Behavioral Health and Developmental Disabilities Administration
Prepaid Inpatient Health Plans

2017–2018 PIP Validation Report

Patients With Schizophrenia and Diabetes Who Had an HbA1c and LDL-C Test

for

Region 5—Mid-State Health Network

September 2018

For Validation Year 1

HSAG HEALTH SERVICES ADVISORY GROUP

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Acknowledgements and Copyrights

1. Background

The Code of Federal Regulations (CFR), specifically 42 CFR §438.350, requires states that contract with managed care organizations (MCOs) to conduct an external quality review (EQR) of each contracting MCO. An EQR includes analysis and evaluation by an external quality review organization (EQRO) of aggregated information on healthcare quality, timeliness, and access. Health Services Advisory Group, Inc. (HSAG) serves as the EQRO for the State of Michigan, Department of Health and Human Services, (MDHHS)—responsible for the overall administration and monitoring of the Michigan Medicaid managed care program. MDHHS requires that the prepaid health plan (PIHP) conduct and submit performance improvement projects (PIPs) annually to meet the requirements of the Balanced Budget Act of 1997 (BBA), Public Law 105-33. According to the BBA, the quality of health care delivered to Medicaid enrollees in PIHPs must be tracked, analyzed, and reported annually. PIPs provide a structured method of assessing and improving the processes, and thereby the outcomes, of care for the population that a PIHP serves.

For State Fiscal Year (SFY) 2017–2018, the MHDDS required PIHPs to conduct PIPs in accordance with 42 CFR §438.330(b)(1) and §438.330(d)(2)(i–iv). In accordance with §438.330(d)(2)(i–iv), each PIP must include:

- Measurement of performance using objective quality indicators.
- Implementation of systematic interventions to achieve improvement in quality.
- Evaluation of the effectiveness of the interventions.
- Planning and initiation of activities for increasing or sustaining improvement.

As one of the mandatory EQR activities required by 42 CFR §438.358(b)(1)(i), HSAG, as the State's EQRO, validated the PIPs through an independent review process. 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.[1-1] HSAG's evaluation of the PIP includes two key components of the quality improvement (QI) process:

1. HSAG evaluates the technical structure of the PIP to ensure that **Mid-State Health Network** designs, conducts, and reports the PIP in a methodologically sound manner, meeting all State and federal requirements. HSAG's review determines whether the PIP design (e.g., study question, population, indicator(s), sampling techniques, and data collection methodology) is based on sound methodological principles and could reliably measure outcomes. Successful execution of this

[1-1] 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.medicaid.gov/medicaid/quality-of-care/medicaid-managed-care/external-quality-review/index.html. Accessed on: June 26, 2018.

component ensures that reported PIP results are accurate and capable of measuring sustained improvement.

2. HSAG evaluates the implementation of the PIP. Once designed, a PIP's effectiveness in improving outcomes depends on the systematic data collection process, analysis of data, and the identification of barriers and subsequent development of relevant interventions. Through this component, HSAG evaluates how well **Mid-State Health Network** improves its rates through implementation of effective processes (i.e., barrier analyses, intervention design, and evaluation of results).

The goal of HSAG's PIP validation is to ensure that MDHHS and key stakeholders can have confidence that any reported improvement is related and can be directly linked to the quality improvement strategies and activities conducted by the PIHP during the 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 this year's 2017–2018 validation, **Mid-State Health Network** submitted its ***Patients With Schizophrenia and Diabetes Who Had an HbA1c and LDL-C Test*** PIP. The PIP topic selected by **Mid-State Health Network** addressed CMS' requirements related to quality outcomes—specifically, the quality, timeliness, and accessibility of care and services.

Summary

The goal of this PIP is to increase annual hemoglobin A1c and low-density lipoprotein cholesterol testing among Medicaid members with diabetes and schizophrenia. Monitoring these test results can assist in controlling diabetes; prevent serious health complications such as blindness, kidney disease, and amputations; and lead to improvement in health and functional outcomes of members. This PIP topic represents a key area of focus for improvement by **Mid-State Health Network**.

Table 1-1 outlines the study indicator for the PIP.

Table 1-1—Study Indicator

PIP Topic	Study Indicator
Patients With Schizophrenia and Diabetes Who Had an HbA1c and LDL-C Test	The percentage of members with schizophrenia and diabetes who had an HbA1c and LDL-C test during the measurement period.

Validation Overview

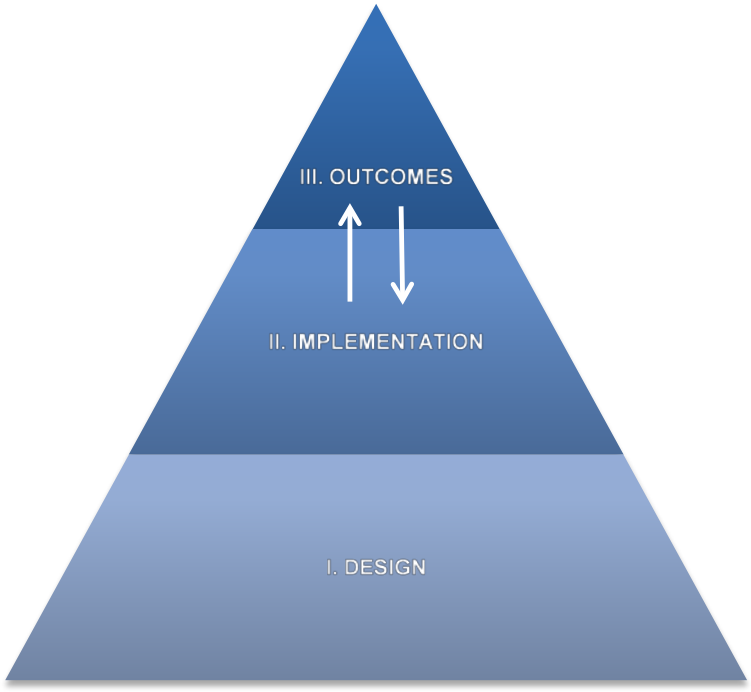
HSAG obtains the data needed to conduct the PIP validation from **Mid-State Health Network**'s PIP Summary Form. This form provides detailed information about **Mid-State Health Network**'s PIP related to the steps completed and evaluated by HSAG for the 2017–2018 validation cycle.

