evaluation element.

** Total Evaluation Elements includes critical elements.

*** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
VII. **Implement Intervention and Improvement Strategies: Real, sustained improvements in care result from a continuous cycle of measuring and analyzing performance, as well as, developing and implementing systemwide improvements in care. Interventions are designed to change behavior at an institutional, practitioner, or consumer level. The improvement strategies are:**		
C* 1. Related to causes/barriers identified through data analysis and quality improvement processes. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The plan completed a causal/barrier analysis and used improvement strategies related to the causes/barriers identified through data analysis and a quality improvement process.
2. System changes that are likely to induce permanent change.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The documentation included system intervention(s) that were likely to have a long-term effect.
3. Revised if the original interventions are not successful.	☐ Met ☐ Partially Met ☑ Not Met ☐ NA	The Remeasurement 2 result demonstrated a statistically significant decline, and the plan did not revise the current interventions or develop new interventions. The plan should reassess the causes and barriers and revise the current interventions and/or develop new interventions.
4. Standardized and monitored if interventions are successful.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	The intervention(s) were not successful.

Results for Activity VII

	# of Total Evaluation Elements					# of Critical Elements				
Total Evaluation Elements**	Met	Partially Met	Not Met	Not Applicable		Critical Elements***	Met	Partially Met	Not Met	Not Applicable
4	2	0	1	1		1	1	0	0	0

* "C" in this column denotes a critical evaluation element.

** Total Evaluation Elements includes critical elements.

*** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
VIII. **Analyze Data and Interpret Study Results: Review the data analysis process for the selected clinical or nonclinical study indicators. Review appropriateness of, and adherence to, the statistical analysis techniques used.**		
C* 1. Are conducted according to the data analysis plan in the study design. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The PIP conducted data analysis according to the data analysis plan. The data analysis plan included the type of data analysis the PIP would conduct, how the PIP would calculate the rate, how the PIP would compare the rate to the goal, and the statistical test that the data analysis plan would use.
C* 2. Allow for the generalization of results to the study population if a sample was selected. If no sampling was performed, this element is scored NA.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	The PIP did not use sampling.
3. Identify factors that threaten internal or external validity of findings. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The documentation identified and discussed factors that threatened the internal or external validity of the findings and included the impact and resolution of these factors.
4. Include an interpretation of findings. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The PIP documentation included an interpretation of the findings for each study indicator(s).

* "C" in this column denotes a critical evaluation element.

** Total Evaluation Elements includes critical elements.

*** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
VIII. **Analyze Data and Interpret Study Results: Review the data analysis process for the selected clinical or nonclinical study indicators. Review appropriateness of, and adherence to, the statistical analysis techniques used.**		
5. Are presented in a way that provides accurate, clear, and easily understood information. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The PIP presented results in a clear, accurate, and easy-to-understand format. Point of Clarification: The plan reported that the study indicator result for Remeasurement 2 decreased 2.6 percent; however, the decrease was 2.6 percentage points. In addition, on page A-32, the plan commented on the change from 8.7 percent for Remeasurement 1 to 6.4 percent for Remeasurement 2; however, the recalculated Remeasurement 1 rate was 9 percent.
6. Identify the initial measurement and the remeasurement of study indicators.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The data analysis identified the initial measurement and remeasurement results for all study indicator(s).
7. Identify statistical differences between the initial measurement and the remeasurement.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The PIP included documentation of statistical testing between measurement periods.
8. Identify factors that affect the ability to compare the initial measurement with the remeasurement.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The PIP documentation reported factors that affected the ability to compare results between measurement periods.
9. Include an interpretation of the extent to which the study was successful.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The analysis of the data included an interpretation of the extent to which the PIP was successful.

Results for Activity VIII									
# of Total Evaluation Elements					**# of Critical Elements**				
Total Evaluation Elements**	Met	Partially Met	Not Met	Not Applicable	Critical Elements***	Met	Partially Met	Not Met	Not Applicable
9	8	0	0	1	2	1	0	0	1

* "C" in this column denotes a critical evaluation element.
** Total Evaluation Elements includes critical elements.
*** This number is a tally of the total number of critical evaluation elements for this review activity.

HSAG HEALTH SERVICES ADVISORY GROUP

Section 3: **Colorado FY 10-11 PIP Validation Tool:**
Increasing Penetration Rate for Older Adult Medicaid Members Aged 60+
for Colorado Health Partnership, LLC

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
IX. **Assess for Real Improvement: Assess for any meaningful changes in performance observed and was demonstrated during the Baseline measurement. Assess for any random year-to-year variations, population changes, or sampling errors that may have occurred during the measurement process.**		
1. The remeasurement methodology is the same as the baseline methodology.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	Repeated measurements used the same methodology used for the baseline measurement.
2. There is documented improvement in processes or outcomes of care.	☐ Met ☐ Partially Met ☑ Not Met ☐ NA	The Remeasurement 2 result demonstrated a statistically significant decline and was lower than the baseline result.
3. The improvement appears to be the result of planned intervention(s).	☐ Met ☐ Partially Met ☑ Not Met ☐ NA	The Remeasurement 2 result demonstrated a statistically significant decline and was lower than the baseline result.
4. There is statistical evidence that observed improvement is true improvement.	☐ Met ☐ Partially Met ☑ Not Met ☐ NA	The Remeasurement 2 result demonstrated a statistically significant decline and was lower than the baseline result.

Results for Activity IX									
# of Total Evaluation Elements					**# of Critical Elements**				
Total Evaluation Elements**	Met	Partially Met	Not Met	Not Applicable	Critical Elements***	Met	Partially Met	Not Met	Not Applicable
4	1	0	3	0	0	0	0	0	0

** Total Evaluation Elements includes critical elements.

*** This number is a tally of the total number of critical evaluation elements for this review activity.

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
X. **Assess for Sustained Improvement: Assess for any demonstrated improvement through repeated measurements over comparable time periods. Assess for any random year-to-year variations, population changes, or sampling error that may have occurred during the remeasurement process.**		
1. Repeated measurements over comparable time periods demonstrate sustained improvement or that a decline in improvement is not statistically significant.	☐ Met ☐ Partially Met ☑ Not Met ☐ NA	The Remeasurement 2 result demonstrated a statistically significant decline and was lower than the baseline result.

