

State of Colorado



Department of Health Care Policy & Financing

# FY 06–07 PIP VALIDATION REPORT

Access to Initial Medication Evaluations

*for*

Behavioral HealthCare, Inc.

June 2007



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

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### Overview

The Balanced Budget Act (BBA) of 1997 (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 consumers 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 an external quality review organization. The primary objective of the PIP validation is to determine the compliance with requirements set forth in 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 for increasing or sustaining improvement.

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, was used in the evaluation and validation of the PIPs.

### Summary of Study

The study evaluated; (1) whether **Behavioral HealthCare, Inc. (BHI)** Medicaid consumers were offered an initial routine medication evaluation within 30 days from the time they sought services; and (2) clinician satisfaction with consumer appointment scheduling for new medication evaluations.

### Study Topic

The study topic selected by **BHI** addressed CMS' requirements related to access to care and services. Initial medication evaluations are an important step when evaluating and treating consumers with serious illnesses. **BHI** reported that, currently, 19 percent of its consumers who sought services received medication evaluations, and the number has increased each year. This study topic reflected a high-risk population and included consumers with special health care needs.

**BHI**'s study question , as stated in its PIP Summary Form, was:

“Will improvement in Mental Health Center Medication Services Clinic practices reduce wait times for appointments for initial, routine medication evaluations with a mental health prescriber?”

### **Study Methodology**

The current PIP study collected data on two study indicators. As stated in the PIP Summary Form, the indicators were:

- ◆ “Consumers offered initial medication evaluations within 30 days.”
- ◆ “Clinician satisfaction with appointment scheduling for new medication evaluations.”

Data were collected from a unique database that captured medication evaluation appointments offered, and survey data on clinician satisfaction with appointment scheduling for new medication evaluations.

### **Study Results**

For the FY 06–07 submission, **BHI** reported Year 1 (baseline) and Year 2 (first remeasurement) results for each of the two study indicators. Additionally, **BHI** reported results by subgroups of adults and youth at Centers A, B, and C for each indicator. For Study Indicator 1, there was improvement in initial medication evaluation appointment availability within 30 days; however, the improvement was not statistically significant. The rate increased from 87 to 89 percent. For Study Indicator 2, **BHI** overall clinician satisfaction with access to initial medication evaluations decreased from 45 to 40 percent from baseline to the first remeasurement.

### **Scoring**

HSAG validates a total of 10 activities for each PIP. The PIP is validated annually. The validation reflects activities that have been completed. A health plan (BHO) may take up to three years to complete all 10 activities. Each activity consists of elements necessary for the successful completion of a valid PIP. Evaluation elements are the key CMS protocol components for each activity that reflect the intent of what is being measured and evaluated. Some of the elements are critical elements and must be scored as *Met* to produce an accurate and reliable PIP. Given the importance of critical elements, any critical element that receives a *Not Met* score results in an overall PIP validation status of *Not Met*. If one or more critical elements are *Partially Met*, but none is *Not Met*, the PIP will be considered valid with low confidence. Revisions and resubmission of the PIP would be required.

## Summary of Validation Findings

- ◆ For this review, nine activities with a total of 52 elements were validated. Of this number:
  - 38 evaluation elements were *Met*.
  - 3 evaluation elements were *Partially Met*.
  - 1 evaluation element was *Not Met*.
  - 10 evaluation elements were *Not Applicable (N/A)*.
- ◆ The total number of critical elements that were evaluated equaled 11. Of this number:
  - 9 critical elements were *Met*.
  - 0 critical elements were *Partially Met*.
  - 0 critical elements were *Not Met*.
  - 2 critical elements were *N/A*.

The final validation finding for **BHI**'s PIP showed an overall score of 90 percent, a critical element score of 100 percent, and a *Met* validation status.

## Conclusions

This study addressed the need to improve the rates of clinician satisfaction with and access to initial medication evaluation appointments and could affect the mental health, functional status, and satisfaction of the BHO's Medicaid consumers. Interventions were implemented at each of the three centers—Centers A, B, and C—based on each center's needs. For this validation cycle, **BHI** collected a baseline and first remeasurement for each of the two study indicators. There was improvement in initial medication evaluation appointment availability within 30 days. **BHI**'s overall improvement in access to medication evaluations within 30 days was not statistically significant; however, the rate for Center C adults and the overall rate for **BHI** adults had statistically significant improvement. For the current measurement period, **BHI** clinicians reported less satisfaction with access to initial medication evaluation appointments than the previous year, the difference was not statistically significant and there was increased satisfaction at Center C from 2005 to 2006.

## Requirements

There were no requirements for this validation cycle.

## Recommendations

In May 2006, **BHI** required corrective action plans by age group for each center performing below benchmark. HSAG recommends that **BHI** complete additional data and causal/barrier analysis to identify if the interventions are addressing the root causes. Interventions need to be reevaluated and revised if the study is not showing significant and sustained improvement. The completeness of

administrative data was an issue, with the data being only 55 percent complete. The centers have submitted plans to improve data collection, and **BHI** should continue to attempt to improve administrative data so that it is between 80 and 100 percent complete.

### Comparison of Years 1 through 3

For the FY 04–05 submission, **BHI** had the following four study indicators, which measured: (1) consumers offered medication evaluations within 14 and 30 days, (2) consumers choosing “agree or strongly agree” for the statement “I was able to see a psychiatrist when I wanted to” (Mental Health Statistics Improvement Program [MHSIP] survey tool), (3) consumers choosing “good, very good, or excellent” for the statement “Length of time between making an appointment and seeing a psychiatrist” (Mental Health Corporation of America, Inc.[MHCA] survey tool), and (4) clinician satisfaction with appointment scheduling for intakes. At the time of the review, **BHI**’s four study indicators were at different stages of evaluation. The access indicator only had baseline data, the MHSIP survey showed no statistical difference in scores between time periods or between baseline and the first remeasurement, and the MHCA survey showed no statistical difference between measurement periods. From Baseline to Remeasurement 1, Study Indicator 4 (clinician satisfaction) showed a statistically significant decrease in satisfaction by clinicians.

For the FY 05–06 submission, there was no significant improvement in the rates for each indicator. For Study Indicator 1, the results showed four quarters of continuous measurement with a significant ( $p < 0.005$ ) downward trend. Study Indicator 2 showed improvement in the rates after an initial decline in the first remeasurement, and Study Indicator 3 showed improvement after the first remeasurement. A new tool and new baseline were established in November 2005 for Study Indicator 4.

For the FY 06–07 submission, **BHI** had two study indicators: (1) consumers offered initial medication evaluations within 30 days, and (2) clinician satisfaction with appointment scheduling for new medication evaluations. **BHI** observed improvement in access to initial medication evaluations within 30 days; however, **BHI** clinicians overall reported less satisfaction with appointment scheduling for initial medication evaluations than the previous year.

## 2. Scoring Methodology

*for Behavioral HealthCare, Inc.*

Validating PIPs involves a review of the following 10 activities:

- ◆ Activity I.                   Appropriate Study Topic
- ◆ Activity II.                  Clearly Defined, Answerable Study Question
- ◆ Activity III.                 Clearly Defined Study Indicator(s)
- ◆ Activity IV.                 Use a Representative and Generalizable Study Population
- ◆ Activity V.                  Valid Sampling Techniques (If Sampling was Used)
- ◆ Activity VI.                 Accurate/Complete Data Collection
- ◆ Activity VII.                Appropriate Improvement Strategies
- ◆ Activity VIII.               Sufficient Data Analysis and Interpretation
- ◆ Activity IX.                 Real Improvement Achieved
- ◆ Activity X.                 Sustained Improvement Achieved

All PIPs are scored as follows:

<i>Met</i>	(1) All critical elements were <i>Met</i> , <b>and</b> (2) 80 percent to 100 percent of all critical and noncritical elements were <i>Met</i> .
<i>Partially Met</i>	(1) All critical elements were <i>Met</i> , and 60 percent to 79 percent of all critical and noncritical elements were <i>Met</i> , <b>or</b> (2) One critical element or more was <i>Partially Met</i> .
<i>Not Met</i>	(1) All critical elements were <i>Met</i> , and <60 percent of all critical and noncritical elements were <i>Met</i> , <b>or</b> (2) One critical element or more was <i>Not Met</i> .
<i>Not Applicable</i> (N/A)	N/A elements (including critical elements if they were not assessed) were removed from all scoring.

For FY 06-07, the BHOs were provided an opportunity to resubmit additional information and/or documentation. The plans were required to take action for any evaluation element receiving a score of *Partially Met* or *Not Met*. The action could include resubmission of additional PIP documentation prior to final scoring. Future annual PIP submissions should include all information pertinent to the PIP study to achieve a *Met* status.