Each required step is evaluated on one or more elements that form a valid PIP. The HSAG PIP Review Team scores each evaluation element within a given step as *Met*, *Partially Met*, *Not Met*, *Not Applicable*, or *Not Assessed*. HSAG designates evaluation elements pivotal to the PIP process as critical elements. For a PIP to produce valid and reliable results, all critical elements must be *Met*. Given the importance of critical elements to the scoring methodology, any critical element that receives a *Not Met* score results in an overall validation rating for the PIP of *Not Met*. **Mid-State Health Network** 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 provides a *Point of Clarification* with a *Met* validation score 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 gives the PIP an overall percentage score for all evaluation elements (including critical elements). HSAG calculates 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 calculates 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 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 steps in this section include development of the study topic, question, population, indicators, sampling techniques, and data collection. To implement successful improvement strategies, a methodologically sound study design is necessary.

Figure 1-1—Stages



Once **Mid-State Health Network** establishes its study design, the PIP process progresses into the Implementation stage. This stage includes data analysis and interventions. During this stage, **Mid-State Health Network** evaluates and analyzes its data, identifies barriers to performance, and develops active interventions targeted to improve outcomes. The implementation of effective improvement strategies is necessary to improve outcomes. The Outcomes stage is the final stage, which involves the evaluation of real and sustained improvement based on reported results and statistical testing. Sustained improvement is achieved when outcomes exhibit statistically significant improvement over the baseline and the improvement is sustained with a subsequent measurement period. This stage is the culmination of the previous two stages. If the outcomes do not improve, **Mid-State Health Network** investigates the data collected to ensure that **Mid-State Health Network** has correctly identified the barriers and implemented appropriate and effective interventions. If it has not, **Mid-State Health Network** should revise its interventions and collect additional data to remeasure and evaluate outcomes for improvement. This process becomes cyclical until sustained statistical improvement is achieved.

Validation Findings

HSAG's validation evaluated the technical methods of the PIP (i.e., the study design). 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 a PIHP's updates to the previously submitted PIP with corrected/additional documentation.

Table 2-1 illustrates the validation scores for both the initial submission and resubmission.

Table 2-1—2017–2018 PIP Validation Results for Mid-State Health Network

Name of Project	Type of Annual Review[1]	Percentage Score of Evaluation Elements *Met*[2]	Percentage Score of Critical Elements *Met*[3]	Overall Validation Status[4]
Patients With Schizophrenia and Diabetes Who Had an HbA1c and LDL-C Test	Submission	88%	80%	*Partially Met*
	Resubmission	100%	100%	*Met*

[1] **Type of Review**—Designates the PIP review as an annual submission, or resubmission. A resubmission means the PIHP 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.

[2] **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)*.

[3] **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*.

[4] **Overall Validation Status**—Populated from the PIP Validation Tool and based on the percentage scores.

Table 2-2 displays the validation results for **Mid-State Health Network**'s PIP evaluated during 2017–2018. This table illustrates the PIHP's overall application of the PIP process and success in implementing the PIP. Each step 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 step. Additionally, HSAG calculated a score for each stage and an overall score across all steps.

Table 2-2—Performance Improvement Project Validation Results for Mid-State Health Network

Stage	Step		Percentage of Applicable Elements		
			Met	*Partially Met*	*Not Met*
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)	*Not Applicable*		
	VI.	Accurate/Complete Data Collection	100% (2/2)	0% (0/2)	0% (0/2)
Design Total			**100% (8/8)**	**0% (0/8)**	**0% (0/8)**
Implementation	VII.	Sufficient Data Analysis and Interpretation	*Not Assessed*		
	VIII.	Appropriate Improvement Strategies	*Not Assessed*		
Implementation Total			***Not Assessed***		
Outcomes	IX.	Real Improvement Achieved	*Not Assessed*		
	X.	Sustained Improvement Achieved	*Not Assessed*		
Outcomes Total			***Not Assessed***		
Percentage Score of Applicable Evaluation Elements *Met*			**100% (8/8)**	**0% (0/8)**	**0% (0/8)**

Mid-State Health Network submitted the Design stage of the PIP for this year's validation. Overall, 100 percent of all applicable evaluation elements received a score of *Met* for the first six steps of the PIP process.

Design

Mid-State Health Network 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. **Mid-State Health Network** indicated that it plans to include its entire eligible population in this PIP.

Implementation

The PIP had not progressed to the Implementation stage during this validation cycle.

Outcomes

The PIP had not progressed to reporting outcomes during this validation cycle.

3. Conclusions and Recommendations

Conclusions

The PIP received an overall *Met* validation status with *Met* scores for 100 percent of critical evaluation elements and 100 percent overall for evaluation elements across all activities completed and validated. The performance for this PIP suggests a thorough application of the PIP Design stage (Steps I through VI). A sound study design created the foundation for **Mid-State Health Network** to progress to subsequent PIP stages—collecting data and implementing interventions with the potential to impact study indicator outcomes.