Results for Activity X									
# of Total Evaluation Elements					**# of Critical Elements**				
Total Evaluation Elements**	Met	Partially Met	Not Met	Not Applicable	Critical Elements***	Met	Partially Met	Not Met	Not Applicable
1	0	0	1	0	0	0	0	0	0

** Total Evaluation Elements includes critical elements.

*** This number is a tally of the total number of critical evaluation elements for this review activity.

HSAG HEALTH SERVICES ADVISORY GROUP

Section 3: Colorado FY 10-11 PIP Validation Tool:
Increasing Penetration Rate for Older Adult Medicaid Members Aged 60+
for Colorado Health Partnership, LLC

Table 3-1—FY 10-11 PIP Validation Report Scores: Increasing Penetration Rate for Older Adult Medicaid Members Aged 60+ for Colorado Health Partnership, LLC										
Review Activity	Total Possible Evaluation Elements (Including Critical Elements)	Total Met	Total Partially Met	Total Not Met	Total NA	Total Possible Critical Elements	Total Critical Elements Met	Total Critical Elements Partially Met	Total Critical Elements Not Met	Total Critical Elements NA
I. Select the Study Topic(s)	6	5	0	0	1	1	1	0	0	0
II. Define the Study Question(s)	2	2	0	0	0	2	2	0	0	0
III. Select the Study Indicator(s)	7	5	0	0	2	3	3	0	0	0
IV. Use a Representative and Generalizable Study Population	3	2	0	0	1	2	2	0	0	0
V. Use Sound Sampling Techniques	6	0	0	0	6	1	0	0	0	1
VI. Reliably Collect Data	11	5	0	0	6	1	0	0	0	1
VII. Implement Intervention and Improvement Strategies	4	2	0	1	1	1	1	0	0	0
VIII. Analyze Data and Interpret Study Results	9	8	0	0	1	2	1	0	0	1
IX. Assess for Real Improvement	4	1	0	3	0	0	No Critical Elements			
X. Assess for Sustained Improvement	1	0	0	1	0	0	No Critical Elements			
Totals for All Activities	**53**	**30**	**0**	**5**	**18**	**13**	**10**	**0**	**0**	**3**

Table 3-2—FY 10-11 PIP Validation Report Overall Scores: Increasing Penetration Rate for Older Adult Medicaid Members Aged 60+ for Colorado Health Partnership, LLC	
Percentage Score of Evaluation Elements Met*	86%
Percentage Score of Critical Elements Met**	100%
Validation Status***	*Met*

*   The percentage score is calculated by dividing the total Met by the sum of the total Met, Partially Met, and Not Met.

**   The percentage score of critical elements Met is calculated by dividing the total critical elements Met by the sum of the critical elements Met, Partially Met, and Not Met.

*** Met equals confidence/high confidence that the PIP was valid.

Partially Met equals low confidence that the PIP was valid.

Not Met equals reported PIP results that were not credible.

EVALUATION OF THE OVERALL VALIDITY AND RELIABILITY OF PIP RESULTS
HSAG assessed the implications of the study's findings on the likely validity and reliability of the results based on CMS Validating protocols. HSAG also assessed whether the State should have confidence in the reported PIP findings.

Met = Confidence/high confidence in reported PIP results

Partially Met = Low confidence in reported PIP results

***Not Met** = Reported PIP results not credible

Summary of Aggregate Validation Findings

* [X] Met   ** [   ] *Partially Met*   *** [   ] *Not Met*

Summary statement on the validation findings:

Activities I through X were assessed for this PIP Validation Report. Based on the validation of this PIP, HSAG's assessment determined confidence in the results.

Appendix A contains the PIP Summary Form **CHP** submitted to HSAG for review. HSAG has not altered the content or made grammatical corrections. Any attachments provided with the PIP submission are not included in this appendix. New or altered information in the PIP Summary Form will be dated and highlighted or in bold. Deleted information appears in strikethrough font.

◆ Appendix A: **Colorado Health Partnerships, LLC**'s PIP Summary Form: *Increasing Penetration Rate for Older Adult Medicaid Members Aged 60+*

Appendix A: **Colorado FY 2010–2011 PIP Summary Form:**
Increasing Penetration rate for Older Adult Medicaid Members Aged 60+
for **Colorado Health Partnerships, LLC**

DEMOGRAPHIC INFORMATION

BHO name: Colorado Health Networks

Study Leader Name: Erica Arnold-Miller   **Title:** Director of Quality Management

Telephone Number: 719-538-1450   **E-mail Address:** Erica.arnold-miller@valueoptions.com

Name of Project/Study: **Increasing Penetration rate for Older Adult Medicaid Members Aged 60+**

Type of Study:

☐ Clinical   ☒ Nonclinical

☐ Collaborative   ☐ HEDIS

Type of Delivery System: __BHO__

Date of Study: 01/01/2009

Number of unique Medicaid consumers (aged 60+) eligible for at least one day in calendar year= __17,298__ (2008), __16,825__ (2009), 16,715(2010).

Number of unique Medicaid consumers in study = __1,237__ (2008), 1,512 (2009), 1,072 (2010)

Submission Date: _____

Section to be completed by HSAG

_____ Year 1 Validation   _____ Initial Submission   _____ Resubmission

_____ Year 2 Validation   _____ Initial Submission   _____ Resubmission

__X__ Year 3 Validation   _____ Initial Submission   _____ Resubmission

_____ Baseline Assessment   _____ Remeasurement 1

__X__ Remeasurement 2   _____ Remeasurement 3

Year 1 validated through Activity __IV__

Year 2 validated through Activity __IX__

Year 3 validated through Activity __X__

A. Activity I: Select the study topic(s). PIP topics should target improvement in relevant areas of services and reflect the population in terms of demographic characteristics, prevalence of disease, and the potential consequences (risks) of disease. Topics may be derived from utilization data (ICD-9 or CPT coding data related to diagnoses and procedures; NDC codes for medications; HCPCS codes for medications, medical supplies, and medical equipment; adverse events; admissions; readmissions; etc.); grievances and appeals data; survey data; provider access or appointment availability data; consumer characteristics data such as race/ethnicity/language; other fee-for-service data; or local or national data related to Medicaid risk populations. The goal of the project should be to improve processes and outcomes of health care or services to have a potentially significant impact on consumer health, functional status, or satisfaction. The topic may be specified by the state Medicaid agency or CMS, or it may be based on input from consumers. Over time, topics must cover a broad spectrum of key aspects of consumer care and services, including clinical and nonclinical areas, and should include all enrolled populations (i.e., certain subsets of consumers should not be consistently excluded from studies).

