

State of Colorado



Department of Health Care Policy & Financing

FY 06–07 PIP VALIDATION REPORT

Follow-up After Inpatient Discharge

for

Northeast Behavioral Health, LLC

June 2007



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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 **Northeast Behavioral Health, LLC (NBH)** study evaluated the percentage of children and adults who received services in a residential setting or attended an in-person outpatient appointment within 7- and 30-days after a hospital discharge.

Study Topic

The study addressed CMS' requirement related to quality and timeliness of care and services. The study topic looked at the interval of follow-up services provided after an inpatient discharge. **NBH** reviewed its follow-up data in two ways. Results were presented for (1) any follow-up services provided within the 7-day and 30-day time frames, which included consumers receiving outpatient services and those who were transferred to residential facilities, and (2) any follow-up outpatient services, which excluded consumers who were transferred to residential facilities; state hospitals;

other hospitals for medical, psychiatric, or substance abuse services; and detention. **NBH** reported that closely monitoring follow-up care after hospitalization is necessary because the population receiving these services is vulnerable to disruptions in functioning, recidivism, and changes in health status.

Study Methodology

The study had two indicators. **NBH** used a combination of automated and manual data collection procedures to capture data on outpatient and residential follow-up services. Data was collected continually and analyzed twice per year. There was no sampling performed because the entire eligible population was used for this study.

Study Results

From the second to the third remeasurement, there were statistically significant increases in the rates for 7-day outpatient follow-up and 7-day outpatient and residential follow-up, a decrease in the rate for 30-day outpatient follow-up, and a slight increase in the rate of 30-day outpatient and residential follow-up, although it was still below baseline. The only rate that had a statistically significant increase from baseline to the third remeasurement was 7-day outpatient follow-up; however, the follow-up rates in all four measurement categories remained above the benchmarks for all three measurement years.

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, 10 activities with a total of 53 elements were validated. Of this number:
 - § 41 evaluation elements were *Met*.
 - § 4 evaluation elements were *Partially Met*.
 - § 0 evaluation elements were *Not Met*.
 - § 8 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 **NBH**'s PIP showed an overall score of 91 percent, a critical element score of 100 percent, and a *Met* validation status.

Conclusions

For the FY 06–07 validation cycle, this study was reviewed through Activity X, Sustained Improvement Achieved. The study addressed quality and timeliness of follow-up care and services. **NBH** provided baseline and three remeasurements for this validation cycle. From the second to the third remeasurement, there was statistically significant improvement for the first time in the rates for 7-day outpatient and 7-day outpatient and residential follow-up. The follow-up rates in all four measurement categories remained above the benchmarks for this measurement period. HSAG recommended and the Department approved the retiring of this PIP from future submissions.

Requirements

There were no requirements identified during this validation cycle.

Recommendations

There were no recommendations identified during this validation cycle. The Department has approved the retirement of this PIP.

Comparison of Years 1 through 3

For Year 1, Activity I, Appropriate Study Topic, through Activity IX, Real Improvement Achieved, were assessed. **NBH** had only collected baseline and part of the first remeasurement data, so the data could not be compared and real improvement could not be determined. For Year 2, Activity I

through Activity X, Sustained Improvement Achieved, were assessed; however, there was no demonstrated improvement in any of the follow-up rates. For Year 3, there was statistically significant improvement in both 7-day follow-up rates from the second to the third remeasurement. The only rate that had a statistically significant increase from baseline to the third remeasurement was for 7-day outpatient follow-up.

2. Scoring Methodology

for Northeast Behavioral Health, LLC

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> , and (2) 80 percent to 100 percent of all critical and non-critical 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 non-critical elements were <i>Met</i> , or (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 non-critical elements were <i>Met</i> , or (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 X. Table 2-1 and Table 2-2 show **NBH**'s scores based on HSAG's PIP evaluation of *Follow-up After Inpatient Discharge*. Each activity has been reviewed and scored according to HSAG's validation methodology.

**Table 2-1—FY 06-07 Performance Improvement Project Scores
for Follow-up After Inpatient Discharge
for Northeast Behavioral Health, LLC**

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	6	0	0	1	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	11	0	0	0	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	3	0	0	No Critical Elements				
X. Sustained Improvement Achieved	1	0	1	0	0	No Critical Elements				
Totals for All Activities	53	41	4	0	8	11	9	0	0	2

**Table 2-2—FY 06-07 Performance Improvement Project Overall Score
for Follow-up After Inpatient Discharge
for Northeast Behavioral Health, LLC**

Percentage Score of Evaluation Elements Met*	91%
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.

