



**CO L O R A D O**

**Department of Health Care  
Policy & Financing**

## **Fiscal Year 2017–2018 PIP Validation Report**

# **Transition to Primary Care After Asthma-Related Emergency Department, Urgent Care, or Inpatient Visit**

*for*

## **Denver Health Medicaid Choice**

*April 2018*

*For Validation Year 2*

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



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## Acknowledgements and Copyrights

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## 1. Background

The Balanced Budget Act of 1997 (BBA), Public Law 105-33, requires that states conduct an annual evaluation of their managed care organizations (MCOs) and prepaid inpatient health plans (PIHPs) to determine the MCOs' and PIHPs' compliance with federal regulations and quality improvement standards. According to the BBA, the quality of health care delivered to Medicaid members in MCOs and PIHPs must be tracked, analyzed, and reported annually. The Colorado Department of Health Care Policy & Financing (the Department) has contractual requirements with each MCO, and behavioral health organization (BHO) to conduct and submit performance improvement projects (PIPs) annually.

As one of the mandatory external quality review activities under the BBA, the Department is required to validate the PIPs. To meet this validation requirement, the Department contracted with Health Services Advisory Group, Inc. (HSAG), as the external quality review organization. The primary objective of the PIP validation is to determine compliance with requirements set forth in the Code of Federal Regulations (CFR) at 42 CFR §438.330(d), including:

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

In its PIP evaluation and validation, HSAG used the Department of Health and Human Services, Centers for Medicare & Medicaid Services (CMS) publication, *EQR Protocol 3: Validating Performance Improvement Projects (PIPs): A Mandatory Protocol for External Quality Review (EQR)*, Version 2.0, September 2012.<sup>1-1</sup>

HSAG evaluates the following components of the quality improvement process:

1. The technical structure of the PIPs to ensure the MCO designed, conducted, and reported PIPs using sound methodology consistent with the CMS protocol for conducting PIPs. HSAG's review determined whether a PIP could reliably measure outcomes. Successful execution of this component ensures that reported PIP results are accurate and capable of measuring real and sustained improvement.
2. The outcomes of the PIPs. Once designed, a PIP's effectiveness in improving outcomes depends on the systematic identification of barriers and the subsequent development of relevant interventions. Evaluation of each PIP's outcomes determined whether the MCO improved its rates through the implementation of effective processes (i.e., barrier analyses, intervention design, and evaluation of

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<sup>1-1</sup> Department of Health and Human Services, Centers for Medicare & Medicaid Services. *EQR Protocol 3: Validating Performance Improvement Projects (PIPs): A Mandatory Protocol for External Quality Review (EQR)*, Version 2.0, September 2012. Available at: <https://www.medicare.gov/medicaid/quality-of-care/medicaid-managed-care/external-quality-review/index.html>. Accessed on: Jul 18, 2017.

results) and, through these processes, achieved statistically significant improvement over the baseline rate. Once statistically significant improvement is achieved across all study indicators, HSAG evaluates whether the MCO was successful in sustaining the improvement. The goal of HSAG’s PIP validation is to ensure that the Department and key stakeholders can have confidence that reported improvement in study indicator outcomes is supported by statistically significant change and the MCO’s improvement strategies.

## PIP Rationale

The purpose of a PIP is to achieve, through ongoing measurements and interventions, significant improvement sustained over time in clinical or nonclinical areas.

For fiscal year (FY) 2017–2018, **Denver Health Medicaid Choice (DHMC)** implemented a new PIP, *Transition to Primary Care After Asthma-Related Emergency Department, Urgent Care, or Inpatient Visit*. The topic selected addressed CMS’ requirements related to quality outcomes—specifically, timeliness of, and access to, care and services.

## PIP Summary

For this FY 2017–2018 validation cycle, the PIP received an overall validation score of 90 percent and a *Not Met* validation status. The focus of this PIP is to improve the follow-up visit rate of asthmatics after they have visited an emergency department, urgent care, or an inpatient facility. The PIP had one study question that **DHMC** stated: “Do targeted interventions increase the percentage of members 5 to 17 years of age with a persistent asthma diagnosis who complete a follow-up visit with a primary care practitioner (PCP) within 30 days following an asthma-related emergency department, urgent care, or inpatient visit?” The following table describes the study indicators for this PIP.