## PIP Scores

For this PIP, HSAG reviewed Activities I through IX. Table 2-1 and Table 2-2 show **BHI**'s scores based on HSAG's PIP evaluation of *Access to Initial Medication Evaluations*. Each activity has been reviewed and scored according to HSAG's validation methodology.

**Table 2-1—FY 06-07 Performance Improvement Project Scores  
for Access to Initial Medication Evaluations  
for Behavioral HealthCare, Inc.**

Review Activity	Total Possible Evaluation Elements (Including Critical Elements)	Total Met	Total Partially Met	Total Not Met	Total N/A	Total Possible Critical Elements	Total Critical Elements Met	Total Critical Elements Partially Met	Total Critical Elements Not Met	Total Critical Elements N/A
I. Appropriate Study Topic	6	6	0	0	0	1	1	0	0	0
II. Clearly Defined, Answerable Study Question	2	2	0	0	0	1	1	0	0	0
III. Clearly Defined Study Indicator(s)	7	5	0	0	2	3	3	0	0	0
IV. Use a Representative and Generalizable Study Population	3	3	0	0	0	2	2	0	0	0
V. Valid Sampling Techniques	6	0	0	0	6	1	0	0	0	1
VI. Accurate/Complete Data Collection	11	9	1	0	1	1	1	0	0	0
VII. Appropriate Improvement Strategies	4	4	0	0	0	No Critical Elements				
VIII. Sufficient Data Analysis and Interpretation	9	8	0	0	1	2	1	0	0	1
IX. Real Improvement Achieved	4	1	2	1	0	No Critical Elements				
X. Sustained Improvement Achieved	1	Not Assessed				No Critical Elements				
<b>Totals for All Activities</b>	<b>53</b>	<b>38</b>	<b>3</b>	<b>1</b>	<b>10</b>	<b>11</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>2</b>

**Table 2-2—FY 06-07 Performance Improvement Project Overall Score  
for Access to Initial Medication Evaluations  
for Behavioral HealthCare, Inc.**

Percentage Score of Evaluation Elements Met*	90%
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 valid.



### Validations and Findings Summary

This section summarizes the evaluation of the activities validated for the PIP. A description of the findings, strengths, requirements, and recommendations is outlined under each activity section. See Appendix B for a complete description of CMS rationale for each activity.

The validation was performed on a PIP submitted by **Behavioral HealthCare, Inc., (BHI)**. The PIP evaluated access to care and services. **BHI** used two study indicators to collect the data and assess the outcomes for this study. The study indicators measured consumers offered initial medication evaluations within 30 days, and clinician satisfaction with appointment scheduling for new medication evaluations. **BHI** completed nine activities for this validation cycle.

#### **Activity I. Appropriate Study Topic**

##### **Study Topic**

**BHI** continued its study topic of *Access to Initial Medication Evaluations* for the FY 06–07 validation cycle.

##### **Finding(s)**

Six of six evaluation elements were *Met*, including one critical element.

##### **Strength(s)**

The topic reflected a high-risk population and had the potential to affect consumer health and functional status, as well as clinician satisfaction.

##### **Requirement(s) (for Critical Elements)**

There were no requirements identified for this activity during this review.

##### **Recommendation(s) (for Noncritical Elements)**

There were no recommendations identified for this activity during this review.

## Activity II. Clearly Defined, Answerable Study Question

### Study Question(s)

BHI's study question, as stated in its PIP Summary Form, was:

“Will improvement in Mental Health Center Medication Services Clinic practices reduce wait times for appointments for initial routine medication evaluations with a mental health prescriber?”

### Finding(s)

Both evaluation elements were *Met*, including one critical element.

### Strength(s)

The study question was stated in simple terms and set the framework for the study. The question was answerable.

### Requirement(s) (for Critical Elements)

There were no requirements identified for this activity during this review.

### Recommendation(s) (for Noncritical Elements)

There were no recommendations identified for this activity during this review.

## Activity III. Clearly Defined Study Indicator(s)

### Study Indicator(s)

For this validation cycle, BHI had two indicators as stated in its PIP Summary Form:

- ◆ “Consumers offered initial medication evaluations within 30 days.”
- ◆ “Clinician satisfaction with appointment scheduling for new medication evaluations.”

### Finding(s)

Five of seven evaluation elements were *Met*, including three critical elements. The remaining two evaluation elements were *Not Applicable* because the indicators were not based on practice guidelines or nationally recognized measures.

### **Strength(s)**

The study indicators were well-defined, objective, and measurable. There were data available for each indicator, allowing for the study question to be answered. The PIP included the basis on which the indicators were developed.

### **Requirement(s) (for Critical Elements)**

There were no requirements identified for this activity during this review.

### **Recommendation(s) (for Noncritical Elements)**

There were no recommendations identified for this activity during this review.

## **Activity IV. Use a Representative and Generalizable Study Population**

### **Study Population**

The study defined the population as **BHI** Medicaid consumers of all ages requesting an initial (new), routine, outpatient medication evaluation at a **BHI** mental health center. The consumers must have been eligible for services at the time of the request, and gaps in enrollment were allowed.

### **Finding(s)**

All three evaluation elements, including the two critical elements, were *Met*.

### **Strength(s)**

The study population was completely and thoroughly defined, including requirements for the length of a consumer's enrollment. It captured all consumers to whom the study question applied.

### **Requirement(s) (for Critical Elements)**

There were no requirements identified for this activity during this review.

### **Recommendation(s) (for Noncritical Elements)**

There were no recommendations identified for this activity during this review.

### **Activity V. Valid Sampling Techniques**

#### **Sampling Technique(s)**

The entire eligible population for each indicator was used. No sampling was performed.

#### **Finding(s)**

All six evaluation elements, including the one critical element, were *Not Applicable*.

#### **Strength(s)**

No sampling was used for this study because the entire eligible population for each indicator was used. The results of this study will represent all **BHI** consumers that meet the eligible population criteria.

#### **Requirement(s) (for Critical Elements)**

There were no requirements identified for this activity during this review.

#### **Recommendation(s) (for Noncritical Elements)**

There were no recommendations identified for this activity during this review.

### **Activity VI. Accurate/Complete Data Collection**

This PIP study used both administrative and manual data collection to capture data for the study indicators.

#### **Finding(s)**

Nine evaluation elements were *Met*, including one critical element. One evaluation element was *Partially Met* and one was *Not Applicable*.

#### **Strength(s)**

The data elements collected were clearly defined, the sources for data collection were identified, and the process for data collection was outlined. The timelines for data collection were defined. The manual data collection tool used for surveys was included, along with instructions and an overview of the study.

#### **Requirement(s) (for Critical Elements)**

There were no requirements identified for this activity during this review.

### **Recommendation(s) (for Noncritical Elements)**

The completeness of administrative data was reported as being 55 percent complete. To receive a *Met*, the estimated degree of administrative data completeness should be between 80 and 100 percent. **BHI** should continue to attempt to improve administrative data completeness.

### **Activity VII. Appropriate Improvement Strategies**

#### **Improvement Strategies**

**BHI** developed several improvement strategies for this PIP study. Interventions were implemented at each of the three centers based on the center's needs. Centers A and C implemented the Front Desk electronic scheduling program while Center B implemented the Microsoft Office Scheduler program. Center A's interventions also included adding an office manager, adding full-time prescribers, and setting aside evaluation appointment times for Medicaid consumers. Center B's interventions included adding full-time prescribers, implementing electronic medical records, and the addition of a medical case manager/coordinator position. Center C's interventions included implementing electronic medical records, setting a standard of four child initial medication evaluations per week for each full-time child prescriber, and a standard of five adult initial medication evaluations per week for each full-time adult prescriber. In December 2005, **BHI** implemented a Nurse Expert Task Force to brainstorm possible factors that contributed to delays in getting appointments, and as of May 2006, BHI required corrective action plans by age group for each center performing below benchmark.

#### **Finding(s)**

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

#### **Strength(s)**

**BHI** used causal/barrier analysis to identify areas in need of improvement and, from those findings, **BHI** developed the planned interventions. **BHI** implemented system changes that were likely to induce permanent change.

#### **Requirement(s) (for Critical Elements)**

There were no critical elements in this activity.

#### **Recommendation(s) (for Noncritical Elements)**

There were no recommendations identified for this activity during this review.