3. Validation and Findings Summary for Northeast Behavioral Health, LLC

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 **Northeast Behavioral Health, LLC, (NBH)**. The PIP evaluated quality and timeliness of care and services. **NBH** used two study indicators to collect the data and assess the outcomes for this study. The study indicators measured children and adults receiving services in a residential setting or through an outpatient appointment with 7- and 30-days after hospital discharge. **NBH** completed ten activities for this validation cycle.

Activity I. Appropriate Study Topic

Study Topic

NBH continued the topic of follow-up after inpatient discharge for its FY 06–07 PIP.

Finding(s)

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

Strength(s)

The study topic assessed whether **NBH** consumers were receiving timely follow-up residential or face-to-face outpatient services after an inpatient stay. This study topic reflected a high-risk population and had the potential to affect the consumer’s health and functional status.

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)**

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

“Will increased planning and attention to the importance of follow-up after inpatient discharge improve the rate of consumers receiving follow-up services?”

Finding(s)

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

Strength(s)

The study question stated the problem to be studied in simple terms and maintained the focus of the study, which was to increase the rate of consumers receiving follow-up services within 7- and 30-days after hospital discharge.

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)**

NBH had two study indicators, as stated in its PIP Summary Form, that had an A and B numerator and denominator:

- ❑ “Indicator 1: the percentage of children and adults receiving services in a residential setting or through an outpatient appointment within seven days after hospital discharge.
- ❑ Indicator 1A: the number of face-to-face contacts within residential or outpatient settings within seven days after hospital discharge.
- ❑ Indicator 1B: the number of face-to-face outpatient contacts within seven days after hospital discharge. (This is specific to consumers released to outpatient treatment following an inpatient discharge)
- ❑ Indicator 2: the percentage of children and adults receiving services at a residential setting or at an in-person outpatient appointment within 30 days after hospital discharge.

- ❑ Indicator 2A: the number of face-to-face contacts within residential or outpatient settings and within 30 days after hospital discharge.
- ❑ Indicator 2B: the number of face-to-face outpatient contacts within 30 days after hospital discharge.”

Finding(s)

Six out of seven evaluation elements were *Met* for this activity, with one being *Not Applicable*. This activity had three critical elements, all of which were *Met*.

Strength(s)

The study indicators were well-defined, objective, and measurable and were based on practice guidelines. The study question was answerable using the study indicators. The indicators (i.e., the percentage of adults and children who received follow-up residential or outpatient services within 7- and 30-days after discharge from a hospital stay) were considered valid process alternatives for measuring changes (outcomes) in health and functional status of the consumer. There were data available to collect on each study indicator, and the PIP documentation included how these 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

NBH’s population was defined as:

All consumers who received inpatient treatment. Only consumers who had been enrolled as Medicaid recipients during the measurement periods were evaluated.

Finding(s)

All three evaluation elements for this activity were *Met*, including two critical elements.

Strength(s)

The study population was completely defined, included the requirement for length of enrollment, and 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)

NBH did not use sampling for this PIP study. The entire eligible population was included.

Finding(s)

Six out of six evaluation elements were *Not Applicable*, including one critical element.

Strength(s)

The entire eligible population was used, which is an acceptable principle of research design and statistical analysis.

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

Data Collection

NBH used both administrative and manual data collection.

Finding(s)

For this activity, 11 of 11 evaluation elements were *Met*, including one critical element.

Strength(s)

The data elements were clearly defined, with sources for data collection identified. **NBH** used administrative data as well as medical record abstraction to obtain its data. **NBH** defined the systematic data collection process, which included how baseline and remeasurement data were

collected. Data were collected continually and analyzed twice per year. The PIP study included the automated process and the degree of administrative data completeness.

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 VII. Appropriate Improvement Strategies

Improvement Strategies

NBH's interventions included increasing staff and provider awareness, and informal monitoring of the issue. All intensive service coordinators were made more aware of the need to document efforts to arrange follow-up care and to track the actual follow-up rates after discharge. A formalized tracking procedure was developed for all consumers who had been hospitalized. Additionally, **NBH** developed a comprehensive action plan that included each center examining its data to determine reasons why consumers did not receive follow-up services within 7- and 30-days after hospital discharge. Each center was required to formulate an action plan to address those factors.

Finding(s)

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

Strength(s)

The interventions were related to causes/barriers identified through data analysis and quality improvement processes. The interventions were system changes and **NBH** evaluated and revised the interventions as necessary.