Recommendations

As the PIP progresses, HSAG recommends the following:

- **Mid-State Health Network** should ensure that it follows the approved PIP methodology to calculate and report baseline data accurately in next year's annual submission.
- To impact the Remeasurement 1 study indicator rate, **Mid-State Health Network** should complete a causal/barrier analysis to identify barriers to desired outcomes and implement interventions to address those barriers timely. Interventions implemented late in the Remeasurement 1 study period will not have enough time to impact the study indicator rate.
- **Mid-State Health Network** should document the process and steps used to determine barriers to improvement and attach completed QI tools, meeting minutes, and/or data analysis results used for the causal/barrier analysis.
- **Mid-State Health Network** should implement active, innovative interventions with the potential to directly impact study indicator outcomes.
- **Mid-State Health Network** should have a process in place for evaluating the performance of each PIP intervention and its impact on the study indicators and allow continual refinement of improvement strategies. The evaluation process should be ongoing and cyclical.
- **Mid-State Health Network** should reference the PIP Completion Instructions annually to ensure that all requirements for each completed step have been addressed.

Appendix A. PIP Validation Tool

The following contains the PIP validation tool for **Mid-State Health Network**.

Demographic Information			
Plan Name:	Region 5 - Mid-State Health Network		
Project Leader Name:	Kim Zimmerman	Title:	Director of Compliance, Customer Services, and Quality Improvement
Telephone Number:	(517) 657-3018	E-mail Address:	kim.zimmerman@midstatehealthnetwork.org
Name of Project:	***Patients With Schizophrenia and Diabetes Who Had an HbA1c and LDL-C Test***		
Submission Date:	8/27/2018	Type of Delivery System:	PIHP

	Evaluation Elements	Scoring	Comments
Performance Improvement Project/Health Care Study Evaluation			
I.	**Select the Study Topic(s): The study topic should be selected based on data that identify an opportunity for improvement. The goal of the project should be to improve processes and outcomes of healthcare. The topic may also be specified by the State. The study topic:**		
C*	1. Was selected following collection and analysis of data. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The chosen study topic is one of the ten PIP topics recommended by MDHHS. Re-review September 2018: In the 2018 final PIP submission, the health plan provided additional information about its rationale for study topic selection. The *Point of Clarification* has been revised. Point of Clarification: The historical study indicator data are not available; therefore, the health plan should update Step 1 with baseline study indicator data in next year's annual submission. Additionally, it appears that the health plan would continue to use the interventions from its previous PIP for this project. This is a new PIP; therefore, HSAG recommends that the health plan conduct a causal and barrier analysis and identify interventions accordingly for this project.
	2. Has the potential to affect consumer health, functional status, or satisfaction. The score for this element will be Met or Not Met.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The PIP has the potential to affect member health, functional status, or satisfaction.

Results for Step I

Total Evaluation Elements				
Total Evaluation Elements**	*Met*	*Partially Met*	*Not Met*	*Not Applicable*
2	2	0	0	0

Critical Elements				
Critical Elements***	*Met*	*Partially Met*	*Not Met*	*Not Applicable*
1	1	0	0	0

* "C" in this column denotes a critical evaluation element.
** This is the total number of all evaluation elements for this review step.
*** This is the total number of critical evaluation elements for this review step.

Evaluation Elements		Scoring	Comments
Performance Improvement Project/Health Care Study Evaluation			
II.	**Define the Study Question(s): Stating the study question(s) helps maintain the focus of the PIP and sets the framework for data collection, analysis, and interpretation. The study question:**		
C*	1. Was stated in simple terms and in the recommended X/Y format. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study question was stated in simple terms using the recommended X/Y format.

Results for Step II

Total Evaluation Elements

Total Evaluation Elements**	*Met*	*Partially Met*	*Not Met*	*Not Applicable*
1	1	0	0	0

Critical Elements

Critical Elements***	*Met*	*Partially Met*	*Not Met*	*Not Applicable*
1	1	0	0	0

* "C" in this column denotes a critical evaluation element.
** This is the total number of all evaluation elements for this review step.
*** This is the total number of critical evaluation elements for this review step.

Evaluation Elements		Scoring	Comments
Performance Improvement Project/Health Care Study Evaluation			
III.	**Define the Study Population: The study population should be clearly defined to represent the population to which the study question and indicators apply, without excluding consumers with special healthcare needs. The study population:**		
C*	1. Was accurately and completely defined and captured all consumers to whom the study question(s) applied. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The health plan accurately and completely defined the study population. Re-review September 2018: In the 2018 final PIP submission, the health plan documented that it would use HEDIS 2018 technical specifications for the study. The *Point of Clarification* has been removed.

Results for Step III

Total Evaluation Elements

Total Evaluation Elements**	*Met*	*Partially Met*	*Not Met*	*Not Applicable*
1	1	0	0	0

Critical Elements

Critical Elements***	*Met*	*Partially Met*	*Not Met*	*Not Applicable*
1	1	0	0	0

* "C" in this column denotes a critical evaluation element.
** This is the total number of all evaluation elements for this review step.
*** This is the total number of critical evaluation elements for this review step.

Evaluation Elements		Scoring	Comments
Performance Improvement Project/Health Care Study Evaluation			
IV.	**Select the Study Indicator(s): A study indicator is a quantitative or qualitative characteristic or variable that reflects a discrete event or a status that is to be measured. The selected indicator(s) should track performance or improvement over time. The indicator(s) should be objective, clearly and unambiguously defined, and based on current clinical knowledge or health services research. Study indicator goals should be specific, measurable, attainable, relevant, and time-bound. The study indicator(s):**		
C*	1. Were well-defined, objective, and measured changes in health or functional status, consumer satisfaction, or valid process alternatives.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The denominator description should include, "The entire eligible population for the study indicator based on HEDIS specifications for the SMD measure." The measurement periods in accordance with HEDIS should be based on a calendar year. For example, the baseline measurement period should be 01/01/2018- 12/31/2018. The health plan should set a goal for the next remeasurement that represents attainable, statistically significant improvement over the baseline rate. The Remeasurement 1 goal should be set once the baseline rate has been calculated. For this year's submission, the health plan should have indicated "To Be Determined" for both the Remeasurement 1 and Remeasurement 2 goals. Re-review September 2018: In the 2018 final PIP submission, the health plan addressed HSAG's feedback and provided accurate denominator, measurement periods, and goals for the study indicators. The score for this evaluation element has been changed to *Met*.
	2. Included the basis on which the indicator(s) was adopted, if internally developed.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	The health plan based the study indicator(s) on HEDIS technical specifications.