**Table 1–1—Study Indicator**

PIP Topic	Study Indicator
<i>Transition to Primary Care After Asthma-Related Emergency Department, Urgent Care, or Inpatient Visit</i>	The percentage of follow-up visits with a primary care practitioner within 30 days after an asthma-related emergency department visit, urgent care visit, or inpatient stay.

## Validation Overview

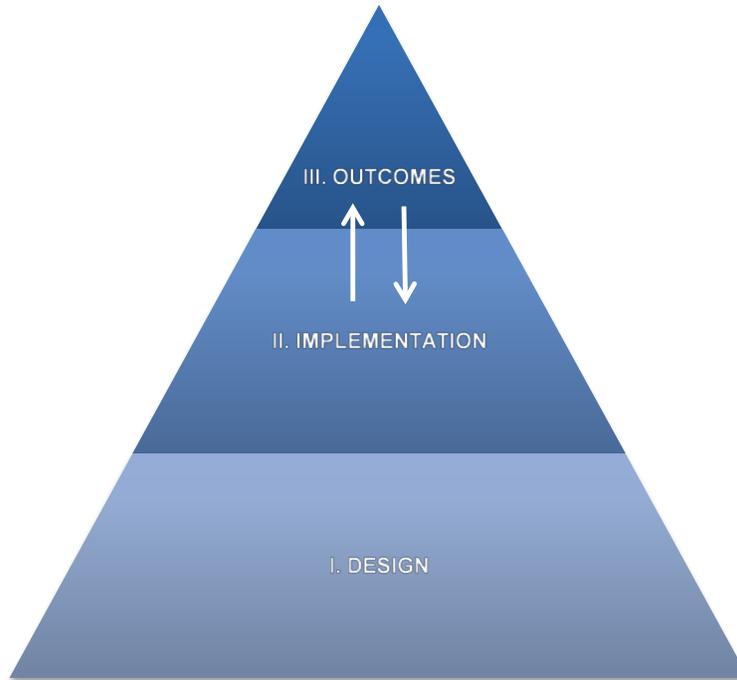
HSAG obtained the information needed to conduct the PIP validation from **DHMC**'s PIP Summary Form. This form provided detailed information about the MCO's PIP related to the activities completed and HSAG evaluated for the FY 2017–2018 validation cycle.

Each required activity was evaluated on one or more elements that form a valid PIP. The HSAG PIP Review Team scored each evaluation element within a given activity as *Met*, *Partially Met*, *Not Met*, *Not Applicable*, or *Not Assessed (NA)*. HSAG designated some of the evaluation elements pivotal to the PIP process as critical elements. For a PIP to produce valid and reliable results, all critical elements had to be *Met*. Given the importance of critical elements to the scoring methodology, any critical element that received a *Not Met* score resulted in an overall validation rating for the PIP of *Not Met*. A MCO would be given a *Partially Met* score if 60 percent to 79 percent of all evaluation elements were *Met* or one or more critical elements were *Partially Met*. HSAG provided a *Point of Clarification* when enhanced documentation would have demonstrated a stronger understanding and application of the PIP activities and evaluation elements.

In addition to the validation status (e.g., *Met*), HSAG gave each PIP an overall percentage score for all evaluation elements (including critical elements). HSAG calculated the overall percentage score by dividing the total number of elements scored as *Met* by the total number of elements scored as *Met*, *Partially Met*, and *Not Met*. HSAG also calculated a critical element percentage score by dividing the total number of critical elements scored as *Met* by the sum of the critical elements scored as *Met*, *Partially Met*, and *Not Met*.