Requirement(s) (for Critical Elements)

There were no critical elements for 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

NBH provided data analysis and interpretation for baseline and three remeasurements. From the second to the third remeasurement, there were increases in the rates for 7-day outpatient follow-up and 7-day outpatient and residential follow-up, a decrease in the rate for 30-day outpatient follow-up, and a slight increase in the rate of 30-day outpatient and residential follow-up, although it was still below baseline. The only rate that had a statistically significant increase from baseline to the third remeasurement was for 7-day outpatient follow-up.

Finding(s)

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

Strength(s)

The data analysis was performed according to the study design. Factors that threatened the internal and external validity of the findings were identified and addressed in the study. NBH identified the differences between the baseline and remeasurement findings and provided an interpretation of the reported results.

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

NBH provided statistical evidence demonstrating that real improvement was achieved in the rate of 7-day outpatient follow-up. Real improvement was not achieved in the rates of 7-day outpatient and residential follow-up, 30-day outpatient and residential follow-up, and 30-day outpatient follow-up from baseline to the third remeasurement.

Finding(s)

One evaluation element was *Met* and three evaluation elements were *Partially Met* because the 7-day outpatient and residential follow-up, 30-day outpatient and residential follow-up, and 30-day

outpatient follow-up rates did not achieve statistically significant improvement from baseline to the third remeasurement.

Strength(s)

The methodology remained the same throughout the study. The corrective action plan implemented in FY 05–06 appeared to have an impact on the 7-day follow-up rates. Additionally, during FY 05–06 **NBH** began tracking the number of consumers who refused follow-up appointments. Consumers who had refused follow-up appointments were included in the denominators. **NBH** concluded that if these consumers were removed from the denominators, the follow-up rates would improve.

Requirement(s) (for Critical Elements)

There were no critical elements for this activity.

Recommendation(s) (for Noncritical Elements)

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

Activity X. Sustained Improvement Achieved

Sustained Improvement Achieved

Sustained improvement was not achieved; however, there was improvement in the rates of 30-day outpatient and residential follow-up, 7-day outpatient and residential follow-up, and 7-day outpatient follow-up from the second to the third remeasurement. There was a statistically significant increase in the rate of 7-day outpatient follow-up from baseline to the third remeasurement.

Finding(s)

The one evaluation element for this activity received a *Partially Met* score.

Strength(s)

All four follow-up rates remained above the benchmarks for all three measurement years.

Requirement(s) (for Critical Elements)

There were no critical elements for this activity.

Recommendation(s) (for Noncritical Elements)

There were no recommendations identified for this activity during this review. HSAG has recommended and the Department has approved the retirement of this PIP.

Section 4: Colorado FY 06-07 PIP Validation Tool:
**Follow-up After Inpatient Discharge
 for Northeast Behavioral Health, LLC**

DEMOGRAPHIC INFORMATION

Health Plan Name:	Northeast Behavioral Health, LLC		
Study Leader Name:	Neil Benson, PhD	Title:	Director of Quality Improvement
Phone Number:	(970) 347-2377	E-mail Address:	neil.benson@northrange.org
Name of Project/Study:	Follow-up After Inpatient Discharge		
Type of Study:	Clinical		
Date of Study:	7/1/2005 to 6/30/2006		
Type of Delivery System:	BHO	Number of Medicaid Consumers in BHO:	2,500
		Number of Medicaid Consumers in Study:	286
Year 3 Validation	Resubmission		

**Section 4: Colorado FY 06-07 PIP Validation Tool:
Follow-up After Inpatient Discharge
for Northeast Behavioral Health, LLC**

EVALUATION ELEMENTS		SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation			
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.			
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 high-risk conditions.
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 collection and analysis 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	All eligible populations that met the study criteria were included.
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 and functional status.

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:
Follow-up After Inpatient Discharge
for Northeast Behavioral Health, LLC*

EVALUATION ELEMENTS		SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation			
II.	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.		
	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:
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EVALUATION ELEMENTS		SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation			
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.			
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 checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The study indicators were based on practice guidelines.
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 allowed 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 indicators measured changes (outcomes) in consumer health and functional status.
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 that were collected on each 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 indicator was adopted was provided.

Results for Activity III				
# of Elements				
Critical Elements**	Met	Partially Met	Not Met	Not Applicable
3	6	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:
Follow-up After Inpatient Discharge
for Northeast Behavioral Health, LLC**

EVALUATION ELEMENTS		SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation			
IV.	Use a representative and generalizable study population: The selected topic should represent the entire eligible Medicaid enrollment population with systemwide measurement and improvement efforts to which the PIP study indicators apply.		
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	Requirements for length of enrollment were specified.
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:
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EVALUATION ELEMENTS		SCORING				COMMENTS
Performance Improvement Project/Health Care Study Evaluation						
V.	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.					
	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:
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for Northeast Behavioral Health, LLC**

EVALUATION ELEMENTS		SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation			
VI.	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.		
	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 qualifications, experience, and training of manual data collection staff were provided.
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 manual data collection tool ensured consistent and accurate collection of data.
	7. A manual data collection tool that supports interrater reliability.	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The manual data collection tool supported interrater reliability.
	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	There were clear and concise written instructions for the manual data collection tool.
	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 written 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 narrative description of the administrative data collection process was included.