* "C" in this column denotes a critical evaluation element.
** This is the total number of all evaluation elements for this review step.
*** This is the total number of critical evaluation elements for this review step.

Evaluation Elements	Scoring	Comments
Performance Improvement Project/Health Care Study Evaluation		

Results for Step IV

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

* "C" in this column denotes a critical evaluation element.
** This is the total number of all evaluation elements for this review step.
*** This is the total number of critical evaluation elements for this review step.

Evaluation Elements		Scoring	Comments
Performance Improvement Project/Health Care Study Evaluation			
V.	**Use Sound Sampling Techniques: (If sampling is not used, each evaluation element will be scored Not Applicable [NA]). If sampling is used to select consumers in the study, proper sampling techniques are necessary to provide valid and reliable information on the quality of care provided. Sampling methods:**		
	1. Included the measurement period for the sampling methods used (e.g., baseline, Remeasurement 1).	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Sampling will not be used.
	2. Included the title of the applicable study indicator(s).	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Sampling will not be used.
	3. Included the population size.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Sampling will not be used.
C*	4. Included the sample size.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Sampling will not be used.
	5. Included the margin of error and confidence level.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Sampling will not be used.
	6. Described in detail the method used to select the sample.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Sampling will not be used.
C*	7. Allowed for the generalization of results to the study population.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Sampling will not be used.

Results for Step V

Total Evaluation Elements

Total Evaluation Elements**	*Met*	*Partially Met*	*Not Met*	*Not Applicable*
7	0	0	0	7

Critical Elements

Critical Elements***	*Met*	*Partially Met*	*Not Met*	*Not Applicable*
2	0	0	0	2

* "C" in this column denotes a critical evaluation element.
** This is the total number of all evaluation elements for this review step.
*** This is the total number of critical evaluation elements for this review step.

Evaluation Elements		Scoring	Comments
Performance Improvement Project/Health Care Study Evaluation			
VI.	**Reliably Collect Data: The data collection process must ensure that the data collected on the study indicators are valid and reliable. Validity is an indication of the accuracy of the information obtained. Reliability is an indication of the repeatability or reproducibility of a measurement. Data collection procedures include:**		
	1. Clearly defined sources of data and data elements to be collected. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The health plan clearly and accurately defined the data elements and data sources.
C*	2. A clearly defined and systematic process for collecting data that included how baseline and remeasurement data were collected. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The health plan clearly and accurately defined the systematic process for collecting baseline and remeasurement data. Re-review September 2018: In the 2018 final PIP submission, the health plan documented plans to retrieve annual study indicator data 90 days after the end of the measurement period to account for claims lag. The *Point of Clarification* has been removed.
C*	3. A manual data collection tool that ensured consistent and accurate collection of data according to indicator specifications.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Manual data collection will not be used.
	4. An estimated degree of administrative data completeness percentage. Met = 80 - 100 percent complete Partially Met = 50 - 79 percent complete Not Met = <50 percent complete or not provided	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The estimated degree of administrative data completeness was between 80 percent and 100 percent, and the health plan explained how the reported percentage was calculated.

* "C" in this column denotes a critical evaluation element.
** This is the total number of all evaluation elements for this review step.
*** This is the total number of critical evaluation elements for this review step.

Evaluation Elements	Scoring	Comments
Performance Improvement Project/Health Care Study Evaluation		

Results for Step VI

Total Evaluation Elements				
Total Evaluation Elements**	*Met*	*Partially Met*	*Not Met*	*Not Applicable*
4	3	0	0	1

Critical Elements				
Critical Elements***	*Met*	*Partially Met*	*Not Met*	*Not Applicable*
2	1	0	0	1

* "C" in this column denotes a critical evaluation element.
** This is the total number of all evaluation elements for this review step.
*** This is the total number of critical evaluation elements for this review step.

Evaluation Elements		Scoring	Comments
Performance Improvement Project/Health Care Study Evaluation			
VII.	**Analyze Data and Interpret Study Results: Clearly present the results for each study indicator(s). Describe the data analysis performed and the results of the statistical analysis, if applicable, and interpret the results. Through data analysis and interpretation, real improvement as well as sustained improvement can be determined. The data analysis and interpretation of the study indicator outcomes:**		
C*	1. Included accurate, clear, consistent, and easily understood information in the data table.	☐ Met ☐ Partially Met ☐ Not Met ☐ NA	Not assessed. The PIP had not progressed to the point of data analysis and interpretation.
	2. Include a narrative interpretation that addresses all required components of data analysis and statistical testing.	☐ Met ☐ Partially Met ☐ Not Met ☐ NA	Not assessed. The PIP had not progressed to the point of data analysis and interpretation.
	3. Identified factors that threatened the validity of the data reported and ability to compare the initial measurement with the remeasurement.	☐ Met ☐ Partially Met ☐ Not Met ☐ NA	Not assessed. The PIP had not progressed to the point of data analysis and interpretation.

Results for Step VII

Total Evaluation Elements

Total Evaluation Elements**	*Met*	*Partially Met*	*Not Met*	*Not Applicable*
3	0	0	0	0

Critical Elements

Critical Elements***	*Met*	*Partially Met*	*Not Met*	*Not Applicable*
1	0	0	0	0

* "C" in this column denotes a critical evaluation element.
** This is the total number of all evaluation elements for this review step.
*** This is the total number of critical evaluation elements for this review step.