## Activity VIII. Sufficient Data Analysis and Interpretation

### Data Analysis and Interpretation

**BHI** completed data analysis and interpretation for two study indicators from baseline to the first remeasurement. **BHI** used chi-square testing to identify statistical differences between measurements for each indicator. Additionally, **BHI** completed data analysis for subgroups of each indicator. Overall, the rate of appointment availability within 30 days increased from 87 to 89 percent. While **BHI**'s overall improvement in access to medication evaluations within 30 days was not statistically significant, the rate for Center C adults and the overall rate for **BHI** adults had statistically significant improvement. From baseline to the first remeasurement, the rate for Center C adults increased from 69 to 86 percent and the rate for **BHI** adults increased from 89 to 94 percent. For remeasurement 1, **BHI** clinicians reported less satisfaction with access to initial medication evaluation appointments than reported in the previous year; however, the difference was not statistically significant and there was increased satisfaction for some of the subgroups. All groups combined at Center C reported an increase in satisfaction from 2005 to 2006. The rate for Center C adults increased from 0 to 33 percent, the rate for Center C adults and youth combined increased from 6 to 15 percent, and the rate for Center C youth increased from 20 to 24 percent. HSAG acknowledges that the relatively small numerators and denominators for some of the subgroups may have affected the ability to show statistically significant improvement in those areas.

### Finding(s)

Eight of the nine evaluation elements for this activity were *Met*, including one critical element. One evaluation element, also a critical element, was *Not Applicable* because a sample was not selected.

### Strength(s)

Data analysis was conducted according to the plan in the study. Factors that affected the internal/external validity of the study and factors that affected the ability to compare measurements were identified. The data were presented in an accurate and easily understood way, and an interpretation of findings was included.

### Requirement(s) (for Critical Elements)

There were no requirements identified for this activity during this review.

### Recommendation(s) (for Noncritical Elements)

There were no recommendations identified for this activity during this review.

### **Activity IX. Real Improvement Achieved**

#### **Real Improvement Achieved**

Neither of **BHI**'s study indicators had statistically significant improvement.

#### **Finding(s)**

One evaluation element was *Met*, two evaluation elements were *Partially Met* and one evaluation element was *Not Met* because one indicator showed improvement that was not statistically significant and the other indicator showed a decline.

#### **Strength(s)**

The methodology remained the same in the study. Although neither of the study indicators had statistically significant improvement from baseline to the first remeasurement, there was statistically significant improvement for some of the subgroups of Study Indicator 1. Overall, **BHI** clinician satisfaction with access to medication evaluations decreased from 45 to 40 percent; however, the difference was not statistically significant.

#### **Requirement(s) (for Critical Elements)**

There were no critical elements in this activity.

#### **Recommendation(s) (for Noncritical Elements)**

**BHI** needs to continue to assess the degree to which the interventions are contributing to the success of the study and make revisions as necessary.

### **Activity X. Sustained Improvement Achieved**

Activity X was not assessed for the FY 06–07 submission of this PIP report. The PIP reported baseline and a first remeasurement for each study indicator. Sustained improvement cannot be assessed until the PIP has completed two or more remeasurement periods.

The BHO will continue with the PIP process, and Activity X can be assessed and validated at the next annual submission of the PIP.

*Section 4: Colorado FY 06-07 PIP Validation Tool:*  
**Access to Initial Medication Evaluations  
 for Behavioral HealthCare, Inc.**

DEMOGRAPHIC INFORMATION			
Health Plan Name:	Behavioral HealthCare, Inc.		
Study Leader Name:	Ann Terrill Torrez	Title:	Director, Quality Improvement
Phone Number:	(303) 617-2815	E-mail Address:	ann_torrez@bhiinc.org
Name of Project/Study:	Access to Initial Medication Evaluations		
Type of Study:	Nonclinical		
Date of Study:	11/1/2005 to 9/30/2006		
Type of Delivery System:	BHO	Number of Medicaid Consumers in BHO:	9,869
		Number of Medicaid Consumers in Study:	1,333
Year 3 Validation	Resubmission		



**Section 4: Colorado FY 06-07 PIP Validation Tool:  
Access to Initial Medication Evaluations  
for Behavioral HealthCare, Inc.**

EVALUATION ELEMENTS		SCORING	COMMENTS
<b>Performance Improvement Project/Health Care Study Evaluation</b>			
<b>I. Appropriate Study Topic: Topics selected for the study should reflect the Medicaid enrollment in terms of demographic characteristics, prevalence of disease, and the potential consequences (risks) of the disease. Topics could also address the need for a specific service. The goal of the project should be to improve processes and outcomes of health care. The topic may be specified by the State Medicaid agency or on the basis of Medicaid consumer input.</b>			
1.	Reflects high-volume or high-risk conditions (or was selected by the State).  N/A is not applicable to this element for scoring.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The study topic reflected a high-volume and high-risk condition.
2.	Is selected following collection and analysis of data (or was selected by the State).  N/A is not applicable to this element for scoring.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The study topic was selected following the analysis and collection of data.
3.	Addresses a broad spectrum of care and services (or was selected by the State).  The scoring for this element will be Met or Not Met.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The study topic addressed a broad spectrum of care and services.
4.	Includes all eligible populations that meet the study criteria.  N/A is not applicable to this element for scoring.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The study topic included all eligible populations that met the study criteria.
5.	Does not exclude consumers with special health care needs.  The scoring for this element will be Met or Not Met.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	Consumers with special health care needs were not excluded.
C* 6.	Has the potential to affect consumer health, functional status, or satisfaction.  The scoring for this element will be Met or Not Met.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The study topic had the potential to affect consumer health, functional status, and satisfaction.

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

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

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

*Section 4: Colorado FY 06-07 PIP Validation Tool:  
Access to Initial Medication Evaluations  
for Behavioral HealthCare, Inc.*

EVALUATION ELEMENTS		SCORING	COMMENTS
<b>Performance Improvement Project/Health Care Study Evaluation</b>			
II.	<b>Clearly Defined, Answerable Study Question: Stating the study question(s) helps maintain the focus of the PIP and sets the framework for data collection, analysis, and interpretation.</b>		
	1. States the problem to be studied in simple terms.  N/A is not applicable to this element for scoring.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The study question stated the problem to be studied in simple terms.
C*	2. Is answerable.  N/A is not applicable to this element for scoring.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The study question was answerable.

Results for Activity II				
# of Elements				
Critical Elements**	Met	Partially Met	Not Met	Not Applicable
1	2	0	0	0

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

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

**Section 4: Colorado FY 06-07 PIP Validation Tool:  
Access to Initial Medication Evaluations  
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EVALUATION ELEMENTS		SCORING	COMMENTS
<b>Performance Improvement Project/Health Care Study Evaluation</b>			
<b>III. Clearly Defined 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 a flu shot 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.</b>			
C*	1. Are well-defined, objective, and measurable.  N/A is not applicable to this element for scoring.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The study indicators were well-defined, objective, and measurable.
	2. Are based on current, evidence-based practice guidelines, pertinent peer review literature, or consensus expert panels.	<input type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input checked="" type="checkbox"/> N/A	Standards for timely access to initial medication evaluations do not exist.
C*	3. Allow for the study question to be answered.  N/A is not applicable to this element for scoring.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The study indicators would allow for the study question to be answered.
	4. Measure changes (outcomes) in health or functional status, consumer satisfaction, or valid process alternatives.  N/A is not applicable to this element for scoring.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The study indicators measure outcomes in a valid process alternative and in clinician satisfaction.
C*	5. Have available data that can be collected on each indicator.  N/A is not applicable to this element for scoring.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	There were available data collected on each study indicator.
	6. Are nationally recognized measures such as HEDIS specifications, when appropriate.  The scoring for this element will be Met or N/A.	<input type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input checked="" type="checkbox"/> N/A	The study indicators were not nationally recognized measures.
	7. Includes the basis on which the indicator(s) was adopted, if internally developed.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The basis on which each study indicator was adopted was included.

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

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

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

*Section 4: Colorado FY 06-07 PIP Validation Tool:  
Access to Initial Medication Evaluations  
for Behavioral HealthCare, Inc.*

EVALUATION ELEMENTS		SCORING	COMMENTS
<b>Performance Improvement Project/Health Care Study Evaluation</b>			
<b>IV. Use a representative and generalizable study population: The selected topic should represent the entire eligible Medicaid enrollment population with systemwide measurement and improvement efforts to which the PIP study indicators apply.</b>			
C*	1. Is accurately and completely defined.  N/A is not applicable to this element for scoring.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The study population was accurately and completely defined.
	2. Includes requirements for the length of a consumer's enrollment in the BHO.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	It was reported that consumers had to be eligible at the time of request for the initial medication evaluation and gaps in enrollment were allowable.
C*	3. Captures all consumers to whom the study question applies.  N/A is not applicable to this element for scoring.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The study population captured all consumers to whom the study question applied.