Study topic: *Increasing Penetration Rate for the Older Adult Medicaid Population*. It has been observed by researchers that older adults experience both elevated mental health treatment needs and lower participation in treatment than do other age groups (American Association for Geriatric psychiatry, 2004; Hatfield, 1999). This pattern is consistent with internal data collected in Colorado Health Networks' service areas during recent years, which show lower penetration rates for consumers aged 60 and above.

It has also been pointed out by researchers that depression (Gerrard, Rolnick, & Nitz et al. 1998; Glasser & Graudal, 1997) and anxiety (Federal Council on Aging, 1995) are among the most prominent disorders for older adults, and with suicide rates being higher than that of any other age group (Morbidity and Mortality Weekly Report, 1996). Data collected in Colorado Health Networks' service areas have also showed that disorders involving depressed mood and, to a lesser extent, anxiety are among the most commonly diagnosed disorder types. Internal data collected by Colorado Health Networks (CHN) is also consistent with the above findings in that penetration rates for older adults have consistently been lower than that of other age groups during recent years. CHN's penetration rates with members aged above and below 60 has averaged 7.0% and 11.2% per year respectively, from 10/01/2005 to 09/30/2008. Penetration for members with disorders characterized by anxiety and/or depression, aged above and below 60, has averaged 2.7% and 3.8% respectively over the same time period.

Literature was reviewed with the goal of gaining insight into the reason or reasons for the lower level of engagement in treatment for older adults and in order to help determine the most appropriate types of interventions that could be employed for purposes of the PIP. The result of this inquiry was discovery of several studies indicating that older adults were subject to unique barriers to treatment, including: (1) the particularly elevated experience of negative social stereotypes pertaining to mental health needs (Van Etten, 2006; Hatfield, 1999; Hoyt, Conger & Gaffney, 1997; Hatfield & Worrall, 1997), (2) obscure mental health symptoms due to comorbidity with physical health symptoms common among older adults (Knight & Kaskie,1995; Conwell & Caine, 1991; Rabins, 1992), and (3) provision of care systems that are not sensitive enough to geriatric issues (Charne et al, 2003), making access to treatment intimidating and/or difficult for older adults.

Taking these likely precursors to the problem into account, an intervention strategy was devised, involving the creation of an educational mailer/packet

A. Activity I: Select the study topic(s). PIP topics should target improvement in relevant areas of services and reflect the population in terms of demographic characteristics, prevalence of disease, and the potential consequences (risks) of disease. Topics may be derived from utilization data (ICD-9 or CPT coding data related to diagnoses and procedures; NDC codes for medications; HCPCS codes for medications, medical supplies, and medical equipment; adverse events; admissions; readmissions; etc.); grievances and appeals data; survey data; provider access or appointment availability data; consumer characteristics data such as race/ethnicity/language; other fee-for-service data; or local or national data related to Medicaid risk populations. The goal of the project should be to improve processes and outcomes of health care or services to have a potentially significant impact on consumer health, functional status, or satisfaction. The topic may be specified by the state Medicaid agency or CMS, or it may be based on input from consumers. Over time, topics must cover a broad spectrum of key aspects of consumer care and services, including clinical and nonclinical areas, and should include all enrolled populations (i.e., certain subsets of consumers should not be consistently excluded from studies).

designed to (a) clarify the prevalence and nature of commonly experienced mental disorders for older adults, (b) refute negative stereotypes about mental health treatment and de-stigmatize the prospect of obtaining treatment, and (c) facilitate knowledge of and access to available treatment resources. The informational packets would also include two self-administrable assessment tools designed to assist with the determination of treatment needs and encourage further evaluation. The mailer and tools would be disseminated by direct mail primarily and also onsite at such locations as PCP offices, churches, or at mental health-related special events or fairs (depending on availability during the study periods).

Link Between Consumer Outcomes and Penetration rate: Consumer health and functioning can be expected to improve by increasing penetration rate by way of the following logic:

- (1) Both internal and external data and research suggest that older adults are underserved relative to other age groups, in terms of the receipt of mental health treatment

- (2) Researchers have identified several common barriers to the engagement of older adults in mental health treatment services,
- (3) We have proposed an intervention that is designed to decrease or remove these barriers,

- (4) Mental health treatment services of the type we provide (e.g., counseling/psychotherapy and psychiatric medication treatment) have been demonstrated to improve health and functioning for older adults (Arean, 2004; Baldwin et al., 2003; Kennedy, 2000; Knight, 1999), and therefore

- (5) by increasing penetration rate (i.e., by increasing the percentage of eligible consumers aged 60+ who access treatment), we are at the same time increasing the percentage of older adults who will benefit from treatment (i.e., who will experience improved health and functioning).

HSAG HEALTH SERVICES ADVISORY GROUP

Appendix A: **Colorado FY 2010–2011 PIP Summary Form:**
Increasing Penetration rate for Older Adult Medicaid Members Aged 60+
for **Colorado Health Partnerships, LLC**

A. Activity I: Select the study topic(s). PIP topics should target improvement in relevant areas of services and reflect the population in terms of demographic characteristics, prevalence of disease, and the potential consequences (risks) of disease. Topics may be derived from utilization data (ICD-9 or CPT coding data related to diagnoses and procedures; NDC codes for medications; HCPCS codes for medications, medical supplies, and medical equipment; adverse events; admissions; readmissions; etc.); grievances and appeals data; survey data; provider access or appointment availability data; consumer characteristics data such as race/ethnicity/language; other fee-for-service data; or local or national data related to Medicaid risk populations. The goal of the project should be to improve processes and outcomes of health care or services to have a potentially significant impact on consumer health, functional status, or satisfaction. The topic may be specified by the state Medicaid agency or CMS, or it may be based on input from consumers. Over time, topics must cover a broad spectrum of key aspects of consumer care and services, including clinical and nonclinical areas, and should include all enrolled populations (i.e., certain subsets of consumers should not be consistently excluded from studies).

Eligible Population: Outreach efforts would be directed at all Medicaid eligible consumers capitated to Colorado Health Network's service areas, with an age of 60 or higher as of the first day of a given measurement period. Planned measurement periods will span from 01/01/2009 to 12/31/2009 and from 01/01/2010 to 12/31/2010. No eligible consumers would be omitted from inclusion for any reason other than age bracket. Individuals with special health needs are included.