Evaluation Elements		Scoring	Comments
Performance Improvement Project/Health Care Study Evaluation			
VIII.	**Improvement Strategies (interventions for improvement as a result of analysis): Interventions are developed to address causes/barriers identified through a continuous cycle of data measurement and data analysis. The improvement strategies are developed from an ongoing quality improvement process that included:**		
C*	1. A causal/barrier analysis with a clearly documented team, process/steps, and quality improvement tools.	☐ Met ☐ Partially Met ☐ Not Met ☐ NA	Not assessed. The health plan had not progressed to the point of developing and implementing improvement strategies. To impact the Remeasurement 1 study indicator rate, the health plan should complete a causal/barrier analysis to identify barriers to study outcomes and implement interventions to address those barriers timely. Interventions implemented late in the Remeasurement 1 study period will not have enough time to impact study indicator rate.
	2. Barriers that were identified and prioritized based on results of data analysis and/or other quality improvement processes.	☐ Met ☐ Partially Met ☐ Not Met ☐ NA	Not assessed. The health plan had not progressed to the point of developing and implementing improvement strategies.
C*	3. Interventions that were logically linked to identified barriers and will directly impact study indicator outcomes.	☐ Met ☐ Partially Met ☐ Not Met ☐ NA	Not assessed. The health plan had not progressed to the point of developing and implementing improvement strategies.
	4. Intervention that were implemented in a timely manner to allow for impact of study indicator outcomes.	☐ Met ☐ Partially Met ☐ Not Met ☐ NA	Not assessed. The health plan had not progressed to the point of developing and implementing improvement strategies.
C*	5. Evaluation of individual interventions for effectiveness.	☐ Met ☐ Partially Met ☐ Not Met ☐ NA	Not assessed. The health plan had not progressed to the point of developing and implementing improvement strategies.

* "C" in this column denotes a critical evaluation element.
** This is the total number of all evaluation elements for this review step.
*** This is the total number of critical evaluation elements for this review step.

Evaluation Elements	Scoring	Comments
Performance Improvement Project/Health Care Study Evaluation		
VIII. **Improvement Strategies (interventions for improvement as a result of analysis): Interventions are developed to address causes/barriers identified through a continuous cycle of data measurement and data analysis. The improvement strategies are developed from an ongoing quality improvement process that included:**		
6. Interventions that were continued, revised, or discontinued based on evaluation results.	☐ Met ☐ Partially Met ☐ Not Met ☐ NA	Not assessed. The health plan had not progressed to the point of developing and implementing improvement strategies.

Results for Step VIII

Total Evaluation Elements					Critical Elements				
Total Evaluation Elements**	*Met*	*Partially Met*	*Not Met*	*Not Applicable*	Critical Elements***	*Met*	*Partially Met*	*Not Met*	*Not Applicable*
6	0	0	0	0	3	0	0	0	0

* "C" in this column denotes a critical evaluation element.
** This is the total number of all evaluation elements for this review step.
*** This is the total number of critical evaluation elements for this review step.

Evaluation Elements		Scoring	Comments
Performance Improvement Project/Health Care Study Evaluation			
IX.	**Assess for Real Improvement: Real improvement or meaningful change in performance is evaluated based on study indicator(s) results.**		
	1. The remeasurement methodology was the same as the baseline methodology.	☐ Met ☐ Partially Met ☐ Not Met ☐ NA	Not assessed. The PIP had not progressed to the point of being assessed for real improvement.
	2. The documented improvement meets the State- or plan-specific goal.	☐ Met ☐ Partially Met ☐ Not Met ☐ NA	Not assessed. The PIP had not progressed to the point of being assessed for real improvement.
C*	3. There was statistically significant improvement over the baseline across all study indicators.	☐ Met ☐ Partially Met ☐ Not Met ☐ NA	Not assessed. The PIP had not progressed to the point of being assessed for real improvement.

Results for Step IX

Total Evaluation Elements

Total Evaluation Elements**	*Met*	*Partially Met*	*Not Met*	*Not Applicable*
3	0	0	0	0

Critical Elements

Critical Elements***	*Met*	*Partially Met*	*Not Met*	*Not Applicable*
1	0	0	0	0

* "C" in this column denotes a critical evaluation element.
** This is the total number of all evaluation elements for this review step.
*** This is the total number of critical evaluation elements for this review step.

Evaluation Elements		Scoring	Comments
Performance Improvement Project/Health Care Study Evaluation			
X.	**Assess for Sustained Improvement: Sustained improvement is demonstrated through repeated measurements over comparable time periods.**		
C*	1. Repeated measurements over comparable time periods demonstrated sustained improvement over the baseline.	☐ Met ☐ Partially Met ☐ Not Met ☐ NA	Not assessed. Sustained improvement cannot be assessed until the study indicator has achieved statistically significant improvement over baseline and results for a subsequent measurement period have been reported.

Results for Step X

Total Evaluation Elements

Total Evaluation Elements**	*Met*	*Partially Met*	*Not Met*	*Not Applicable*
1	0	0	0	0

Critical Elements

Critical Elements***	*Met*	*Partially Met*	*Not Met*	*Not Applicable*
1	0	0	0	0

* "C" in this column denotes a critical evaluation element.
** This is the total number of all evaluation elements for this review step.
*** This is the total number of critical evaluation elements for this review step.

Table A-1—2017-2018 PIP Validation Tool Scores: Patients With Schizophrenia and Diabetes Who Had an HbA1c and LDL-C Test for Region 5 - Mid-State Health Network											
Review Step		**Total Possible Evaluation Elements (Including Critical Elements)**	**Total Met**	**Total Partially Met**	**Total Not Met**	**Total NA**	**Total Possible Critical Elements**	**Total Critical Elements Met**	**Total Critical Elements Partially Met**	**Total Critical Elements Not Met**	**Total Critical Elements NA**
I.	Select the Study Topic(s)	2	2	0	0	0	1	1	0	0	0
II.	Define the Study Question(s)	1	1	0	0	0	1	1	0	0	0
III.	Define the Study Population	1	1	0	0	0	1	1	0	0	0
IV.	Select the Study Indicator(s)	2	1	0	0	1	1	1	0	0	0
V.	Use Sound Sampling Techniques	7	0	0	0	7	2	0	0	0	2
VI.	Reliably Collect Data	4	3	0	0	1	2	1	0	0	1
VII.	Analyze Data and Interpret Study Results	3		Not Assessed			1	Not Assessed			
VIII.	Improvement Strategies	6		Not Assessed			3	Not Assessed			
IX.	Assess for Real Improvement	3		Not Assessed			1	Not Assessed			
X.	Assess for Sustained Improvement	1		Not Assessed			1	Not Assessed			
Totals for All Steps		**30**	**8**	**0**	**0**	**9**	**14**	**5**	**0**	**0**	**3**