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

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

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

*Section 4: Colorado FY 06-07 PIP Validation Tool:  
Access to Initial Medication Evaluations  
for Behavioral HealthCare, Inc.*

EVALUATION ELEMENTS		SCORING				COMMENTS
<b>Performance Improvement Project/Health Care Study Evaluation</b>						
V.	<b>Valid Sampling Techniques: (This activity is only scored if sampling was used.) If sampling is to be 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.</b>					
	1. Consider and specify the true or estimated frequency of occurrence.	<input type="checkbox"/> Met	<input type="checkbox"/> Partially Met	<input type="checkbox"/> Not Met	<input checked="" type="checkbox"/> N/A	Sampling was not used.
	2. Identify the sample size.	<input type="checkbox"/> Met	<input type="checkbox"/> Partially Met	<input type="checkbox"/> Not Met	<input checked="" type="checkbox"/> N/A	Sampling was not used.
	3. Specify the confidence level.	<input type="checkbox"/> Met	<input type="checkbox"/> Partially Met	<input type="checkbox"/> Not Met	<input checked="" type="checkbox"/> N/A	Sampling was not used.
	4. Specify the acceptable margin of error.	<input type="checkbox"/> Met	<input type="checkbox"/> Partially Met	<input type="checkbox"/> Not Met	<input checked="" type="checkbox"/> N/A	Sampling was not used.
C*	5. Ensure a representative sample of the eligible population.	<input type="checkbox"/> Met	<input type="checkbox"/> Partially Met	<input type="checkbox"/> Not Met	<input checked="" type="checkbox"/> N/A	Sampling was not used.
	6. Are in accordance with generally accepted principles of research design and statistical analysis.	<input type="checkbox"/> Met	<input type="checkbox"/> Partially Met	<input type="checkbox"/> Not Met	<input checked="" type="checkbox"/> N/A	Sampling was not used.

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

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

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

*Section 4: Colorado FY 06-07 PIP Validation Tool:  
Access to Initial Medication Evaluations  
for Behavioral HealthCare, Inc.*

EVALUATION ELEMENTS		SCORING	COMMENTS
<b>Performance Improvement Project/Health Care Study Evaluation</b>			
VI.	<b>Accurate/Complete Data Collection: Data collection must ensure that the data collected on the PIP indicators are valid and reliable. Validity is an indication of the accuracy of the information obtained. Reliability is an indication of the repeatability or reproducibility of a measurement.</b>		
	1. Clearly defined data elements to be collected.  N/A is not applicable to this element for scoring.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The data elements collected were clearly defined.
	2. Clearly identified sources of data.  N/A is not applicable to this element for scoring.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The sources of data were specified.
	3. A clearly defined and systematic process for collecting data that includes how baseline and remeasurement data will be collected.  N/A is not applicable to this element for scoring.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The process for collecting data was defined and systematic.
	4. A timeline for the collection of baseline and remeasurement data.  N/A is not applicable to this element for scoring.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	A timeline for the collection of data was included.
	5. Qualified staff and personnel to abstract manual data.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The training and qualifications of manual data collection and data entry staff members were not provided.  Rereview April 2007: The resubmission documentation included training and qualifications of data collection and data entry staff members. This evaluation element was changed from Partially Met to Met.
C*	6. A manual data collection tool that ensures consistent and accurate collection of data according to indicator specifications.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The survey tool questions were based on the CAHPS questionnaire.
	7. A manual data collection tool that supports interrater reliability.	<input type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input checked="" type="checkbox"/> N/A	The manual data collection tool was a survey.
	8. Clear and concise written instructions for completing the manual data collection tool.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The instructions on the survey were clear and concise.

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

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

**Section 4: Colorado FY 06-07 PIP Validation Tool:  
Access to Initial Medication Evaluations  
for Behavioral HealthCare, Inc.**

EVALUATION ELEMENTS		SCORING	COMMENTS
<b>Performance Improvement Project/Health Care Study Evaluation</b>			
VI.	<b>Accurate/Complete Data Collection: Data collection must ensure that the data collected on the PIP indicators are valid and reliable. Validity is an indication of the accuracy of the information obtained. Reliability is an indication of the repeatability or reproducibility of a measurement.</b>		
9.	An overview of the study in written instructions.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	An overview of the study was included in the instructions.
10.	Administrative data collection algorithms/flow charts that show activities in the production of indicators.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	A flow chart of the administrative data collection process was provided.
11.	An estimated degree of administrative data completeness. Met = 80 - 100% Partially Met = 50 - 79% Not Met = <50% or not provided	<input type="checkbox"/> Met <input checked="" type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The overall data completeness for BHI was estimated as 55 percent.  Rereview April 2007 As a result of the rereview, this score did not change.

Results for Activity VI				
# of Elements				
Critical Elements**	Met	Partially Met	Not Met	Not Applicable
1	9	1	0	1

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

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

**Section 4: Colorado FY 06-07 PIP Validation Tool:  
Access to Initial Medication Evaluations  
for Behavioral HealthCare, Inc.**

EVALUATION ELEMENTS	SCORING	COMMENTS
<b>Performance Improvement Project/Health Care Study Evaluation</b>		
<b>VII. Appropriate Improvement Strategies: Real, sustained improvements in care result from a continuous cycle of measuring and analyzing performance, and developing and implementing systemwide improvements in care. Interventions are designed to change behavior at an institutional, practitioner, or consumer level.</b>		
1. Related to causes/barriers identified through data analysis and quality improvement processes.  N/A is not applicable to this element for scoring.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	Interventions were related to causes/barriers identified through data analysis and quality improvement processes.
2. System changes that are likely to induce permanent change.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The interventions were system changes that were likely to induce permanent change.
3. Revised if the original interventions were not successful.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	Interventions were evaluated and revised as necessary. BHI required a corrective action plan by age group for each center performing below benchmark.
4. Standardized and monitored if interventions were successful.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	Some of the interventions were standardized and monitored.

Results for Activity VII				
# of Elements				
Critical Elements**	Met	Partially Met	Not Met	Not Applicable
0	4	0	0	0

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



**Section 4: Colorado FY 06-07 PIP Validation Tool:  
Access to Initial Medication Evaluations  
for Behavioral HealthCare, Inc.**

EVALUATION ELEMENTS		SCORING	COMMENTS
<b>Performance Improvement Project/Health Care Study Evaluation</b>			
<b>VIII. Sufficient Data Analysis and Interpretation: Describe the data analysis process on the selected clinical or nonclinical study indicators. Include the statistical analysis techniques used.</b>			
C*	1. Is conducted according to the data analysis plan in the study design.  N/A is not applicable to this element for scoring.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	Data analysis was conducted according to the data analysis plan.
C*	2. Allows for the generalization of results to the study population if a sample was selected.  If no sampling was performed, this element is scored N/A.	<input type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input checked="" type="checkbox"/> N/A	A sample was not selected.
	3. Identifies factors that threaten internal or external validity of findings.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	Factors that threatened the internal or external validity of findings were discussed.
	4. Includes an interpretation of findings.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	An interpretation of findings was included.
	5. Is presented in a way that provides accurate, clear, and easily understood information.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The data were presented in an accurate and easily understood way.
	6. Identifies initial measurement and remeasurement of study indicators.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	Initial measurement and remeasurement of the study indicators were identified.
	7. Identifies statistical differences between initial measurement and remeasurement.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	Statistical differences between measurements were identified; however, the chi-square and p value for the BHI Year 1 and Year 2 comparison were incorrect. The chi-square should have been 1.8957 and the p value should have been 0.16854.  Rereview April 2007 The updated chi-square and p values in the resubmission documentation were correct. This evaluation element was changed from Partially Met to Met.
	8. Identifies factors that affect the ability to compare initial measurement with remeasurement.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	Factors that affected the ability to compare measurements were identified.

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

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

*Section 4: Colorado FY 06-07 PIP Validation Tool:  
Access to Initial Medication Evaluations  
for Behavioral HealthCare, Inc.*

EVALUATION ELEMENTS	SCORING	COMMENTS
<b>Performance Improvement Project/Health Care Study Evaluation</b>		
VIII. <b>Sufficient Data Analysis and Interpretation: Describe the data analysis process on the selected clinical or nonclinical study indicators. Include the statistical analysis techniques used.</b>		
9. Includes interpretation of the extent to which the study was successful.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	An interpretation of the extent to which the study was successful was included.