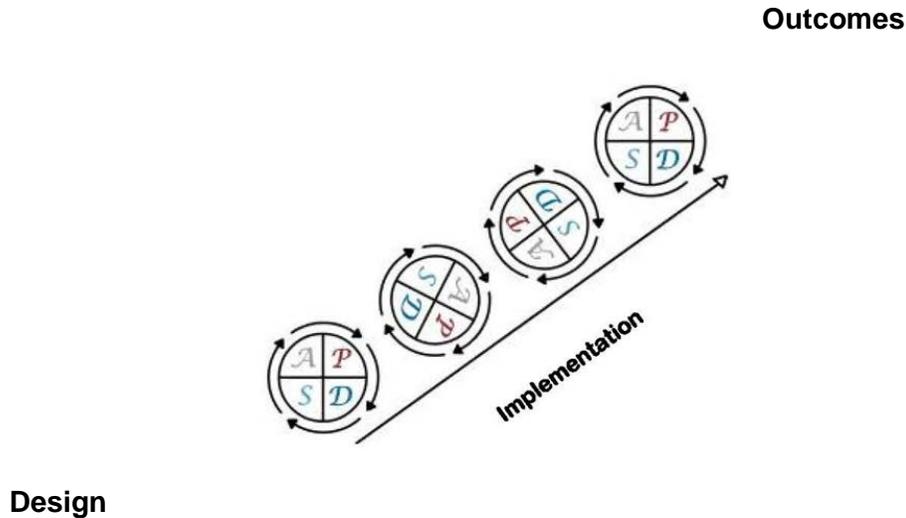
Figure 1–1 illustrates the three study stages of the PIP process—i.e., Design, Implementation, and Outcomes. Each sequential stage provides the foundation for the next stage. The Design stage establishes the methodological framework for the PIP. The activities in this section include development of the study topic, question, indicators, population, sampling, and data collection. To implement successful improvement strategies, a strong study design is necessary.

Figure 1-1—PIP Stages



Once **DHMC** establishes its study design, the PIP process moves into the Implementation stage. This stage includes data analysis and interventions. During this stage, the MCOs analyze data, identify barriers to performance, and develop interventions targeted to improve outcomes. The MCOs should incorporate a continuous or rapid cycle improvement model such as the Plan-Do-Study-Act (PDSA) to determine the effectiveness of the implemented interventions. The implementation of effective improvement strategies is necessary to improve PIP outcomes.

Figure 1–2—PIP Stages Incorporating the PDSA Cycle



The PDSA cycle includes the following actions:

- **Plan**—conduct barrier analyses; prioritize barriers; develop targeted intervention(s) to address barriers; and develop an intervention evaluation plan for each intervention
- **Do**—implement intervention; track and monitor the intervention; and record the data
- **Study**—analyze the data; compare results; and evaluate the intervention’s effectiveness
- **Act**—based on the evaluation results, standardize, modify, or discontinue the intervention

The final stage is Outcomes, which involves the evaluation of real and sustained improvement based on reported results and statistical testing. Sustained improvement is achieved when outcomes exhibit statistical improvement over time and multiple measurements. This stage is the culmination of the previous two stages. The MCO should regularly evaluate interventions to ensure they are having the desired effect. A concurrent review of the data is encouraged. If the MCO’s evaluation of the interventions, and/or review of the data, indicates that the interventions are not having the desired effect, the MCO should revisit its causal/barrier analysis process; verify the proper barriers are being addressed; and discontinue, revise, or implement new interventions as needed. This cyclical process should be used throughout the duration of the PIP and revisited as often as needed.

## 2. Findings

This year, the PIP validation process evaluated the technical methods of the PIP (i.e., the study design), as well as the implementation of quality improvement activities. Based on its technical review, HSAG determined the overall methodological validity of the PIP.

Table 2–1 summarizes the PIP validated during the review period with an overall validation status of *Met*, *Partially Met*, or *Not Met*. In addition, Table 2–1 displays the percentage score of evaluation elements that received a *Met* score, as well as the percentage score of critical elements that received a *Met* score. Critical elements are those within the validation tool that HSAG has identified as essential for producing a valid and reliable PIP. All critical elements must receive a *Met* score for a PIP to receive an overall *Met* validation status. A resubmission is an MCO’s update of a previously submitted PIP with modified/additional documentation.

MCOs have the opportunity to resubmit the PIP after HSAG’s initial validation to address any deficiencies identified. The PIP received a *Met* score for 67 percent of the applicable evaluation elements and received a *Not Met* validation status when originally submitted. The MCO had the opportunity to receive technical assistance, incorporate HSAG’s recommendations, and resubmit the PIP. After resubmission, the MCO improved its overall percentage score; however, due to the lack of statistically significant improvement for the study indicator outcomes, the validation status remained *Not Met*.

**Table 2–1—FY 2017–2018 Performance Improvement Project Validation for Denver Health Medicaid Choice**

Name of Project	Type of Annual Review <sup>1</sup>	Percentage Score of Evaluation Elements <i>Met</i> <sup>2</sup>	Percentage Score of Critical Elements <i>Met</i> <sup>3</sup>	Overall Validation Status <sup>4</sup>
<i>Transition to Primary Care After Asthma-Related Emergency Department, Urgent Care, or Inpatient Visit</i>	Submission	67%	64%	<i>Not Met</i>
	Resubmission	90%	82%	<i>Not Met</i>

<sup>1</sup> **Type of Review**—Designates the PIP review as an annual submission, or resubmission. A resubmission means the MCO was required to resubmit the PIP with updated documentation because it did not meet HSAG’s validation criteria to receive an overall *Met* validation status.