Table A-2—2017-2018 PIP Validation Tool Overall Score: Patients With Schizophrenia and Diabetes Who Had an HbA1c and LDL-C Test for Region 5 - Mid-State Health Network	
Percentage Score of Evaluation Elements Met*	**100%**
Percentage Score of Critical Elements Met**	**100%**
Validation Status***	***Met***

* The percentage score for all evaluation elements Met is calculated by dividing the total Met by the sum of all evaluation elements Met, Partially Met, and Not Met. The Not Assessed and Not Applicable scores have been removed from the scoring calculations.

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

EVALUATION OF THE OVERALL VALIDITY AND RELIABILITY OF PIP RESULTS
HSAG assessed the validity and reliability of the results based on CMS validation protocols and determined whether the State and key stakeholders can have confidence in the reported PIP findings. Based on the validation of this PIP, HSAG's assessment determined the following:

Met: **High confidence/confidence in reported PIP results. All critical evaluation elements were Met, and 80 to 100 percent of all evaluation elements were Met across all activities.**

Partially Met: **Low confidence in reported PIP results. All critical evaluation elements were Met, and 60 to 79 percent of all evaluation elements were Met across all activities; or one or more critical evaluation elements were Partially Met.**

Not Met: **All critical evaluation elements were Met, and less than 60 percent of all evaluation elements were Met across all activities; or one or more critical evaluation elements were Not Met.**

Summary of Aggregate Validation Findings

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

Appendix B. PIP Summary Form

Appendix B contains the PIP Summary Form **Mid-State Health Network** submitted to HSAG for validation. HSAG made only minor grammatical corrections to these forms; the content/meaning was not altered. This appendix does not include any attachments provided with the PIP submission.

Appendix B. State of Michigan 2017–2018 PIP Summary Form
Patients With Schizophrenia and Diabetes Who Had an HbA1c and LDL-C Test
for Region 5—Mid-State Health Network

Demographic Information	
Plan Name: **Mid-State Health Network**	Type of Delivery System: Clinical
Project Leader Name: Kim Zimmerman	Title: Director of Compliance, Customer Services and Quality Improvement
Telephone Number: 517-657-3018	Email Address: kim.zimmerman@midstatehealthnetwork.org
Name of Project: Patient(s) with Schizophrenia and Diabetes who had an HbA1c and LDL-C test during the report period.	
Resubmission Date: August 27, 2018	

Appendix B. State of Michigan 2017–2018 PIP Summary Form
Patients With Schizophrenia and Diabetes Who Had an HbA1c and LDL-C Test
for Region 5—Mid-State Health Network

Step I: Select the Study Topic. The study topic should be selected based on data that identify an opportunity for improvement. The goal of the project should be to improve processes and outcomes of healthcare. The topic may also be specified by the State.

Study Topic: The study topic is "Patient(s) with schizophrenia and diabetes who had an HbA1c and LDL-C test during the report period." The study topic aligns with a HEDIS Measure. The study topic was one of the identified topics by the Michigan Department of Health and Human Services Shared Metric Workgroup. This workgroup developed a list of topics, including this one, to have shared monitoring of health plan performance on national measures.

The goal of this PIP is to ensure that adult consumers with schizophrenia and diabetes receive both the HbA1c and LDL-C tests to ensure ongoing monitoring of an existing health condition.

The previous performance improvement project completed by Mid-State Health Network was "Diabetes Screening for People with Schizophrenia or Bipolar Disorder who are using Antipsychotic Medications." This project demonstrated positive results by meeting the established goals during remeasurement period one and remeasurement period two. The percentage of those who completed the diabetes screenings was 73.7% at baseline and was at 80.4% for remeasurement period two. The interventions applied included utilizing the ICDP database to run care alert reports monthly providing real time data, providing education to beneficiaries during person-centered planning on the importance of ongoing monitoring by a primary care physician and coordinating the completion of the screenings through the CMHSP or through the primary care physician. The results of this project exceeded our established goals. When compared to benchmark rates, MSHN started at 73.7% during baseline as compared to 83.6% for the Medicaid Health Plans and showed a marked improvement by our observed rate being at 80.4% and the Medicaid Health Plans rate being at 82.6% during remeasurement period two.

Based on the success of the interventions being applied, choosing the project "Patient(s) with Schizophrenia and Diabetes who had an HbA1c and LDL-C test during the report period" was a natural next step to continue to utilize the interventions to full capacity and to continue to emphasis coordination of care among beneficiaries.

Provide plan-specific data: This topic was chosen by the PIHP to make sure consumers were receiving certain physical health screenings and tests that might be performed outside of standard age- and sex-specific guidelines. HEDIS definitions were used as these are the gold standard for patient care and by using these guidelines, PIHP findings can be compared to other healthcare organizations (more directly comparable to other PIHPs as socioeconomic factors would be similar). The HbA1c is relevant to test for blood glucose levels over time as it quantifies how

Step I: Select the Study Topic. The study topic should be selected based on data that identify an opportunity for improvement. The goal of the project should be to improve processes and outcomes of healthcare. The topic may also be specified by the State.

well an individual's blood glucose levels are being controlled. The LDL-C is relevant to predict an individual's risk of developing heart disease. Typically, those who have been diagnosed with diabetes have an increased risk for heart disease. Completing both the HbA1c and the LDL-C will test for controlled blood glucose levels and risks for developing heart disease.