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

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

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

*Section 4: Colorado FY 06-07 PIP Validation Tool:  
Access to Initial Medication Evaluations  
for Behavioral HealthCare, Inc.*

EVALUATION ELEMENTS	SCORING	COMMENTS
<b>Performance Improvement Project/Health Care Study Evaluation</b>		
IX. <b>Real Improvement Achieved: Describe any meaningful change in performance observed and demonstrated during baseline measurement. Discuss any random year-to-year variation, population changes, and sampling error that may have occurred during the measurement process.</b>		
1. Remeasurement methodology is the same as baseline methodology.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The methodology remained the same in the study.
2. There is documented improvement in processes or outcomes of care.	<input type="checkbox"/> Met <input checked="" type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	BHI saw improvement in access to initial medication evaluations within 30 days; however, BHI clinicians overall reported less satisfaction with access to initial medication evaluations than the previous year.  Rereview April 2007 As a result of the rereview, this score did not change.
3. The improvement appears to be the result of planned intervention(s).	<input type="checkbox"/> Met <input checked="" type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	BHI saw improvement in access to initial medication evaluations within 30 days. The improvement appeared to be the result of the interventions. While there was improvement in access to initial medication evaluations within 30 days, BHI clinicians overall reported less satisfaction with access to initial medication evaluations than the previous year.  Rereview April 2007 As a result of the rereview, this score did not change.

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

*Section 4: Colorado FY 06-07 PIP Validation Tool:  
Access to Initial Medication Evaluations  
for Behavioral HealthCare, Inc.*

EVALUATION ELEMENTS	SCORING	COMMENTS
<b>Performance Improvement Project/Health Care Study Evaluation</b>		
<b>IX. Real Improvement Achieved: Describe any meaningful change in performance observed and demonstrated during baseline measurement. Discuss any random year-to-year variation, population changes, and sampling error that may have occurred during the measurement process.</b>		
4. There is statistical evidence that observed improvement is true improvement.	<input type="checkbox"/> Met <input type="checkbox"/> Partially Met <input checked="" type="checkbox"/> Not Met <input type="checkbox"/> N/A	Neither study indicator had a statistically significant improvement.  Rereview April 2007 BHI had statistically significant improvement for some subgroups; however, the indicators included all BHI Medicaid consumers requesting initial medication evaluations. Statistically significant improvement was not seen from baseline to the first remeasurement for either Study Indicator 1 or Study Indicator 2. Based on the rereview, the score for this evaluation element did not change.

Results for Activity IX				
# of Elements				
Critical Elements**	Met	Partially Met	Not Met	Not Applicable
0	1	2	1	0

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

*Section 4: Colorado FY 06-07 PIP Validation Tool:  
Access to Initial Medication Evaluations  
for Behavioral HealthCare, Inc.*

EVALUATION ELEMENTS		SCORING	COMMENTS
<b>Performance Improvement Project/Health Care Study Evaluation</b>			
X.	<b>Sustained Improvement Achieved: Describe any demonstrated improvement through repeated measurements over comparable time periods. Discuss any random year-to-year variation, population changes, and sampling error that may have occurred during the remeasurement process.</b>		
1.	Repeated measurements over comparable time periods demonstrate sustained improvement, or that a decline in improvement is not statistically significant.	<input type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	Not assessed. BHI had only completed a Baseline and Remeasurement 1.

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

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

*Section 4: Colorado FY 06-07 PIP Validation Tool:  
Access to Initial Medication Evaluations  
for Behavioral HealthCare, Inc.*

**Table A-1—FY 06-07 PIP Validation Report Scores:  
Access to Initial Medication Evaluations  
for Behavioral HealthCare, Inc.**

Review Activity		Total Possible Evaluation Elements (Including Critical Elements)	Total Met	Total Partially Met	Total Not Met	Total N/A	Total Possible Critical Elements	Total Critical Elements Met	Total Critical Elements Partially Met	Total Critical Elements Not Met	Total Critical Elements N/A	
I.	Appropriate Study Topic	6	6	0	0	0	1	1	0	0	0	
II.	Clearly Defined, Answerable Study Question	2	2	0	0	0	1	1	0	0	0	
III.	Clearly Defined Study Indicator(s)	7	5	0	0	2	3	3	0	0	0	
IV.	Use a representative and generalizable study population	3	3	0	0	0	2	2	0	0	0	
V.	Valid Sampling Techniques	6	0	0	0	6	1	0	0	0	1	
VI.	Accurate/Complete Data Collection	11	9	1	0	1	1	1	0	0	0	
VII.	Appropriate Improvement Strategies	4	4	0	0	0	No Critical Elements					
VIII.	Sufficient Data Analysis and Interpretation	9	8	0	0	1	2	1	0	0	1	
IX.	Real Improvement Achieved	4	1	2	1	0	No Critical Elements					
X.	Sustained Improvement Achieved	1	Not Assessed				0	No Critical Elements				
<b>Totals for All Activities</b>		<b>53</b>	<b>38</b>	<b>3</b>	<b>1</b>	<b>10</b>	<b>11</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>2</b>	

**Table A-2—FY 06-07 PIP Validation Report Overall Scores:  
Access to Initial Medication Evaluations  
for Behavioral HealthCare, Inc.**

<b>Percentage Score of Evaluation Elements Met*</b>	<b>90%</b>
<b>Percentage Score of Critical Elements Met**</b>	<b>100%</b>
<b>Validation Status***</b>	<b>Met</b>

- \* 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.

*Section 4: Colorado FY 06-07 PIP Validation Tool:  
Access to Initial Medication Evaluations  
for Behavioral HealthCare, Inc.*

**EVALUATION OF THE OVERALL VALIDITY AND RELIABILITY OF PIP/STUDY RESULTS**

HSAG assessed the implications of the study's findings on the likely validity and reliability of the results based on CMS protocols. HSAG also assessed whether the State should have confidence in the reported PIP findings. Determining when an accumulation of threats to validity and reliability, and PIP design problems, reach a point at which the PIP findings are no longer credible is always a judgment call.

**\*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**

\*  **Met**

\*\*  **Partially Met**

\*\*\*  **Not Met**

**Summary statement on the validation findings:**

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

## Introduction

The appendices consist of documentation supporting the validation process conducted by HSAG using the CMS Protocol for validating PIPs. Appendix A is the study submitted to HSAG for review, Appendix B is CMS rationale for each activity, and Appendix C includes PIP definitions and explanations.

- ◆ Appendix A: **Behavioral HealthCare, Inc.**'s PIP Study: *Access to Initial Medication Evaluations*
- ◆ Appendix B: CMS Rationale by Activity
- ◆ Appendix C: Definitions and Explanations by Activity





**Appendix A: PIP Summary Form:  
Access To Initial Medication Evaluations  
for Behavioral Health Care, Inc.**

**DEMOGRAPHIC INFORMATION**

BHO Name or ID: Behavioral Health Care, Inc.

Study Leader Name: Ann Terrill Torrez

Title: Director, Quality Improvement

Telephone Number: (303) 617-2815

E-Mail Address: Ann-torrez@bhiinc.org

Name of Project/Study: Access To Initial Medication Evaluations

Type of Study:  Clinical

Nonclinical

9,869 Number of Medicaid Consumers

1,333 Number of Medicaid Consumers in Study

**Section to be completed by HSAG**

\_\_\_\_ Year 1 Validation \_\_\_\_ Initial Submission \_\_\_\_ Resubmission

\_\_\_\_ Year 2 Validation \_\_\_\_ Initial Submission \_\_\_\_ Resubmission

X Year 3 Validation \_\_\_\_ Initial Submission X Resubmission

## **Appendix A: PIP Summary Form: Access To Initial Medication Evaluations** *for Behavioral Health Care, Inc.*

**A. Activity I: Choose the Selected Study Topic.** Topics selected for study should reflect the Medicaid enrollment in terms of demographic characteristics, prevalence of disease, and the potential consequences (risks) of the disease. Topics could also address the need for a specific non-clinical service. The goal of the project should be to improve processes and outcomes of health care for the full affected population. The topic may be specified by the State Medicaid agency or on the basis of Medicaid consumer input.

**Study Topic:** This study topic addresses the high volume, high cost and high risk issue of improving access for consumers to initial psychiatric/ medication evaluations in a timely fashion. Initial Medication evaluations are a critical step in evaluating and treating consumers with potential and serious illness. Medication management is considered first line treatment of choice for the major mental illnesses of schizophrenia, bipolar disorder, schizoaffective disorder, depression and ADHD, diseases which accounted for 65.5% of units of service and 65.5% of dollars spent in FY05 by BHI. Currently 19% of BHI consumers seeking services received medication evaluations and the number increases each year. Initial evaluations with prescribers last at least one hour. Prescribers are also the most expensive providers in the Mental Health field and thus these visit types are one of the more expensive outpatient services in community mental health.