<sup>2</sup> **Percentage Score of Evaluation Elements *Met***—The percentage score is calculated by dividing the total elements *Met* (critical and non-critical) by the sum of the total elements of all categories (*Met*, *Partially Met*, and *Not Met*).

<sup>3</sup> **Percentage Score of Critical Elements *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*.

<sup>4</sup> **Overall Validation Status**—Populated from the PIP Validation Tool and based on the percentage scores.

### Validation Findings

Table 2–2 displays the validation results for the **DHMC** PIP validated during FY 2017–2018. This table illustrates the MCO’s overall application of the PIP process and achieved success in implementing the

studies. Each activity is composed of individual evaluation elements scored as *Met*, *Partially Met*, or *Not Met*. Elements receiving a *Met* score have satisfied the necessary technical requirements for a specific element. The validation results presented in Table 2–2 show the percentage of applicable evaluation elements that received each score by activity. Additionally, HSAG calculated a score for each stage and an overall score across all activities. This is the second year of validation for this PIP because the previous PIP topic’s eligible population for the PIP was very small, and the baseline rate for Study Indicator 1 was 100 percent; for Study Indicator 2, the denominator was zero. During a technical assistance call with **DHMC** and the Department, it was decided that the **DHMC** would implement a new topic, which was submitted in 2016. For this second year of validation, HSAG validated Activities I through IX.

**Table 2–2—Performance Improvement Project Validation Results for Denver Health Medicaid Choice**

Stage	Activity		Percentage of Applicable Elements		
			<i>Met</i>	<i>Partially Met</i>	<i>Not Met</i>
Design	I.	Appropriate Study Topic	100% (2/2)	0% (0/2)	0% (0/2)
	II.	Clearly Defined, Answerable Study Question(s)	100% (1/1)	0% (0/1)	0% (0/1)
	III.	Correctly Identified Study Population	100% (1/1)	0% (0/1)	0% (0/1)
	IV.	Clearly Defined Study Indicator(s)	100% (2/2)	0% (0/2)	0% (0/2)
	V.	Valid Sampling Techniques (if sampling was used)	<i>Not Applicable</i>	<i>Not Applicable</i>	<i>Not Applicable</i>
	VI.	Accurate/Complete Data Collection	100% (3/3)	0% (0/3)	0% (0/3)
<b>Design Total</b>			<b>100% (9/9)</b>	<b>0% (0/9)</b>	<b>0% (0/9)</b>
Implementation	VII.	Sufficient Data Analysis and Interpretation	100% (3/3)	0% (0/3)	0% (0/3)
	VIII.	Appropriate Improvement Strategies	100% (6/6)	0% (0/6)	0% (0/6)
<b>Implementation Total</b>			<b>100% (9/9)</b>	<b>0% (0/9)</b>	<b>0% (0/9)</b>
Outcomes	IX.	Real Improvement Achieved	33% (1/3)	0% (0/3)	67% (2/3)
	X.	Sustained Improvement Achieved	<i>Not Assessed</i>	<i>Not Assessed</i>	<i>Not Assessed</i>
<b>Outcomes Total</b>			<b>33% (1/3)</b>	<b>0% (0/3)</b>	<b>67% (2/3)</b>
<b>Percentage Score of Applicable Evaluation Elements Met</b>			<b>90% (19/21)</b>	<b>0% (0/21)</b>	<b>10% (2/21)</b>

Overall, 90 percent of all applicable evaluation elements validated received a score of *Met*.

### Design

**DHMC** designed a scientifically sound project supported by the use of key research principles. The technical design of the PIP was sufficient to measure outcomes, allowing for successful progression to the next stage of the PIP process. The health plan performed well in this stage of the PIP as evidenced by the 100 percent of evaluation elements *Met*.

### Implementation

**DHMC** reported and interpreted its first remeasurement data accurately. The health plan completed a causal/barrier analysis using appropriate quality improvement tools and prioritized its barriers, which led to the implementation of new interventions. **DHMC** also performed well in this stage of the PIP as evidenced by the 100 percent of evaluation elements *Met*.