Historical Data for the region is not available for MSHN.

Describe how the study topic has the potential to improve consumer health, functional status, or satisfaction: HEDIS measures are designed to assess the quality of healthcare services received and this topic will help identify whether those receiving specialty behavioral health services for schizophrenia are receiving screenings and tests related to controlling diabetes and assessing risks for heart disease.

Appendix B. State of Michigan 2017–2018 PIP Summary Form
Patients With Schizophrenia and Diabetes Who Had an HbA1c and LDL-C Test
for Region 5—Mid-State Health Network

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

The Study Question(s) should:

- Be structured in the recommended X/Y format: "Does doing X result in Y?"
- State the problem in clear and simple terms.
- Be answerable based on the data collection methodology and study indicator(s).

Study Question(s): Do targeted interventions increase the percentage of consumers diagnosed with schizophrenia who have an annual HbA1c and LDL-C test?

Appendix B. State of Michigan 2017–2018 PIP Summary Form
Patients With Schizophrenia and Diabetes Who Had an HbA1c and LDL-C Test
for Region 5—Mid-State Health Network

Step III: Define the Study Population. The study population should be clearly defined to represent the population to which the study question and indicators apply, without excluding consumers with special healthcare needs.

The study population definition should:

- Include the requirements for the length of enrollment, continuous enrollment, new enrollment, and allowable gap criteria.
- Include the age range and the anchor dates used to identify age criteria, if applicable.
- Include the inclusion, exclusion, and diagnosis criteria.
- Include a list of diagnosis/procedure/pharmacy/billing codes used to identify consumers, if applicable.
- Capture all consumers to whom the study question(s) applies.
- Include how race and ethnicity will be identified, if applicable.

Study Population: Medicaid enrolled adults with schizophrenia who have been diagnosed with diabetes.

Enrollment requirements (if applicable): Medicaid eligible adults (18-64 years old) receiving services from the PIHP who have at least one PIHP reported encounter to the State's data warehouse. Continuous Medicaid Enrollment applies to the study question. Members with more than one gap in enrollment, or one gap greater than 45 days as determined by the 834 enrollment file will be excluded. Included Medicaid Scope and coverage codes D1, D2, F1, F2, K1, K2, P1, T1, T2.

Consumer age criteria (if applicable): Adults age 18 years to 64 years of age as of the end of the measurement period.

Inclusion, exclusion, and diagnosis criteria:

The potentially eligible members will include those between the ages of 18 and 64, at of the end of the measurement period, who also satisfy the following:

- One, or both, of the following conditions during the measurement year:
    - At least one acute inpatient encounter, with any diagnosis of schizophrenia
    - At least two visits in an outpatient, intensive outpatient, partial hospitalization, ED or non-acute inpatient setting, on different dates of service, with any diagnosis of schizophrenia

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Patients With Schizophrenia and Diabetes Who Had an HbA1c and LDL-C Test
for Region 5—Mid-State Health Network

Step III: Define the Study Population. The study population should be clearly defined to represent the population to which the study question and indicators apply, without excluding consumers with special healthcare needs.

The study population definition should:

- Include the requirements for the length of enrollment, continuous enrollment, new enrollment, and allowable gap criteria.
- Include the age range and the anchor dates used to identify age criteria, if applicable.
- Include the inclusion, exclusion, and diagnosis criteria.
- Include a list of diagnosis/procedure/pharmacy/billing codes used to identify consumers, if applicable.
- Capture all consumers to whom the study question(s) applies.
- Include how race and ethnicity will be identified, if applicable.

- Members with diabetes, must be determined by the following (during the measurement year or the year prior to the measurement year)
    - Claim/encounter data:
        - At least two outpatient visits, observation visits, ED visits or nonacute inpatient encounters, on different dates of service, with a diagnosis of diabetes. Visit type need not be the same for the two encounters
        - At least one acute inpatient encounter with a diagnosis of diabetes
    - Pharmacy data:
        - Members who were dispensed insulin or oral hypoglycemic/anti-hyperglycemic on an ambulatory basis

The eligible population, will be calculated by excluding the potentially eligible members who meet the following conditions:

- Members with no more than one gap in enrollment of up to 45 days during the measurement year as determined by the 834 enrollment file. To determine continuous enrollment for a Medicaid beneficiary for whom enrollment is verified monthly, the member may not have more than a 1-month gap in coverage (i.e., a member whose coverage lapses for 2 months [60 days] is not considered continuously enrolled.

Diagnosis/procedure/pharmacy/billing codes (if applicable):

The attached *SMD_Value Sets-2018.xlsx* file of the code sets published in 2018 by the National Quality Forum to be used for the HEDIS measure "Patient(s) with Schizophrenia and Diabetes who had an HbA1c and LDL-C test during the report period" were used.

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Patients With Schizophrenia and Diabetes Who Had an HbA1c and LDL-C Test
for Region 5—Mid-State Health Network

Step IV: Select the Study Indicator(s). A study indicator is a quantitative or qualitative characteristic or variable that reflects a discrete event or a status that is to be measured. The selected indicator(s) should track performance or improvement over time. The indicator(s) should be objective, clearly and unambiguously defined, and based on current clinical knowledge or health services research. Study indicator goals should be specific, measurable, attainable, relevant, and time-bound. **The description of the study Indicator(s) should:** • Include the complete title of the study indicator(s). • Include a narrative description of the numerator(s) and denominator(s). • Include the rationale for selecting the study indicator(s). • If indicators are based on nationally recognized measures (e.g., HEDIS), include the year of the HEDIS technical specifications used for the applicable measurement year and update the year annually. • Include complete dates for all measurement periods (with the day, month, and year). • Include plan-specific goals for the remeasurement periods that are specific, measurable, attainable, relevant, and time-bound. • Include the State-designated goal, if applicable.	
Study Indicator 1: Patient(s) with Schizophrenia and Diabetes who had an HbA1c and LDL-C test during the report period .	**Provide a narrative description and the rationale for selection of the study indicator. Describe the basis on which the indicator was adopted, if internally developed.** The goal of this PIP is to ensure that adult consumers with schizophrenia and diabetes receive both the HbA1c and LDL-C tests to ensure ongoing monitoring of an existing health condition. The study topic aligns with the 2018 spec HEDIS Measure "Patient(s) with schizophrenia and diabetes who had an HbA1c and LDL-C test during the report period."