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Appendix A: **Colorado FY 2010–2011 PIP Summary Form:**
Increasing Penetration rate for Older Adult Medicaid Members Aged 60+
for **Colorado Health Partnerships, LLC**

B. Activity II: Define the study question(s). Stating the question(s) helps maintain the focus of the PIP and sets the framework for data collection, analysis, and interpretation.

Study question 1: Can the penetration rate for adult Medicaid members, aged 60+, regardless of diagnosis, be increased, using a multi-faceted information dissemination effort with the following major components: (a) dissemination of age-specific self-administrable assessment tools that target key problem areas for older adults and encourage the pursuit of further formal evaluation and/or treatment referrals, (b) dissemination of highly customized information packets designed (1) to lay out statistics on the prevalence of common mental disorders available treatments, and on treatment effectiveness rates for older adults, (2) to deconstruct potentially stigmatizing stereotypes about mental health needs among older adults, and (3) to facilitate access to treatment for older adults through the provision of assessment and treatment-related contact information that is customized by geographic location and CHN service area.

Study question 2: Can the penetration rate for older adult Medicaid members, aged 60+, *with diagnoses reflecting problems with depression and/or anxiety only*, be increased, using a multi-faceted information dissemination effort with the following major components: (a) dissemination of age-specific self-administrable assessment tools that target key problem areas for older adults and encourage the pursuit of further formal evaluation and/or treatment referrals, (b) dissemination of highly customized information packets designed (1) to lay out statistics on the prevalence of common mental disorders available treatments, and on treatment effectiveness rates for older adults, (2) to deconstruct potentially stigmatizing stereotypes about mental health needs among older adults, and (3) to facilitate access to treatment for older adults through the provision of assessment and treatment-related contact information that is customized by geographic location and CHN service area.

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Appendix A: **Colorado FY 2010–2011 PIP Summary Form:**
Increasing Penetration rate for Older Adult Medicaid Members Aged 60+
for **Colorado Health Partnerships, LLC**

C. Activity III: Select the study indicator(s). A study indicator is a quantitative or qualitative characteristic or variable that reflects a discrete event (e.g., an older adult has not received an influenza vaccination in the last 12 months) or a status (e.g., a consumer'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	**Describe the rationale for selection of the study indicator:** Penetration rate is defined as the percentage of individuals eligible for services who actually receive one or more services during a specified time period. Penetration rate is a commonly used index of how effectively a particular population is being served by certain available treatment offerings/services. The penetration rate formula to be used in this PIP is defined in the numerator and denominator sections below.
Numerator: (no numeric value)	Number of unique eligible Medicaid members aged 60+ (as of the first day of a given measurement period), who were eligible for at least one day during a given measurement period, and who received one or more mental health treatment services* during the measurement period for any covered diagnosis. *A mental health treatment service will be defined as any type of counseling/psychotherapy session, a mental health assessment/evaluation session, or a medication-needs evaluation or medication administration session. Specific procedure codes representing the above services are listed in the Additional Information portion of this section.
Denominator: (no numeric value)	Total number of unique eligible Medicaid members aged 60+ (as of the first day of the measurement period), who were eligible for at least one day during the measurement period.
Baseline Measurement Period	01/01/2008 to 12/31/2008
Baseline Goal	10.5%
Remeasurement 1 Period	01/01/2009 to 12/31/2009
Remeasurement 2 Period	01/01/2010 to 12/31/2010
Benchmark	Benchmark not available.
Source of Benchmark	Benchmark not available.

C. Activity III: Select the study indicator(s). A study indicator is a quantitative or qualitative characteristic or variable that reflects a discrete event (e.g., an older adult has not received an influenza vaccination in the last 12 months) or a status (e.g., a consumer'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 2	**Describe the rationale for selection of the study indicator:** Penetration rate is the percentage of individuals eligible for services who actually receive one or more services during a specified time period. Penetration rate is a commonly used index of how effectively a particular population is being served by certain available treatment offerings/services. The penetration rate formula to be used in this PIP is defined in the numerator and denominator sections below. Study Indicator 2 differs from study indicator one in that it is focused solely on individuals experiencing a disorder involving depression or anxiety, as indicated by their principal diagnosis*. Depression and Anxiety have been identified as among the most prevalent mental disorders suffered by older adults. Intervention and outreach efforts for this PIP have been especially tailored to members aged 60+ with potential depression and anxiety disorders. *Specific DSM-IV codes to be used are listed in the Additional Information portion of this section.
Numerator: (no numeric value)	Number of unique eligible Medicaid members aged 60+ (as of the first day of a given measurement period), who were eligible for at least one day during a given measurement period, with a disorder involving anxiety or depression*, and who received one or more mental health treatment services** during the measurement period. *Applicable DSM-IV codes are listed in the Additional Information portion of this section. **A mental health treatment service will be defined as any type of counseling/psychotherapy session, a mental health assessment/evaluation session, or a medication-needs evaluation or medication administration session. Specific procedure codes representing the above services are listed in the Additional Information portion of this section.
Denominator: (no numeric value)	Total number of unique eligible Medicaid members aged 60+ (as of the first day of the measurement period), who were eligible for at least one day during the measurement period.
Baseline Measurement Period	01/01/2008 to 12/31/2008
Baseline Goal	3.5%

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C. Activity III: Select the study indicator(s). A study indicator is a quantitative or qualitative characteristic or variable that reflects a discrete event (e.g., an older adult has not received an influenza vaccination in the last 12 months) or a status (e.g., a consumer'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.

Remeasurement 1 Period	01/01/2009 to 12/31/2009 Note: Accurate/complete data for the last 3 months of this period will not be available until 03/31/2010, due to a 90-day claims run out period/lag. Because the impact of the lag is expected to be minimal, we report results now anyway, with the intention of recalculating them at the time of calculating Remeasure 2 and submitting this document again in early 2011. Update: Calendar year 2010 (Remeasure 1) data were recalculated as planned, with the expectation that data lag would alter the figures slightly. The new calculations are reflected in the Activity IX table and related sections.
Remeasurement 2 Period	01/01/2010 to 12/31/2010
Benchmark	Benchmark not available.
Source of Benchmark	Benchmark not available.

Use this area to provide additional information. Discuss the guidelines used and the basis for each study indicator.

Both external research and internal data has indicated that the older adult population is underserved relative to other age groups in terms of the receipt of mental health services. Study Indicator 1 represents a means of assessing the impact of a multi-faceted and information-based outreach effort designed to improve CHN's penetration rate with adult Medicaid members age 60+, on a *global* level (i.e., without regard to member's specific diagnosis or diagnoses).