Recommended ratios of mental health prescribers to consumers vary nationally from

- o 1/1200 members in Hawaii, 1/1500 members in Nevada -- (BHI =.5/1200 Eligible and 1.8/1000 active consumers)  
to
- o 1 FTE prescribers /10,000 members-- Rhode Island— (BHI = 2 FTE prescribers /10000)  
to
- o .30 MDs /1000 members—Value Options national standard- (BHI =.40 MDs/1000 members)

Current BHI network adequacy data suggests that the BHI network of prescribers meets or exceeds the standards for an adequate number of prescribers, answering the question of sufficiency of providers.

A survey of MHC clinician satisfaction with access to initial medication evals in 1999 and 2000 revealed generally high levels of satisfaction with access to care for ongoing medication management but **high levels of dissatisfaction with accessing medication evaluations in the first place.**

Medication evaluations are provided to BHI consumers at several different points in the care continuum including, but not limited to, 1)new consumers seeking symptom relief, diagnostic clarification and medication treatment, 2)consumers new to BHI or a mental health center who will need ongoing medication management, 3)consumers needing post hospitalization evaluation for ongoing outpatient medication management, and 4)adult consumers admitted to intensive residential programs and consumers who had discontinued treatment and wish to restart medication management of their illness. For purposes of this study, BHI chose to focus on improving access for all its Medicaid consumers new to the mental health center who were requesting a new or initial medication evaluation. Please see Activity IV for further detail regarding population.

Community standards for timely access to initial psychiatric medication evaluations have not been established. The community standard for a routine PCP office visit is 30 days and for an acute care visit, 48 hours.

**Appendix A: PIP Summary Form:  
Access To Initial Medication Evaluations**  
*for* **Behavioral Health Care, Inc.**

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

**Study Question:**

- 1. Will improvement in Mental Health Center Medication Services Clinic practices reduce wait times for appointments for initial routine medication evaluations with a mental health prescriber?**

## Appendix A: PIP Summary Form: Access To Initial Medication Evaluations *for* Behavioral Health Care, Inc.

**C. Activity III: Selected Study Indicators.** A study indicator is a quantitative or qualitative characteristic or variable that reflects a discrete event (e.g., rates of hospital readmissions within 30 or 90 days), or a status (e.g., percent of consumers reporting that they actively participate in treatment planning) that is to be measured. The selected indicators should be appropriate for the study topic and question as well as 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.

<b>Study Indicator #1:</b>	<b>Timely consumer access to initial routine medication evaluation</b>
<b>Numerator:</b>	BHI Consumers offered a medication evaluation within 30 days
<b>Denominator:</b>	Requests for a routine initial medication evaluation
<b>First Measurement Period Dates:</b>	September 2001
<b>Baseline Benchmark:</b>	<b>90%</b>
<b>Source of Benchmark:</b>	<b>Standards of Practice Committee Determination</b>
<b>Baseline Goal:</b>	
<b>Study Indicator #4:</b>	<b>Clinician Satisfaction with appointment scheduling for New Medication Evaluations</b>
<b>Numerator:</b>	Respondents choosing “always” or “usually” to the following survey question: Q3 “In the <b>last month</b> , how often did you get an appointment for a <b>routine initial</b> medication evaluation <u>as soon as your clients wanted?</u> ”
<b>Denominator:</b>	All Respondents who responded yes to Q 2> “In the <b>last month</b> , did you make any appointments for your clients with one of your Mental Health Center’s prescribers for a <b>routine initial</b> medication evaluation?”
<b>First Measurement Period Dates:</b>	February 1999 and August 2000
<b>Benchmark:</b>	45%(2000)
<b>Source of Benchmark:</b>	2000 survey results
<b>Baseline Goal:</b>	90%

## **Appendix A: PIP Summary Form: Access To Initial Medication Evaluations** *for Behavioral Health Care, Inc.*

**D. Activity IV: Identified Study Population.** The study population should be clearly defined to represent the entire population to which the PIP study question and indicators apply. The length of recipient enrollment should be considered and defined. All selection criteria should be listed here. Once the population is identified, a decision must be made whether to review data for the entire population or a sample of that population.

**Identified Study Population:** Our study concerns reducing wait times for individuals new to receiving medications at our core provider sites.

**Inclusion Criteria:**

Payer Source: BHI Medicaid, and Private/Medicaid Consumers

Age: all ages,

Eligibility: eligible for services at time of request,

Enrollment: Gaps in enrollment allowable

Requesting an initial (new) routine, outpatient medication evaluation at a BHI mental health center.

**Exclusion:**

Consumers who seek initial routine outpatient medication evaluations outside BHI's core providers (E.P.N. or External Provider Network)

Medicare/Medicaid consumers are excluded from the study because Medicare is primary payer for medication services.

Type of Med Evals: consumer

- admitted to a Mental Health Center residential program,
- transferred to a specialty service and the consumer will be followed by a new prescriber,
- had gaps in service and is returning to medications,
- experiencing the onset of new psychiatric symptoms,

**NOTE:** *Consumers do not access psychiatry directly. Once they are "opened" to a mental health center, they receive an intake by a clinician. Based on diagnosis and/or symptoms, the clinician may recommend or the consumer may request a medication evaluation. The clinician then refers the consumer for an initial medication evaluation. The clinician may assist the consumer in making the appointment, or the consumer may call or visit the mental health center medication clinic to make the appointment.*

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**E. Activity V: Sampling Methods.** If sampling is to be 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 for the first time a topic is studied. In this case, an estimate should be used and the basis for that estimate indicated.

Measure	Sample Error and Confidence Level	Sample Size	Population	Method for Determining Size ( <i>describe</i> )	Sampling Method ( <i>describe</i> )
See Attachment (Step 5.xls)					

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

**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**

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**Description of Data Collection Staff**

Indicator #1. Front Desk staff trained in each center's appointment system as well as Access to Med Eval database, and initial med eval Access to Standards (30 days). At Center B, Clinicians were also trained to tell front desk staff to enter appt requests in tracking system. (attachment F6.ppt)

Indicator #4: N/A

Administrative data

Data Source

Other AME Database

Each center developed a unique database to capture data on Med evals offered. Front desk staff, after entering appointments made in their appointment systems, then opened this database and entered the following data: SEE (StepF6.ppt) At Center B, clinicians give appt information to Front desk staff to enter into this database (Step F6B.ppt)

- MHC ID/payer status\* or Medicaid Number
- BirthDate/Age
- DateScheduled/Contacted
- DateOffered
- DateAccepted
- Team

\*Only records of Medicaid Captitated consumer requests analyzed for purposes of BHI study

Other Requirements

Data completeness assessment attached- see (Step I9.xls, Captured/Expected column)

Survey Data

Fielding Method

Personal interview **person to person**

Mail

Phone with CATI script

Phone with IVR

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

- Internet ( distribution of survey
- Other \_Distributed to staff at team meetings

Other Requirements

- Number of waves 1\_\_\_\_\_
- Response rate \_\_\_See E. Activity V\_\_\_\_\_
- Incentives used -

**Internally Developed Tool: (Activity VI Clinician Survey Tool.doc)**

Validity: Survey tool questions based on CAHPS questionnaire format. Survey tool submitted to MHC QI directors for review and additional input. Clinicians were instructed to complete this tool by each of their MHC QI directors based on their practice.