* "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.

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EVALUATION ELEMENTS		SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation			
VI.	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.		
	11. An estimated degree of administrative data completeness. Met = 80 - 100% Partially Met = 50 - 79% Not Met = <50% or not provided	<input checked="" type="checkbox"/> Met <input type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	The estimated degree of administrative data completeness was reported as 95 to 100 percent.

Results for Activity VI				
# of Elements				
Critical Elements**	Met	Partially Met	Not Met	Not Applicable
1	11	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:
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EVALUATION ELEMENTS		SCORING	COMMENTS		
Performance Improvement Project/Health Care Study Evaluation					
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.					
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	The 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	The interventions were evaluated and revised as necessary.
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	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.

EVALUATION ELEMENTS		SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation			
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.			
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	The 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 the findings were identified.
	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 a clear 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 remeasurements 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 were incorrect for comparison of the 30-day follow-up rate for Remeasurement 2B to Remeasurement 3B. They should have been 0.07558 and 0.783368. The p value was also incorrect for the comparison of Remeasurement 2A to Remeasurement 3A. It should have been 0.920 instead of 0.542. Rereview April 2007 The chi-square and p values were corrected in NBH's resubmission. This score changed from Partially Met to Met.

* "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:
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EVALUATION ELEMENTS		SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation			
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.			
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.
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:
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for Northeast Behavioral Health, LLC*

EVALUATION ELEMENTS		SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation			
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.			
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	There was some documented improvement in outcomes of care. From the second to the third remeasurement, the 7-day follow-up and 30-day outpatient and residential follow-up rates increased; however, the 30-day outpatient follow-up rate decreased. Both 30-day follow-up rates were below baseline for the third remeasurement.
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	Not all of the study indicators demonstrated improvement. From the second to the third remeasurement, the 7-day follow-up and 30-day outpatient and residential follow-up rates increased; however, the 30-day outpatient follow-up rate decreased.
4.	There is statistical evidence that observed improvement is true improvement.	<input type="checkbox"/> Met <input checked="" type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	There was statistically significant improvement in the rate of 7-day outpatient follow-up; however, the 7-day outpatient and residential follow-up and 30-day follow-up rates did not achieve statistically significant improvement from baseline to the third remeasurement.

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

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

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
X. 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.		
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 checked="" type="checkbox"/> Partially Met <input type="checkbox"/> Not Met <input type="checkbox"/> N/A	<p>From baseline to the second remeasurement, there was no demonstrated improvement for any of the study indicators. From the second to the third remeasurement, the 7-day follow-up rates had statistically significant increases; however, the only rate that had a statistically significant increase from baseline to the third remeasurement was 7-day outpatient follow-up.</p> <p>There was a slight increase in the rate of 30-day outpatient and residential follow-up and a decrease in the rate for 30-day outpatient follow-up from the second to the third remeasurement. Although both 30-day follow-up rates continued to exceed the benchmark of 59 percent used in the Medicaid Managed Behavioral Care Benchmarking Project, they were below baseline for the third remeasurement.</p>

Results for Activity X				
# of Elements				
Critical Elements**	Met	Partially Met	Not Met	Not Applicable
0	0	1	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:
Follow-up After Inpatient Discharge
for Northeast Behavioral Health, LLC*

**Table A-1—FY 06-07 PIP Validation Report Scores:
Follow-up After Inpatient Discharge
for Northeast Behavioral Health, LLC**

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	6	0	0	1	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	11	0	0	0	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	3	0	0	No Critical Elements				
X.	Sustained Improvement Achieved	1	0	1	0	0	No Critical Elements				
Totals for All Activities		53	41	4	0	8	11	9	0	0	2

**Table A-2—FY 06-07 PIP Validation Report Overall Scores:
Follow-up After Inpatient Discharge
for Northeast Behavioral Health, LLC**

Percentage Score of Evaluation Elements Met*	91%
Percentage Score of Critical Elements Met**	100%
Validation Status***	Met

- * The percentage score is calculated by dividing the total Met by the sum of the total Met, Partially Met, and Not Met.
- ** The percentage score of critical elements Met is calculated by dividing the total critical elements Met by the sum of the critical elements Met, Partially Met, and Not Met.
- *** Met equals confidence/high confidence that the PIP was valid.
Partially Met equals low confidence that the PIP was valid.
Not Met equals reported PIP results that were not credible.