### Outcomes

For Remeasurement 1, the study indicator rate demonstrated a non-statistically significant decline when compared to the baseline. **DHMC** revisited its goal for Remeasurement 1 and changed it to 75 percent. Despite this change, the health plan was not successful at achieving the goal.

### Analysis of Results

Table 2–3 displays first remeasurement data for **DHMC’s Transition to Primary Care After Asthma-Related Emergency Department, Urgent Care, or Inpatient Visit** PIP. **DHMC’s** goal is to increase the percentage of follow-up visits with a primary care practitioner within 30 days after an asthma-related emergency department visit, urgent care visit, or inpatient stay.

**Table 2–3—Performance Improvement Project Outcomes for Denver Health Medicaid Choice**

PIP Study Indicator	Baseline Period (7/1/2015–6/30/2016)	Remeasurement 1 (7/1/2016–6/30/2017)	Remeasurement 2 (7/1/2017–6/30/2018)	Sustained Improvement
The percentage of follow-up visits with a primary care practitioner within 30 days after an asthma-related emergency department visit, urgent care visit, or inpatient stay.	62.7%	61.8%	<i>Not Applicable</i>	<i>Not Assessed</i>

**DHMC**'s baseline rate for members 5 to 17 years of age with persistent asthma who had a follow-up visit with a primary care practitioner within 30 days of an asthma-related emergency department visit, urgent care visit, or inpatient stay was 62.7 percent. The health plan set a goal of achieving statistically significant improvement over the baseline and calculated that a numerator of 54 would be needed to achieve this goal assuming the denominator remains at 67. This calculation sets the Remeasurement 1 goal at 80.6 percent to achieve projected statistically significant improvement.

For Remeasurement 1, the rate declined to 61.8 percent. This decline was not statistically significant as evidenced by a *p* value of 1.0000. **DHMC** reported that this decline in performance was unexpected and had there not been such an increase in its population, and the denominator size stayed relatively the same as the baseline, the study indicator performance would have yielded statistically significant improvement.

### **Barriers/Interventions**

The identification of barriers through barrier analysis and the subsequent selection of appropriate interventions to address these barriers are necessary steps to improve outcomes. The MCO's choice of interventions, combination of intervention types, and sequence of implementing the interventions are essential to the MCO's overall success in improving PIP rates.

For the *Transitions to Primary Care After Asthma-Related Emergency Department, Urgent Care, or Inpatient Visit* PIP, **DHMC** identified the following barriers to address:

- Lack of consistent post-discharge follow-up by patient-centered medical homes (PCMHs).
- Lack of emergency department, urgent care, and inpatient facility encounter data for Children's Hospital Colorado.

To address these barriers, **DHMC** implemented the following interventions:

- Created a weekly list for asthma-related concerns and admissions to **DHMC**'s patient navigators. The list represents all members presenting to the emergency department, urgent care, or inpatient facility at Children's Hospital Colorado. The quality improvement intervention manager then filters for asthma-related diagnoses and sends the list to the Ambulatory Care Services Patient Navigation staff members for outreach.
- An outreach call is conducted within 48 hours of a member's discharge by the Department of Ambulatory Care Service's patient navigators. The patient navigators assist the member with scheduling the follow-up visit with the primary care provider within 30 days of the discharge from the emergency department, urgent care, or inpatient facility.

## 3. Conclusions and Recommendations

### Conclusions

**DHMC** designed a methodologically sound project. The sound study design allowed the MCO to progress to data collection. **DHMC** accurately reported and summarized the first remeasurement study indicator results, and used appropriate quality improvement tools to identify and prioritize barriers. The interventions developed and implemented were logically linked to the barriers and have the potential to impact study indicator outcomes.

### Recommendations

HSAG recommends the following:

- **DHMC** should act on the next step of its process and conduct the root cause analysis related to patient navigator call rates.
- **DHMC** should consider using other quality improvement tools, such as a process map or failure modes effects analysis (FMEA), to isolate barriers or gaps within processes that may not have been previously identified.
- **DHMC** should continue to conduct ongoing evaluations of each intervention and make data-driven decisions regarding revising, continuing, or discontinuing interventions.
- For processes that were deemed successful through this improvement project, **DHMC** should develop a plan for sustaining and spreading the success beyond the life of the PIP.