Completed surveys entered into database by BHI staff. **November 2006 Survey tool modified Q1. Added "intensive treatment" to treatment site selections.**





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<b>F. Activity VIb: Data Collection Cycle.</b>	<b>Data Analysis Cycle.</b>
<p><input checked="" type="checkbox"/> <b>Once a year- Clinician Satisfaction Survey</b></p> <p><input type="checkbox"/> Twice a year</p> <p><input type="checkbox"/> Once a season</p> <p><input type="checkbox"/> Once a quarter</p> <p><input type="checkbox"/> Once a month</p> <p><input type="checkbox"/> Once a week</p> <p><input type="checkbox"/> Once a day</p> <p><input checked="" type="checkbox"/> <b>Continuous- Access to Med Eval Data</b></p> <p><input type="checkbox"/> Other (list and describe):</p>	<p><input checked="" type="checkbox"/> Once a year- Clinician Sat Survey, <b>Access Data</b></p> <p><input type="checkbox"/> Once a season</p> <p><input checked="" type="checkbox"/> Once a quarter- Access Data- <b>trended</b></p> <p><input type="checkbox"/> Once a month</p> <p><input type="checkbox"/> Continuous</p> <p><input type="checkbox"/> Other (list and describe): Data is analyzed when collected.</p> <p><b>2006- quarterly analysis of change could not be conducted as team level inadequate for chi square analysis of change.</b></p> <hr/> <hr/> <hr/>

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**F. Activity VIc. Data Analysis Plan and Other Pertinent Methodological Features**

**Data analysis –**

**Measure #1: Access data**

Analysis of data completeness- annual comparison of expected vs completed evals by team, age group and overall

Inferential analysis: Chi square analysis of change. Compare year 1 teams, aggregate age groups and BHI, overall to year 2 (Step I9.xls)

Descriptive analysis. Compare team level interventions against team level scores chronologically. ( Step G706.doc)

Additional Analysis:

Trended quarterly data on access to med evals at 14 days and 21 days (amecharts.xls)

Prescriber FTE compliment at Centers, evals/FTE (Step H8A.doc page 3)

Cause/ Effect analysis of reasons for delays in appointments (Attachment C)(2005)

**Measure # 4 Clinician Satisfaction**

Evaluation of representativeness of sample, (Step E5.xls),

Perception of timeliness: Performance on Question #3 by age group and MHC (Step H8A.doc, page 4)–5

Additional Analysis:

Distribution of respondents (Step H8A.doc, page 4), age group served and treatment setting, 2005 to 2006

Perception of difficulty of appointment process by MHC and Age group served, 2005-2006– Survey Question #4 (Step H8A.doc page 6)

Top barriers to Access 2005-2006– Survey Question #5-- (Step H8A.doc, page 6)

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

See [Attachment G.Step 705\).](#) and [Step G706.doc](#)

## **Appendix A: PIP Summary Form: Access To Initial Medication Evaluations** *for Behavioral Health Care, Inc.*

**H. Activity VIIIa. Data analysis:** Describe the data analysis process in accordance with the analysis plan and any ad-hoc analysis done on the selected clinical or non-clinical study indicators. Include the statistical analysis techniques utilized and *p* values.

**Study Measure #1:**

Analysis of data completeness (Step I 9.xls and AMEfy072ndqtr.doc) Annual number evals captured / average number of actual encounters in FY06 (expected) by team, age group and overall

Described performance, intervention and clinician satisfaction by team for last 6 quarters Step G706.doc (2006)

Trended team level performance data at 14 days, 21 days and 30 days (amecharts.xls)

Compared FTE complement, number of clinical sites, actual evals captured by MHC (Step H8A.doc, page 3)

**Study Measure # 4:**

Evaluation of representativeness of sample, (Step E5.xls),

Perception of timeliness: Performance on Question #3 by age group and MHC (Step H8A.doc, page 4–5)

Additional analysis:

Distribution of respondents (Step H8A.doc, page 4), age group served and treatment setting, 2005 to 2006

Perception of difficulty of appointment process by MHC and Age group served, 2005-2006– Survey Question #4 (Step H8A.doc page 6)

Top barriers to Access 2005-2006– Survey Question #5-- (Step H8A.doc, page 6)

**H. Activity VIIIb. Interpretation of study results:** Describe the results of the statistical analysis, interpret the findings, and discuss the successfulness of the study and indicate follow-up activities. Also, identify any factors that could influence the measurement or validity of the findings.

See Step H8B.doc

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**I. Activity IX. Study Results Summary and Improvement:** List study results and describe any meaningful change in performance observed during the time period of analysis.

**#1 Quantifiable Measure: Appointment Availability in 30 days**

Time Period Measurement Covers	Baseline Project Indicator Measurement	Numerator	Denominator	Rate or Results	Internal Benchmark	Statistical Test and Significance*
See attachment (Step 19.xls)						

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**J. Activity X. Sustained improvement:** Describe any demonstrated improvement through repeated measurements over comparable time periods. Discuss any random year-to-year variation, population changes, and sampling error that may have occurred during the remeasurement process.

**See J.Step 10.doc**

PIPs provide a structured method of assessing and improving the processes, and thereby outcomes, of care for the population that a BHO serves. This structure facilitates the documentation and evaluation of improvements in care or service. PIPs are conducted by the BHOs to assess and improve the quality of clinical and nonclinical health care services received by consumers.

The PIP evaluation is based on CMS guidelines as outlined in the 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 (CMS PIP Protocol).

This document highlights the rationale for each activity as established by CMS. The protocols for conducting PIPs can be used to assist the BHOs in complying with requirements.

## **CMS Rationale**

### **Activity I. Appropriate Study Topic**

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

### **Activity II. Clearly Defined, Answerable Study Question**

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

### **Activity III. Clearly Defined Study Indicator(s)**

A study indicator is a quantitative or qualitative characteristic (variable) reflecting a discrete event (e.g., an older adult has/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.

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

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

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

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

#### **Activity IV. Use a Representative and Generalizable Study Population**

Once a topic has been selected, measurement and improvement efforts must be systemwide (i.e., each project must represent the entire Medicaid enrolled population to which the PIP study indicators apply). Once that population is identified, the BHO must decide whether to review data for that entire population or use a sample of that population. Sampling is acceptable as long as the samples are representative of the identified population (CMS PIP Protocol, page 8). (See “Activity V. Valid Sampling Techniques.”)

#### **Activity V. Valid Sampling Techniques**

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

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



## **Activity VI. Accurate/Complete Data Collection**

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

- ◆ Clear identification of the data to be collected.
- ◆ Identification of the data sources and how and when the baseline and repeat indicator data will be collected.
- ◆ Specification of who will collect the data.
- ◆ Identification of instruments used to collect the data.

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

1. The key to successful manual data collection is in the selection of the data collection staff. Appropriately qualified personnel, with conceptual and organizational skills, should be used to abstract the data. However, their specific skills should vary depending on the nature of the data collected and the degree of professional judgment required. For example, if data collection involves searching throughout the medical record to find and abstract information or judge whether clinical criteria were met, experienced clinical staff, such as registered nurses, should collect the data. However, if the abstraction involves verifying the presence of a diagnostic test report, trained medical assistants or medical records clerks may be used.
2. Clear guidelines for obtaining and recording data should be established, especially if multiple reviewers are used to perform this activity. The BHO should determine the necessary qualifications of the data collection staff before finalizing the data collection instrument. An abstractor would need fewer clinical skills if the data elements within the data source are more clearly defined. Defining a glossary of terms for each project should be part of the training of abstractors to ensure consistent interpretation among project staff.
3. The number of data collection staff used for a given project affects the reliability of the data. A smaller number of staff members promotes interrater reliability; however, it may also increase the amount of time it takes to complete this task. Intrarater reliability (i.e., reproducibility of judgments by the same abstractor at a different time) should also be considered (CMS PIP Protocol, page 12).

## **Activity VII. Appropriate Improvement Strategies**

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

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

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

### ***Activity VIII. Sufficient Data Analysis and Interpretation***

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

### ***Activity IX. Real Improvement Achieved***

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

### ***Activity X. Sustained Improvement Achieved***

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

*Appendix C. Definitions and Explanations by Activity*  
for Behavioral HealthCare, Inc.

This document was developed by HSAG as a resource to assist BHOs in understanding the broad concepts in each activity related to PIPs. The specific concept is delineated in the left column, and the explanations and examples are provided in the right column.

Definitions and Explanations	
<b>Activity I. Appropriate Study Topic</b>	
<b>Broad Spectrum of Care</b>	<ul style="list-style-type: none"> <li>◆ Clinical focus areas: includes prevention and care of acute and chronic conditions and high volume/high-risk services. High-risk procedures may also be targeted (e.g., care received from specialized centers).</li> <li>◆ Nonclinical areas: continuity or coordination of care addressed in a manner in which care is provided from multiple providers and across multiple episodes of care (e.g., disease-specific or condition-specific care).</li> </ul>
<b>Eligible Population</b>	<ul style="list-style-type: none"> <li>◆ May be defined as consumers who meet the study topic parameters.</li> </ul>
<b>Selected by the State</b>	<ul style="list-style-type: none"> <li>◆ If the study topic was selected by the state Medicaid agency, this information is included as part of the description under Activity One: Choose the Selected Study Topic in the PIP tool.</li> </ul>
<b>Activity II. Clearly Defined, Answerable Study Question</b>	
<b>Study Question</b>	<ul style="list-style-type: none"> <li>◆ The question(s) directs and maintains the focus of the PIP and sets the framework for data collection, analysis, and interpretation. The question(s) must be measurable and clearly defined.</li> <li>◆ Examples:               <ol style="list-style-type: none"> <li>1. Does outreach immunization education increase the rates of immunizations for children 0–2 years of age?</li> <li>2. Does increasing flu immunizations for consumers with chronic asthma impact overall health status?</li> <li>3. Will increased planning and attention to follow-up after inpatient discharge improve the rate of mental health follow-up services?</li> </ol> </li> </ul>