*Section 4: Colorado FY 06-07 PIP Validation Tool:
Follow-up After Inpatient Discharge
for Northeast Behavioral Health, LLC*

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



**Appendix A: PIP Summary Form:
Follow-up After Inpatient Discharge
for Northeast Behavioral Health, LLC**

DEMOGRAPHIC INFORMATION

BHO Name or ID: Northeast Behavioral Health, LLC

Study Leader Name Neil Benson, PhD

Title: Director of Quality Improvement

Telephone Number (970) 347-2377

E-Mail Address: neil.benson@northrange.org

Name of Project/Study: *Follow-up After Inpatient Discharge*

Type of Study: Clinical No

2,500 Number of Medicaid Consumers

286 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: Follow-up After Inpatient Discharge for Northeast Behavioral Health, LLC

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:

As a part of its ongoing quality improvement program, NBH monitors the care coordination it provides to consumers. One aspect of care coordination is the amount of time that passes from when consumers are discharged from an inpatient setting until they are seen for residential or outpatient follow-up treatment. As the most intensive form of mental health treatment, provided in the most restrictive setting, NBH believes that it is of the utmost importance to closely monitor follow-up care after hospitalization. This high-risk population is particularly vulnerable to disruptions in functioning, recidivism, and health status.

NBH has maintained a tracking system of inpatient admissions and discharges for over five years. Previous analysis by NBH on this topic indicated that most NBH Medicaid consumers released from inpatient hospitalizations do receive timely follow-up treatment. {Included February 2006} Of concern were the cases where there was no follow-up because of the implications for quality of care. Prior to a formal analysis, such as this PIP, there was little known about those consumers who did not attend a formal outpatient follow-up appointment.

NCQA¹ addressed the issue of follow-up after hospitalization for mental illness in a paper in 2002, which stated, "Providing follow-up care to people who have been hospitalized for mental illness is an effective way to reduce future crises and re-hospitalizations." (p. 4)

The topic of this Performance Improvement Project (PIP) is the length of the interval until residential or outpatient follow-up services are provided to Medicaid enrollees (referred to as "consumers") following an inpatient treatment episode.

¹NCQA (2002). Follow-up After Hospitalization for Mental Illness. The State of Health Care Quality. Cited on the NCQA website. http://www.ncqa.org/sohc2002/SOHC_2002_FHM.html

**Appendix A: PIP Summary Form:
Follow-up After Inpatient Discharge
for Northeast Behavioral Health, LLC**

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:

Will increased planning and attention to the importance of follow-up after inpatient discharge improve the rate of consumers receiving follow-up services?

Appendix A: PIP Summary Form: Follow-up After Inpatient Discharge for Northeast Behavioral Health, LLC

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.

Study Indicator #1:	The indicator is the percentage of children and adults receiving services at a residential setting or attending an in-person outpatient appointment within 7 days after hospital discharge. There are two conventional means of reviewing follow-up data: any follow-up (including transfers to residential facilities) or follow-up that is traditionally outpatient. This indicator will be reflected in both ways, designated as Numerator A/ Denominator A and Numerator B/ Denominator B as detailed below.
Numerator A:	Number of face-to-face contacts, within residential or outpatient settings, within 7 days after hospital discharge (excludes consumers who were transferred to: state hospitals, other hospitals for medical, psychiatric, or substance abuse services, and detention).
Denominator A:	Total number of inpatient discharges (excludes consumers who were transferred to: state hospitals, other hospitals for medical, psychiatric, or substance abuse services, and detention)
Numerator B:	Number of face-to-face outpatient contacts within 7 days after hospital discharge (excludes consumers who were transferred to: residential facilities, state hospitals, other hospitals for medical, psychiatric, or substance abuse services, and detention).
Denominator B:	Number of consumers released to outpatient treatment following inpatient discharges (excludes consumers who were transferred to: residential facilities, state hospitals, other hospitals for medical, psychiatric, or substance abuse services, and detention).
First Measurement Period Dates:	July 1, 2002 – June 30, 2003
Baseline Benchmark:	The benchmark mean for the nationwide sites studied is 47%. The numerator and denominator in the benchmark studies are comparable to Numerator and Denominator A in this project.
Source of Benchmark:	Medicaid Managed Behavioral Health Care Benchmarking Project: Final Report, February 2003.
Baseline Goal:	At or above the national Medicaid (2007) state benchmark of 47%.