Depressive and anxiety disorders have been well established by researchers as being among the most common problem areas for older adults. Facets of the planned outreach effort for this study were designed to focus most intensively, though not exclusively, on individuals afflicted by these two most pervasive problem areas. Study Indicator 2 represents a means of assessing the impact of a multi-faceted and information-based outreach effort designed to improve CHN's penetration rate with adult Medicaid members aged 60+ on a *specific* level (i.e., pertaining to individuals with disorders involving anxiety or depression).

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C. Activity III: Select the study indicator(s). A study indicator is a quantitative or qualitative characteristic or variable that reflects a discrete event (e.g., an older adult has not received an influenza vaccination in the last 12 months) or a status (e.g., a consumer'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.

The following DSM-IV diagnoses will define the population for Study Indicator 2:

296.30, 296.31, 296.32, 296.33, 296.34. 296.35, 296.36,	Variants of Major Depressive Disorder, Recurrent
296.20, 296.21, 296.22, 296.23, 296.24, 296.25, 296.26	Variants of Major Depressive Disorder, Single Episode
311	Depressive Disorder NOS
300.4	Dysthymic Disorder
300.00	Anxiety Disorder NOS
300.02	Generalized Anxiety Disorder
300.21	Panic Disorder With Agoraphobia
300.01	Panic Disorder Without Agoraphobia
309.21	Separation Anxiety Disorder
300.23	Social Phobia
300.29	Specific Phobia
309.24	Adjustment Disorder With Anxiety
309.0	Adjustment Disorder With Depression
309.28	Adjustment Disorder With Mixed Anxiety and Depressed Mood
309.81	Post Traumatic Stress Disorder

C. Activity III: Select the study indicator(s). A study indicator is a quantitative or qualitative characteristic or variable that reflects a discrete event (e.g., an older adult has not received an influenza vaccination in the last 12 months) or a status (e.g., a consumer'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.

The following procedure codes will be used to calculate penetration rates as defined in section C-III. The same codes will apply to all baseline, Remeasurement, and benchmark-related calculations. The codes represent treatment encounters pertaining to various types of counseling/psychotherapy, assessment/evaluation, and medication-related treatment encounters.

90846, 90847, 99510, H2011, 90849, 90853, 90857, H2032, 90804, 90805, 90806, 90807, 90808, 90809, 90810, 90811, 90812, 90813, 90814, 90815, H0039, H0040, H0046, G0351, H0033, 90862, 90801, H2000, 96101, 96102, H0002, H0036, H0037, H2012

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D. Activity IV: Use a representative and generalizable study population. The selected topic should represent the entire eligible population of Medicaid consumers, with systemwide measurement and improvement efforts to which the study indicators apply. Once the population is identified, a decision must be made whether or not to review data for the entire population or a sample of that population. The length of a consumer's enrollment needs to be defined to meet the study population criteria.

Study population: The study population will be defined as all adult Medicaid eligible members aged 60+ (as of the first day of a measurement period), capitated to Colorado Health Partnerships, who were eligible for at least one day during the applicable study period, with no additional criteria that would exclude any of these members. Members with special healthcare needs were not excluded.

Using Microsoft SQL Server, members were identified by querying age and eligibility start and end dates in our member information data table. The member information data table is routinely updated via data provided to us by the Department. All individuals identified using the query will receive the study intervention.

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E. Activity V: Use sound sampling techniques. If sampling is used to select consumers 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 the first time a topic is studied.

Measure	Sample Error and Confidence Level	Sample Size	Population	Method for Determining Size (*describe*)	Sampling Method (*describe*)
Sampling was not used.	-	-	.-	-	-

F. Activity VIa: Reliably collect data. Data collection must ensure that data collected on study 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.

Data Collection:

Treatment encounter data is routinely submitted electronically by Colorado Health Partnerships' (CHP) internal network of mental health center partners, and is systematically stored in our service center's SQL Server database system. There is a 30-day lag pertaining to the receipt of this data (i.e., data can be assumed complete for a given month once 30 days have passed a given month). External network treatment encounters are also submitted either electronically or through paper CMS 1500 claim forms. These encounters are subject to a 90-day lag (i.e., data for a given month can be assumed complete once 90 days pass beyond the given month).

A variety of automated algorithms are performed (total of 49) on incoming data to ensure data integrity (e.g., identify possible duplicate records, ensure data values fall within allowed ranges, ensure dates are permissible/real dates, etc.). Upon pulling the data for this study, additional manual data integrity checks were performed by the researcher/analyst: grouping of member IDs to ensure no duplicate member records are counted, and visual inspection of data for anomalies.

In the current study, no indications of data integrity problems were observed. It should be noted, however, that the most recent study period examined (i.e., calendar year 2009), includes data that may not be complete, as some of the data is subject to a 90-day claims lag period that will not clear until March 31, 2010 (i.e., some more encounters could be received through March 31st, reflecting treatment that took place during the study period—potentially increasing the reported penetration rate). However, the missing data is not particularly problematic in the current case because a significant increase in penetration rate has been observed based on the data in hand. Any additional data received can only increase the level of success already observed for Remeasure 1.

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F. Activity VIa: Reliably collect data. Data collection must ensure that data collected on study 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.

Data Sources

[   ] Hybrid (medical/treatment records and administrative)

[   ] Medical/Treatment Record Abstraction
    Record Type
      [   ] Outpatient
      [   ] Inpatient
      [   ] Other _____

    Other Requirements
      [   ] Data collection tool attached
      [   ] Data collection instructions attached
      [   ] Summary of data collection training attached
      [   ] IRR process and results attached

[   ] Other Data

_____

_____

_____

Description of data collection staff (include training, experience, and qualifications):

_____

_____

_____

[X] Administrative Data
    Data Source
      [X] Programmed pull from claims/encounters
      [   ] Complaint/appeal
      [   ] Pharmacy data
      [   ] Telephone service data/call center data
      [   ] Appointment/access data
      [   ] Delegated entity/vendor data _____
      [   ] Other _____

    Other Requirements
      [X] Data completeness assessment attached (See page A-17)
      [   ] Coding verification process attached

[   ] Survey Data
    Fielding Method
      [   ] Personal interview
      [   ] Mail
      [   ] Phone with CATI script
      [   ] Phone with IVR
      [   ] Internet
      [   ] Other _____

    Other Requirements
      [   ] Number of waves _____
      [   ] Response rate _____
      [   ] Incentives used _____

F. Activity VIb: Determine the data collection cycle.	**Determine the 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. Activity VIc: Data analysis plan and other pertinent methodological features.