Definitions and Explanations	
<b>Activity III. Clearly Defined Study Indicator(s)</b>	
<b>Study Indicator</b>	<ul style="list-style-type: none"> <li>◆ A quantitative or qualitative characteristic reflecting a discrete event or status that is to be measured. Indicators are used to track performance and improvement over time.</li> <li>◆ Example: The percentage of enrolled consumers who were 12–21 years of age who had at least one comprehensive well-care visit with a primary care practitioner or an obstetrician-gynecologist during the measurement year.</li> </ul>
<b>Sources Identified</b>	<ul style="list-style-type: none"> <li>◆ Documentation/background information that supports the rationale for the study topic, study question, and indicators.</li> <li>◆ Examples: HEDIS<sup>®1</sup> measures, medical community practice guidelines, evidence-based practices, or provider agreements.</li> <li>◆ Practice guideline examples: American Academy of Pediatrics and American Diabetes Association.</li> </ul>
<b>Activity IV. Use a Representative and Generalizable Study Population</b>	
<b>Eligible Population</b>	<ul style="list-style-type: none"> <li>◆ Refers to consumers who are included in the study.</li> <li>◆ Includes age, conditions, enrollment criteria, and measurement periods.</li> <li>◆ Example: the eligible population includes all children ages 0–2 as of December 31 of the measurement period, with continuous enrollment and no more than one enrollment gap of 30 days or less.</li> </ul>
<b>Activity V. Valid Sampling Techniques</b>	
<b>True or Estimated Frequency of Occurrence</b>	<ul style="list-style-type: none"> <li>◆ This may not be known the first time a topic is studied. In this case, assume that a maximum sample size is needed to establish a statistically valid baseline for the study. HSAG will review whether the BHOs defined the impact the topic has on the population or the number of eligible consumers in the population.</li> </ul>
<b>Sample Size</b>	<ul style="list-style-type: none"> <li>◆ Indicates the size of the sample to be used.</li> </ul>
<b>Representative Sample</b>	<ul style="list-style-type: none"> <li>◆ Refers to the sample resembling the entire population.</li> </ul>
<b>Confidence Level</b>	<ul style="list-style-type: none"> <li>◆ Statistical confidence is a numerical statement of the probable degree of certainty or accuracy of an estimate (e.g., 95 percent level of confidence with a 5 percent margin of error).</li> </ul>

<sup>1</sup> HEDIS<sup>®</sup> refers to the Health Plan Employer Data and Information Set and is a registered trademark of the National Committee for Quality Assurance (NCQA).

Definitions and Explanations	
<b>Activity VI. Accurate/Complete Data Collection</b>	
<b>Data Elements</b>	<ul style="list-style-type: none"> <li>◆ Identification of data elements includes unambiguous definitions of data that will be collected (e.g., the numerator/denominator, laboratory values).</li> </ul>
<b>Interrater Reliability (IRR)</b>	<ul style="list-style-type: none"> <li>◆ The HSAG review team evaluates if there is a tool, policy, and/or process in place to verify the accuracy of the data abstracted. Is there an over-read (IRR) process of a minimum-percentage review?</li> <li>◆ Examples: a policy that includes how IRR is tested, documentation of training, and instruments and tools used.</li> </ul>
<b>Algorithms</b>	<ul style="list-style-type: none"> <li>◆ The development of any systematic process that consists of an ordered sequence of steps. Each step depends on the outcome of the previous step.</li> <li>◆ The HSAG review team looks for the BHOs to describe the process used in data collection. What are the criteria (e.g., what Current Procedural Terminology and/or source codes were used)?</li> </ul>
<b>Data Completeness</b>	<ul style="list-style-type: none"> <li>◆ For the purposes of PIP scoring, data completeness refers to the degree of complete administrative data (e.g., encounter data or claims data). BHOs that compensate their providers on a fee-for-service basis require a submission of claims for reimbursement. However, providers generally have several months before they must submit the claim for reimbursement, and processing claims by the health plan may take several additional months, creating a claims lag. Providers paid on a capitated or salaried basis do not need to submit a claim to be paid, but should provide encounter data for the visit. In this type of arrangement, some encounter data may not be submitted.</li> <li>◆ PIPs that use administrative data need to ensure the data has a high degree of data completeness prior to its use. Evidence of data completeness levels may include claim processing lag reports, trending of provider submission rates, policies and procedures regarding timeliness requirements for claims and encounter data submission, encounter data submission studies, and comparison reports of claims/encounter data versus medical record review. Discussion in the PIP should focus on evidence at the time the data was collected for use in identifying the population, sampling and/or calculation of the study indicators. Statements such as, “Data completeness at the time of the data pull was estimated to be 97.8 percent based on claims lag reports (see attached Incurred But Not Reported report),” along with the attachment mentioned, usually (but not always) are sufficient evidence to demonstrate data completeness.</li> </ul>

Definitions and Explanations	
<b>Activity VII. Appropriate Improvement Strategies</b>	
<b>Causes and Barriers</b>	<ul style="list-style-type: none"> <li>◆ Interventions for improvement are identified through evaluation or barrier analysis. If there was no improvement, what problem-solving processes were put in place to identify possible causes and proposed changes to implement solutions?</li> <li>◆ It is expected that interventions associated with improvement of quality indicators will be system interventions.</li> </ul>
<b>Standardized</b>	<ul style="list-style-type: none"> <li>◆ If the interventions have resulted in successful outcomes, the interventions should continue and the BHO should monitor to assure the outcomes remain.</li> <li>◆ Examples: if an intervention is the use of practice guidelines, then the BHOs continue to use them; if mailers are a successful intervention, then the BHOs continue the mailings and monitor outcomes.</li> </ul>
<b>Activity VIII. Sufficient Data Analysis and Interpretation</b>	
<b>Analysis Plan</b>	<ul style="list-style-type: none"> <li>◆ Each study should have a plan for how data analysis will occur.</li> <li>◆ The HSAG review team will ensure that this plan was followed.</li> </ul>
<b>Generalization to the Study Population</b>	<ul style="list-style-type: none"> <li>◆ Study results can be applied to the general population with the premise that comparable results will occur.</li> </ul>
<b>Factors that Threaten Internal and External Validity</b>	<ul style="list-style-type: none"> <li>◆ Did the analysis identify any factors (internal or external) that would threaten the validity of study results?</li> <li>◆ Example: there was a change in record extraction (e.g., a vendor was hired or there were changes in HEDIS methodology).</li> </ul>
<b>Presentation of the Data Analysis</b>	<ul style="list-style-type: none"> <li>◆ Results should be presented in tables or graphs with measurement periods, results, and benchmarks clearly identified.</li> </ul>
<b>Identification of Initial Measurement and Remeasurement of Study Indicators</b>	<ul style="list-style-type: none"> <li>◆ Clearly identify in the report which measurement period the indicator results reflect.</li> </ul>
<b>Statistical Differences Between Initial Measurement and Remeasurement Periods</b>	<ul style="list-style-type: none"> <li>◆ The HSAG review team looks for evidence of a statistical test (e.g., a t-test, or chi square test).</li> </ul>
<b>Identification of the Extent to Which the Study Was Successful</b>	<ul style="list-style-type: none"> <li>◆ The HSAG review team looks for improvement over several measurement periods.</li> <li>◆ Both interpretation and analysis should be based on continuous improvement philosophies such that the BHO document data results and what follow-up steps will be taken for improvement.</li> </ul>

Definitions and Explanations	
<b>Activity IX. Real Improvement Achieved</b>	
<b>Remeasurement Methodology Is the Same as Baseline</b>	<ul style="list-style-type: none"> <li>◆ The HSAG review team looks to see that the study methodology remained the same for the entire study.</li> </ul>
<b>Documented Improvement in Processes or Outcomes of Care</b>	<ul style="list-style-type: none"> <li>◆ The study report should document how interventions were successful in impacting system processes or outcomes.</li> <li>◆ Examples: there was a change in data collection or a rate increase or decrease demonstrated in graphs/tables.</li> </ul>
<b>Activity X. Sustained Improvement Achieved</b>	
<b>Sustained Improvement</b>	<ul style="list-style-type: none"> <li>◆ The HSAG review team looks to see if study improvements have been sustained over the course of the study. This needs to be demonstrated over a period of several (more than two) remeasurement periods.</li> </ul>