Appendix A: PIP Summary Form: Follow-up After Inpatient Discharge for Northeast Behavioral Health, LLC

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.

Study Indicator #2:	The indicator is the percentage of children and adults receiving services at a residential setting or an in-person outpatient appointment within 30 days after hospital discharge. There are two conventional means of reviewing follow-up data: any follow-up (including transfers to residential facilities) or follow-up that is traditionally outpatient. This indicator will be reflected in both ways, designated as Numerator A/ Denominator A and Numerator B/ Denominator B as detailed below.
Numerator A:	Number of face-to-face contacts, within residential or outpatient settings, within 30 days after hospital discharge (excludes consumers who were transferred to: state hospitals, other hospitals for medical, psychiatric, or substance abuse services, and detention).
Denominator A:	Total number of inpatient discharges (excludes consumers who were transferred to: state hospitals, other hospitals for medical, psychiatric, or substance abuse services, and detention).
Numerator B:	Number of face-to-face outpatient contacts within 30 days after hospital discharge (excludes consumers who were transferred to: residential facilities, state hospitals, other hospitals for medical, psychiatric, or substance abuse services, and detention).
Denominator B:	The number of consumers released to outpatient treatment following an inpatient discharges (excludes consumers who were transferred to: residential facilities, state hospitals, other hospitals for medical, psychiatric, or substance abuse services, and detention).
First Measurement Period Dates:	July 1, 2002 – June 30, 2003
Benchmark:	Benchmark mean for the sites studied is 59%. The numerator and denominator in the benchmark studies are comparable to Numerator and Denominator A in this project.
Source of Benchmark:	Medicaid Managed Behavioral Health Care Benchmarking Project: Final Report, February 2003.
Baseline Goal:	At or above the national Medicaid (2007) benchmark of 59%.

Appendix A: PIP Summary Form: Follow-up After Inpatient Discharge for Northeast Behavioral Health, LLC

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 consumer 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:

NBH considers all consumers who have received inpatient treatment to be “at risk.” Intensive Services Coordinators, familiar with intensive services, closely monitor all NBH consumers admitted to an inpatient setting. These Coordinators monitor a consumer’s inpatient stay, and recommend and secure follow-up services from the myriad of aftercare providers. There is a continuum of intensity of aftercare services. This includes transfer to another type of 24-hour care facility, such as another inpatient hospital, skilled nursing home, residential treatment, or criminal justice system on the restrictive side of the continuum. On the non-restrictive end of the aftercare continuum is the traditional outpatient follow-up appointment.

Only those consumers who have been enrolled as Medicaid recipients during the measurement periods are used in the analyses. This is operationally defined within the data collection system as those consumers whose payor source is Medicaid.

Appendix A: PIP Summary Form: Follow-up After Inpatient Discharge for Northeast Behavioral Health, LLC

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>)
No sampling method is necessary as the entire population of consumers discharged from an inpatient setting is monitored and included in the data analyses.					

Appendix A: PIP Summary Form: Follow-up After Inpatient Discharge for Northeast Behavioral Health, LLC

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.