The number of unique members aged 60+ who received one or more treatment encounters during each study period was calculated (this constitutes the numerator figure for the outcome measures). The number of unique members eligible for treatment during each study period was also calculated (this constitutes the denominator for the outcomes measure). Dividing the numerator by the denominator gives us our defined treatment penetration rate for purposes of this study.

Baseline and Remeasurement study periods are compared using the Pearson Chi-Square test, with a pre-specified *p*-value criterion set to .05. The test allows us to examine whether the proportion of members with treatment encounters to the number of eligible members has changed significantly from one measurement period to the next. An improved proportion from one measurement period to the next would support the study's goal of increasing the penetration rate for adults aged 60+.

Estimated degree of administrative data completeness:

- 100% for baseline measures at this point in time.

- 100% for Remeasurement 1

F. Activity VIc: Data analysis plan and other pertinent methodological features.

- 99% for Remeasurement 2 (note: the missing treatment data, were it available, can only improve the outcome measure in the current context, as it can only increase the numerator in the penetration rate formula)

Describe the process used to determine data completeness and accuracy:

Supporting documentation:

Internal network mental health treatment encounter data used to calculate the reported calendar year 2008, 2009, and 2010 measurement period figures are estimated to be 100% accurate and complete. Data completeness and accuracy routines systematically conducted by our IT department (involving 49 different computer-based data checks) were completed successfully. Additional checks for duplicate records that might be introduced during the data querying process were also performed by the primary researcher. No problems were identified. There is a 30-day run-out for data completeness on the internal network data records and the 30 day run out period was passed at the time of the data pull.

External network treatment encounters are based on claims data and have a 90-day claims lag (i.e., some data comes into our system late, and as late as 90 days following the service). At the time of updating the PIP data through Remeasure 2, Remeasure 1 data was recalculated to produce figures that are complete and no longer subject to data lag. At the time of updating the PIP through Remeasure 2, pulling these treatment encounters for data analysis, only ½ of the data lag time period had passed. Thus 1.5 months of lag time remained in relation to the Remeasure 2 calculations, and therefore some additional treatment encounters, based on claims data, may not yet have appeared. Prior estimates of the potential impact of data lag indicated a potential impact of 1% or less. This applies to the Remeasure 2 data only. Remeasure 1 figures have been recalculated since the last PIP submission and long after lag time expired.

Note: Remeasure 2 (Indicator 2) was dropped from the study as it was determined that the measure, as defined, was not capturing what was intended (we assumed wrongly that providers would use these codes with the age 60+ population during the study but found instead a large post-intervention spike in the use of the 799.9 (Deferred Diagnosis) code--only for members age 60+ (and not for members aged <60) . We believe this spike reflects provider sensitivity to the elevated stigmatization experienced by older adults in relation to mental disorders and the need for mental health treatment. Providers were likely hesitant to upset or scare away these members with a diagnostic label that they might respond negatively to. This suspicion was reinforced by post-hoc data analysis revealing that age 60+ members who received deferred diagnosis codes also tended to maintain those same diagnoses for multiple sessions to follow. Calculations indicated that an average of 3.8 additional sessions involved continued use of the same Deferred Diagnosis code for members aged 60+. A diagnosis involving depression or anxiety would not likely require multiple sessions to make.

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G. Activity VIIa: Implement intervention and improvement strategies (interventions 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 four customer service representatives" as opposed to "Hired customer service representatives"). Do not include intervention planning activities.

Date Implemented (MMYY)	Check if Ongoing	Interventions	Barriers That Interventions Address
May 6, 2009	(sporadic)	An educational brochure, including two self-administrable mental health assessment tools, were distributed by hand at a variety of mental health-related events and locations, such as Senior Centers, Mental Health Center Offices, Empowerment and Medication Management Centers, County Health and Human Service facilities, and other venues.	The brochures, and their wording and content, were designed to reduce the perceived stigma (that older adults have been shown to be particularly vulnerable to) associated with obtaining mental health treatment or being diagnosed with a mental disorder. Brochures included self-administrable assessment tools that allowed for a discrete and private initial assessment and were intended to facilitate the pursuit of further formal assessment (if needed).
September 18, 2009	X	Brochures and self-administrable assessment tools were included in an initial mass mailing to all eligible members in the age 60+ bracket across all of CHP's service areas. The initial mailing was and continues to be followed by monthly mailings to newly identified eligible members in the age 60+ bracket across all of CHP's service areas.	(Same as above)
September 19, 2009 to present		The intervention described above, which was initially implemented on the date of May 6, 2009 has been sustained/continued through the present time (2-22-2010).	(same as described above)
September 19, 2009 to present		The intervention described above and implemented on the date of September 19, 2009 was sustained/continued through the present time (2-22-2010), except for the initial mass mailing.	(same as described above)

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Describe the process used for the causal/barrier analyses that led to the development of the interventions:
Anecdotal reports from members of our Quality Improvement Steering Committee indicated that older adults might be unusually resistant to engagement in treatment and that an effort to increase their engagement would be worthwhile. Review of literature on treatment engagement by age provided corroborating evidence, indicating that older adults are unusually resistant to engagement in mental health treatment for a variety of reasons, including the experience of stigma. In addition, internal penetration rate data for members above and below the age of 60 were examined and it was confirmed that individuals aged 60+ were consistently lower than individuals less than age 60 over the last several years. The difference in penetration ranged from 2.8 to 4.1 within CHP data from 2006 to 2008.

Response to Barriers:

Describe interventions.

Baseline to Remeasurement 1:
Brochures targeting the age 60+ bracket of eligible members were designed for dissemination by mail and for hand-out at mental-health related events/fairs. Approximately 2000 brochures were distributed by hand, with 1866 of those being specifically documented and counted. Distribution locations included: multiple senior centers at various locations, All Points Medication Management Training seminar, Open Arms Empowerment Center, New Beginnings Recovery Center, Mental Health Center offices in multiple locations, RSVP Meeting, multiple Health and Human Service centers, Main in Motion, All Points Transit, Interagency Meetings, Physicians Fall Clinic, and Delta County Senior Profile.