<p>Data Sources</p> <p><input checked="" type="checkbox"/> Hybrid (medical/treatment records and administrative)</p> <p><input checked="" type="checkbox"/> Medical/treatment record abstraction</p> <p style="margin-left: 20px;">Record Type</p> <p style="margin-left: 40px;"><input checked="" type="checkbox"/> Outpatient</p> <p style="margin-left: 40px;"><input checked="" type="checkbox"/> Inpatient</p> <p style="margin-left: 40px;"><input checked="" type="checkbox"/> Other ___the NBH Hospital Log___</p> <p style="margin-left: 20px;">Other Requirements</p> <p style="margin-left: 40px;"><input checked="" type="checkbox"/> Data collection tool attached (used for FY 2004-2005 only, Appendix A)</p> <p style="margin-left: 40px;"><input type="checkbox"/> Data collection instructions attached</p> <p style="margin-left: 40px;"><input type="checkbox"/> Summary of data collection training attached</p> <p style="margin-left: 40px;"><input type="checkbox"/> IRR process and results attached</p> <p style="margin-top: 20px;">Description of Data Collection Staff</p> <hr/> <p>Intensive Service Coordinators and NBH Utilization Management Coordinators are masters level, licensed therapists. They have received training and instructions for documenting consumer mental health treatment, data collection and completion of forms. {Included February 2006} The experience the coordinators have with completing this form varies from two years to a few months. The purpose and intent of the PIP was described and reviewed at the meetings of the Coordinators.</p>	<p><input checked="" type="checkbox"/> Administrative data</p> <p style="margin-left: 20px;">Data Source</p> <p style="margin-left: 40px;"><input checked="" type="checkbox"/> Programmed pull from claims/encounters</p> <p style="margin-left: 40px;"><input type="checkbox"/> Complaint/appeal</p> <p style="margin-left: 40px;"><input type="checkbox"/> Pharmacy data</p> <p style="margin-left: 40px;"><input type="checkbox"/> Telephone service data /call center data</p> <p style="margin-left: 40px;"><input checked="" type="checkbox"/> Appointment/access data</p> <p style="margin-left: 40px;"><input type="checkbox"/> Delegated entity/vendor data _____</p> <p style="margin-left: 40px;"><input type="checkbox"/> Other _____</p> <p style="margin-top: 20px;">Other Requirements</p> <p style="margin-left: 40px;"><input type="checkbox"/> Data completeness assessment attached</p> <p style="margin-left: 40px;"><input type="checkbox"/> Coding verification process attached</p> <p style="margin-top: 20px;"><input type="checkbox"/> Survey Data</p> <p style="margin-left: 20px;">Fielding Method</p> <p style="margin-left: 40px;"><input type="checkbox"/> Personal interview</p> <p style="margin-left: 40px;"><input type="checkbox"/> Mail</p> <p style="margin-left: 40px;"><input type="checkbox"/> Phone with CATI script</p> <p style="margin-left: 40px;"><input type="checkbox"/> Phone with IVR</p> <p style="margin-left: 40px;"><input type="checkbox"/> Internet</p> <p style="margin-left: 40px;"><input type="checkbox"/> Other _____</p> <p style="margin-top: 20px;">Other Requirements</p> <p style="margin-left: 40px;"><input type="checkbox"/> Number of waves _____</p> <p style="margin-left: 40px;"><input type="checkbox"/> Response rate _____</p> <p style="margin-left: 40px;"><input type="checkbox"/> Incentives used _____</p>
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Appendix A: PIP Summary Form: Follow-up After Inpatient Discharge for Northeast Behavioral Health, LLC

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

Data is collected via both automated and manual procedures. Presence of an inpatient admission is determined through InCare, a network computer database application that serves as both a claims management system and database for several BHO's in Colorado. The InCare data is expected to be {Included February 2006} 95 – 100% complete as every hospital, which provides inpatient services would contact InCare to process payment. {Included February 2006} A previous study completed by NBH noted a 97 – 98% completeness rate of the InCare data when matching services and claims reported by InCare to manually collected data by NBH.

The presence of an outpatient follow-up service is determined through a combination of automated and manual procedures. Any outpatient treatment which is billed by an external treatment provider (including non-NBH mental health centers and private providers) would be processed by InCare. Some follow-up services are not billed to InCare, and this data must be manually collected. There are situations in which data is manually collected. The first situation in which data is collected manually is when a consumer receives services that are not paid for by Medicaid. Some of those services may include: Department of Social Services core services, participation in established programs such as schools or grant-funded agencies or a contact that is recorded in the clinical record, but is not a billable activity. The second type of situation in which data is collected manually is when there are alternate funding sources for an outpatient follow-up appointment that are not processed through InCare such as Victim's Compensation or private insurance.

The Intensive Service Coordinator/s at each Center is responsible for the manual collection of the data not provided by InCare. In the case of manually collected data, there are multiple sources of information:

- The NBH Hospital Log is an NBH internal database maintained by NBH Utilization Management staff and Intensive Service Coordinators at each Center. This is a comprehensive, ongoing record of all current intensive services provided to NBH consumers, including hospitalizations.
- Each NBH consumer who receives mental health services has a clinical record at his/her local Center. This record includes a variety of medical documentation including CCAR, evaluation, and treatment information.
- Consumers who are seen in the external provider network (i.e., outside of the NBH Centers, but billable to Medicaid) also have an NBH Utilization Management administrative folder containing information necessary for claims and authorizations.

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 a 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 a 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 **Northeast Behavioral Health, LLC**

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	
Activity I. Appropriate Study Topic	
Broad Spectrum of Care	<ul style="list-style-type: none"> ☐ 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). ☐ 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).
Eligible Population	☐ May be defined as consumers who meet the study topic parameters.
Selected by the State	☐ 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.
Activity II. Clearly Defined, Answerable Study Question	
Study Question	<ul style="list-style-type: none"> ☐ 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. ☐ Examples: <ol style="list-style-type: none"> 1. Does outreach immunization education increase the rates of immunizations for children 0–2 years of age? 2. Does increasing flu immunizations for consumers with chronic asthma impact overall health status? 3. Will increased planning and attention to follow-up after inpatient discharge improve the rate of mental health follow-up services?