The content of the brochures provided user friendly information on older adult mental health in general, statistics bearing on the prevalence of mental problems for older adults, signs and symptoms, how to know if help is needed, what types of help are available, where to go for help and what phone numbers to call (this information was customized by location), what to expect after making an appointment for an evaluation, and other information. The information was presented in a manner designed to reduce negative stereotypes about mental illness, which older adults have been shown to be particularly sensitive to.

Also included in the brochure were two brief, self-administrable screening tools targeting the detection of anxiety and depression in older adults. The two tools included simple scoring systems that provided users an indication of the likelihood that they might need formal assessment. The inclusion of the tools within the brochure was intended to further facilitate the pursuit of mental health assessments for older adults who might need them.

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G. Activity VIIa: Implement intervention and improvement strategies (interventions 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 four customer service representatives" as opposed to "Hired customer service representatives"). Do not include intervention planning activities.

In addition to the dissemination of brochures by hand at mental health-related events, a mass mailing of brochures was also completed, targeting all eligible members in the age 60+ bracket across all CHP service areas.

Remeasurement 1 to Remeasurement 2:
During this period, the same interventions were continued as described above under the heading Baseline to Remeasure 1. The only exception is that the initial mass mailing was not repeated. After brochures were mailed to all identified age 60+ members, the subsequent process consisted of sending brochures only to new age 60+ members that came into treatment. These mailings have been distributed monthly.

G. Activity VIIb: Implement intervention and improvement strategies. Real, sustained improvements in care result from a continuous cycle of measuring and analyzing performance, as well as, developing and implementing systemwide improvements in care. Describe interventions designed to change behavior at an institutional, practitioner, or consumer level.

Describe interventions:

Baseline to Remeasurement 1:

Remeasurement 1 to Remeasurement 2:

Remeasurement 2 to Remeasurement 3:

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H. Activity VIIIa: Analyze data. Describe the data analysis process done in accordance with the data analysis plan and any ad hoc analyses (e.g., data mining) done on the selected clinical or nonclinical study indicators. Include the statistical analysis techniques used and *p* values.

Describe the data analysis process (include the data analysis plan):

Baseline Measurement:

Indicator 1: The number of unique age 60+ members with one or more treatment encounters during the baseline period (CY 2008) was extracted from CHP service center databases using Microsoft SQL Server queries. The number of unique eligible members aged 60+ during calendar year 2008 was also pulled. Dividing the number of members with treatment encounters by the number of eligible members gave a baseline penetration rate as defined for purposes of this study.

Indicator 2: The number of unique age 60+ members with one or more treatment encounters during the baseline period (CY 2008), and with a diagnosis involving an anxiety of depression component, was pulled from CHP service center databases using Microsoft SQL Server queries. The number of unique eligible members aged 60+ during calendar year 2008 was also pulled. Dividing the above-described members with treatment encounters by the number of eligible members gave a baseline penetration rate as defined for purposes of this study.

The Baseline penetration rates for calendar year 2008 (Indicators 1 and 2) each provided a figure to attempt to improve upon through interventions and through comparison with subsequent post-intervention measures.

Note: Indicator 2 was dropped prior to the reporting of Remeasure 2, as it was discovered through post-hoc analysis that providers use of Deferred Diagnosis (799.9) had spiked with age 60+ members and as a result the use of any specific diagnoses (such as those involving depression and/or anxiety) could not be expected to be reliable for purposes of assessing intervention impact. Post-hoc data mining also indicated that deferred diagnosis (799.9) codes used with age 60+ members persisted to be used across consecutive treatment encounters for an average of 3.8 sessions following the initial diagnosis. Again, we believe this was largely due to provider sensitivity to the elevated stigmatization experienced by older adults.

Baseline to Remeasurement 1:

Indicator 1: This post-intervention remeasure of penetration rate was calculated using the same method as described for the Indicator 1 Baseline measure. The Pearson Chi-square test was used, with a pre-specified p-value criterion of *p*<.05, to compare the proportion of members treated to members eligible--for Baseline versus Remeasurement 1 measures. The achieved rate would also be compared to the specified rate goal of 10.5%.

Indicator 2: This post-intervention remeasure of penetration rate was calculated using the same method as described for the Indicator 2 Baseline measure. The Pearson Chi-square test was used, with a pre-specified p-value criterion of *p*<.05, to compare the proportion of members treated to members eligible--for Baseline versus Remeasurement 1 measures. This comparison involves only members that had particular diagnoses (i.e.,

H. Activity VIIIa: Analyze data. Describe the data analysis process done in accordance with the data analysis plan and any ad hoc analyses (e.g., data mining) done on the selected clinical or nonclinical study indicators. Include the statistical analysis techniques used and *p* values.
those involving a component of depression or anxiety, as specified earlier in this document). The rate achieved would also be compared to the specified rate goal of 3.5%. **Remeasurement 1 to Remeasurement 2:** Indicator 1: This post-intervention remeasure of penetration rate was calculated using the same method as described for Indicator 1 in the preceding Baseline and Remeasure 1 measures. The Pearson Chi-square test was used, with a pre-specified p-value criterion of *p*<.05, to compare the proportion of members treated to members eligible--for Remeasurement 1 versus Remeasure 2 measures. The achieved rate would also be compared to the specified rate goal of 10.5%. Indicator 2: (This measure was dropped for the reasons described previously).

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H. Activity VIIIb: Interpret study results. Describe the results of the statistical analysis, interpret the findings, and compare and discuss results/changes from measurement period to measurement period. Discuss the successfulness of the study and indicate follow-up activities. Identify any factors that could influence the measurement or validity of the findings.

Interpretation of study results (address factors that threaten the internal or external validity of the findings for each measurement period):

Baseline Measurement:

Baseline to Remeasurement 1:

Remeasurement 1 to Remeasurement 2:

Remeasurement 2 to Remeasurement 3:

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I. Activity IX: Assess for real improvement. Enter results for each study indicator, including benchmarks and statistical testing with complete *p* values, and statistical significance.

Quantifiable Measure 1: Age 60+ PIP Rate

Time Period Measurement Covers	Baseline Project Indicator Measurement	Numerator	Denominator	Rate or Results	Industry Benchmark	Statistical Test Significance and *p* value
Calendar Year 2008	*Baseline:*	1237	17298	7.2%	NA	NA
Calendar Year 2009	**Remeasurement 1**	1512	16825	9.0%	NA	Pearson Chi-Square value = 38.794; pre-specified *p*-value = *p*<.05; actual p-value < .0001
Calendar Year 2010	**Remeasurement 2**	1072	16715	6.4%	NA	Pearson Chi-Square value = 78.08; pre-specified *p*-value = *p*<.05; actual p-value < .0001
	Remeasurement 3					
	Remeasurement 4					
	Remeasurement 5					

Describe any demonstration of meaningful change in performance observed from Baseline and each measurement period (e.g., Baseline to Remeasurement 1 and Remeasurement 1 to Remeasurement 2)

Baseline to Remeasure 1:

Indicator 1: The Remeasurement 1 penetration rate was calculated to be 8.7%. This figure represents a penetration rate increase of 1.5% compared to the Baseline measure. The Pearson Chi-square test was used to assess the difference in the two proportions (calendar year 2008 versus 2009) and the difference in proportions was found to be statistically significant at *p*<.05.

We interpret the statistically significant increase as evidence of success regarding intervention efforts designed to increase the penetration rate for adults aged 60+, regardless of diagnosis. The pursuit of our specified baseline Goal of 10.5% penetration remains.

Indicator 2: This Remeasurement 1 penetration rate was calculated to be 3.1%. This figure does not represent an increase or a statistically significant departure from Baseline (i.e, 3.2%), as assessed via the Chi-square test. However, we found that the definition of Indicator 2, involving inclusion of members with particular diagnoses only (i.e., those involving depression or anxiety) did not allow change to be captured where it occurred. As discussed in H. Activity VIIIb, we intend to investigate the usefulness or Indicator 2 more fully and report our findings in the next PIP submission.

I. Activity IX: Assess for real improvement. Enter results for each study indicator, including benchmarks and statistical testing with complete *p* values, and statistical significance.

Remeasure 1 to Remeasure 2:

Indicator 1: The Remeasurement 2 penetration rate was calculated to be 6.4%. This figure represents a penetration rate decrease of 2.6% compared to the Remeasure 1. The Pearson Chi-square test was used to assess the difference in the two proportions (calendar year 2009 versus 2010) and the difference in proportions was found to be statistically significant at $p<.0001$.

   However, the State initiated a mandatory procedure code change beginning 01/01/2010 which made one of this study's procedure codes (i.e., H0046) no longer permissible, and no substitute code was offered. This policy change substantially reduced our opportunity to accumulate as many treatment encounters during the Remeasurement 2 period. To illustrate, in calendar year 2009, there were 385 treatment encounters contributing to the numerator figure based on cases of procedure code H0046. In 2010 there were zero instances of the same code, for obvious reasons.

The actual penetration rate for 2010 (had the procedure code H0046 not been removed) is best estimated by adding 385 encounters to the 2010 numerator (to offset the impact of the eliminated H0046 code during the Remeasurement 2 period). Doing so, would give a total of 1457 for the Remeasure 2 numerator figure, and changes the 2010 pen rate calculation to 8.7%, which does not differ significantly from the 2009 rate of 9.0% (Chi-square = .757; $p=.384$). This estimate suggests that we likely maintained our 2009 increase from baseline in 2010 but have no way to demonstrate it definitively.

Based on the above circumstance, we interpret the statistically significant decrease from 8.7% in 2009 to 6.4% in 2010 as likely an inaccurate representation of our intervention efforts due to a change instituted by the State regarding what codes can count as valid treatment encounters. Our interest in the pursuit of the originally specified goal of a penetration rate of 10.5% continues, but we feel we may have leveled out at the approximately 9% rate achieved last year (and likely achieved this year, though we are unable to demonstrate it due to a midstream methodological flaw).

Remeasure 2 (Indicator 2):

This measure was dropped for reasons described previously.

I. Activity IX: Assess for real improvement. Enter results for each study indicator, including benchmarks and statistical testing with complete *p* values, and statistical significance.

Quantifiable Measure 2: Age 60+ PIP Rate

Time Period Measurement Covers	Baseline Project Indicator Measurement	Numerator	Denominator	Rate or Results	Industry Benchmark	Statistical Test Significance and *p* value
Calendar Year 2008	*Baseline:*	555	17298	3.2%	NA	NA
Calendar Year 2009	**Remeasurement 1**	525	16825	3.1%	NA	Pearson Chi-Square value = .216; pre-specified p-value = *p*<.05; actual p-value =.6421
Calendar Year 2010	**Remeasurement 2**					Measure was dropped.
	Remeasurement 3					
	Remeasurement 4					
	Remeasurement 5					

Describe any demonstration of meaningful change in performance observed from Baseline and each measurement period (e.g., Baseline to Remeasurement 1 and Remeasurement 1 to Remeasurement 2)

HSAG HEALTH SERVICES ADVISORY GROUP

Appendix A: **Colorado FY 2010–2011 PIP Summary Form:**
Increasing Penetration rate for Older Adult Medicaid Members Aged 60+
for **Colorado Health Partnerships, LLC**

J. Activity X: Assess for sustained improvement. Describe any demonstrated improvement through repeated measurements over comparable time periods. Discuss any random, year-to-year variations, population changes, sampling errors, or statistically significant declines that may have occurred during the remeasurement process.

Sustained improvement: While improvement in penetration rate was obtained from Baseline to Remeasure 1, Remeasure 1 was followed by a statistically significant decline in Remeasure 2. As discussed previously, this decrease is very likely due to a State mandated change in allowable procedure codes, where a particular code (H0046), which added +385 to the 2009 numerator for Remeasure 1 (Indicator 1), subsequently added zero to the numerator in 2010, as the H0046 code was disallowed by the state beginning 1/1/2010.

Calculations indicated a statistically significant decrease ($p<.0001$) in penetration, from 9.0% (2009 Remeasure 1; Indicator 1) to 6.4% (2010 Remeasure 2; Indicator 1). But if the 385 encounters from 2009 were added to the numerator of 2010 (as a best estimate of what it would have been had it not been disallowed in 2010), then the 2009 penetration rate would have been maintained at 9% (with rounding) in 2010 and with no statistically significant change (Chi-square = .757; $p=.384$).

Eligible population change from 2009 to 2010 amounted to only 1.09%, and therefore represents an unlikely source of change in penetration rate from 2009 to 2010, further supporting the observed decrease in penetration rate as a function of the State's action of disallowing the use of the procedure code H0046 on 01/01/2010, and providing no alternative permissible code. Again, had that change not occurred, we expect to have achieved an estimated 8.7% penetration rate for age 60+ adults in the 2010 measurement period.