Definitions and Explanations	
Activity III. Clearly Defined Study Indicator(s)	
Study Indicator	<ul style="list-style-type: none"> ☒ 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. ☒ 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.
Sources Identified	<ul style="list-style-type: none"> ☒ Documentation/background information that supports the rationale for the study topic, study question, and indicators. ☒ Examples: HEDIS^{®1} measures, medical community practice guidelines, evidence-based practices, or provider agreements. ☒ Practice guideline examples: American Academy of Pediatrics and American Diabetes Association.
Activity IV. Use a Representative and Generalizable Study Population	
Eligible Population	<ul style="list-style-type: none"> ☒ Refers to consumers who are included in the study. ☒ Includes age, conditions, enrollment criteria, and measurement periods. ☒ 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.
Activity V. Valid Sampling Techniques	
True or Estimated Frequency of Occurrence	<ul style="list-style-type: none"> ☒ 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.
Sample Size	<ul style="list-style-type: none"> ☒ Indicates the size of the sample to be used.
Representative Sample	<ul style="list-style-type: none"> ☒ Refers to the sample resembling the entire population.
Confidence Level	<ul style="list-style-type: none"> ☒ 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).

¹ HEDIS[®] 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	
Activity VI. Accurate/Complete Data Collection	
Data Elements	<ul style="list-style-type: none"> ☒ Identification of data elements includes unambiguous definitions of data that will be collected (e.g., the numerator/denominator, laboratory values).
Interrater Reliability (IRR)	<ul style="list-style-type: none"> ☒ 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? ☒ Examples: a policy that includes how IRR is tested, documentation of training, and instruments and tools used.
Algorithms	<ul style="list-style-type: none"> ☒ The development of any systematic process that consists of an ordered sequence of steps. Each step depends on the outcome of the previous step. ☒ 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)?
Data Completeness	<ul style="list-style-type: none"> ☒ 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. ☒ 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.

Definitions and Explanations	
Activity VII. Appropriate Improvement Strategies	
Causes and Barriers	<ul style="list-style-type: none"> ☐ 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? ☐ It is expected that interventions associated with improvement of quality indicators will be system interventions.
Standardized	<ul style="list-style-type: none"> ☐ If the interventions have resulted in successful outcomes, the interventions should continue and the BHO should monitor to assure the outcomes remain. ☐ 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.
Activity VIII. Sufficient Data Analysis and Interpretation	
Analysis Plan	<ul style="list-style-type: none"> ☐ Each study should have a plan for how data analysis will occur. ☐ The HSAG review team will ensure that this plan was followed.
Generalization to the Study Population	<ul style="list-style-type: none"> ☐ Study results can be applied to the general population with the premise that comparable results will occur.
Factors that Threaten Internal and External Validity	<ul style="list-style-type: none"> ☐ Did the analysis identify any factors (internal or external) that would threaten the validity of study results? ☐ Example: there was a change in record extraction (e.g., a vendor was hired or there were changes in HEDIS methodology).
Presentation of the Data Analysis	<ul style="list-style-type: none"> ☐ Results should be presented in tables or graphs with measurement periods, results, and benchmarks clearly identified.
Identification of Initial Measurement and Remeasurement of Study Indicators	<ul style="list-style-type: none"> ☐ Clearly identify in the report which measurement period the indicator results reflect.
Statistical Differences Between Initial Measurement and Remeasurement Periods	<ul style="list-style-type: none"> ☐ The HSAG review team looks for evidence of a statistical test (e.g., a t-test, or chi square test).
Identification of the Extent to Which the Study Was Successful	<ul style="list-style-type: none"> ☐ The HSAG review team looks for improvement over several measurement periods. ☐ 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.

Definitions and Explanations

Activity IX. Real Improvement Achieved

<p>Remeasurement Methodology Is the Same as Baseline</p>	<ul style="list-style-type: none"> ☐ The HSAG review team looks to see that the study methodology remained the same for the entire study.
<p>Documented Improvement in Processes or Outcomes of Care</p>	<ul style="list-style-type: none"> ☐ The study report should document how interventions were successful in impacting system processes or outcomes. ☐ Examples: there was a change in data collection or a rate increase or decrease demonstrated in graphs/tables.

Activity X. Sustained Improvement Achieved

<p>Sustained Improvement</p>	<ul style="list-style-type: none"> ☐ 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.
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