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Patients With Schizophrenia and Diabetes Who Had an HbA1c and LDL-C Test
for Region 5—Mid-State Health Network

Step IV: Select the Study Indicator(s). A study indicator is a quantitative or qualitative characteristic or variable that reflects a discrete event or a status that is to be measured. The selected indicator(s) should track performance or improvement over time. The indicator(s) should be objective, clearly and unambiguously defined, and based on current clinical knowledge or health services research. Study indicator goals should be specific, measurable, attainable, relevant, and time-bound. **The description of the study Indicator(s) should:** • Include the complete title of the study indicator(s). • Include a narrative description of the numerator(s) and denominator(s). • Include the rationale for selecting the study indicator(s). • If indicators are based on nationally recognized measures (e.g., HEDIS), include the year of the HEDIS technical specifications used for the applicable measurement year and update the year annually. • Include complete dates for all measurement periods (with the day, month, and year). • Include plan-specific goals for the remeasurement periods that are specific, measurable, attainable, relevant, and time-bound. • Include the State-designated goal, if applicable.	
	This topic was chosen by the PIHP to make sure consumers were receiving certain physical health screenings and tests that might be performed outside of standard age- and sex-specific guidelines. HEDIS definitions were used as these are the gold standard for patient care and by using these guidelines, PIHP findings can be compared to other healthcare organizations (more directly comparable to other PIHPs as socioeconomic factors would be similar). The HbA1c is relevant to test for blood glucose levels over time as it quantifies how well an individual's blood glucose levels are being controlled. The LDL-C is relevant to predict an individual's risk of developing heart disease. Typically those who have been diagnosed with diabetes have an increased risk for heart disease. Completing both the HbA1c and the LDL-C will test for controlled blood glucose levels and risks for developing heart disease.
Numerator Description:	Those in the denominator who had the HbA1c and an LDL-C test performed during the measurement year.

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Patients With Schizophrenia and Diabetes Who Had an HbA1c and LDL-C Test
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Step IV: Select the Study Indicator(s). A study indicator is a quantitative or qualitative characteristic or variable that reflects a discrete event or a status that is to be measured. The selected indicator(s) should track performance or improvement over time. The indicator(s) should be objective, clearly and unambiguously defined, and based on current clinical knowledge or health services research. Study indicator goals should be specific, measurable, attainable, relevant, and time-bound.

The description of the study Indicator(s) should:

- Include the complete title of the study indicator(s).
- Include a narrative description of the numerator(s) and denominator(s).
- Include the rationale for selecting the study indicator(s).
- If indicators are based on nationally recognized measures (e.g., HEDIS), include the year of the HEDIS technical specifications used for the applicable measurement year and update the year annually.
- Include complete dates for all measurement periods (with the day, month, and year).
- Include plan-specific goals for the remeasurement periods that are specific, measurable, attainable, relevant, and time-bound.
- Include the State-designated goal, if applicable.

Denominator Description:	The entire eligible populations for the study indicator based on HEDIS specifications for the SMD measure.
Baseline Measurement Period (include date range) 01/01/2018 – 12/31/2018	01/01/2018 – 12/31/2018
Remeasurement 1 Period (include date range) 01/01/2019 – 12/31/2019	01/01/2019- 12/31/2019
Remeasurement 1 Period Goal	To be determined
Remeasurement 2 Period (include date range) 01/01/2020 – 12/31/2020	01/01/2020 -12/31/2020

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Patients With Schizophrenia and Diabetes Who Had an HbA1c and LDL-C Test
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Step IV: Select the Study Indicator(s). A study indicator is a quantitative or qualitative characteristic or variable that reflects a discrete event or a status that is to be measured. The selected indicator(s) should track performance or improvement over time. The indicator(s) should be objective, clearly and unambiguously defined, and based on current clinical knowledge or health services research. Study indicator goals should be specific, measurable, attainable, relevant, and time-bound.

The description of the study Indicator(s) should:

- Include the complete title of the study indicator(s).
- Include a narrative description of the numerator(s) and denominator(s).
- Include the rationale for selecting the study indicator(s).
- If indicators are based on nationally recognized measures (e.g., HEDIS), include the year of the HEDIS technical specifications used for the applicable measurement year and update the year annually.
- Include complete dates for all measurement periods (with the day, month, and year).
- Include plan-specific goals for the remeasurement periods that are specific, measurable, attainable, relevant, and time-bound.
- Include the State-designated goal, if applicable.

Remeasurement 2 Period Goal	To be determined.
State-Designated Goal or Benchmark	N/A (However, health plan ranking from Michigan Medicaid HEDIS 2016 Results Statewide Aggregate Report indicated the average percentage of eligible population with the diabetes screening was 69.98%)
Source of Benchmark	
Study Indicator 2: [Enter title]	**Provide a narrative description and the rationale for selection of the study indicator. Describe the basis on which the indicator was adopted, if internally developed.** *Not Applicable – Only one Study Indicator for this Project*
Numerator Description:	*Not Applicable – Only one Study Indicator for this Project*
Denominator Description:	*Not Applicable – Only one Study Indicator for this Project*

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Patients With Schizophrenia and Diabetes Who Had an HbA1c and LDL-C Test
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Step IV: Select the Study Indicator(s). A study indicator is a quantitative or qualitative characteristic or variable that reflects a discrete event or a status that is to be measured. The selected indicator(s) should track performance or improvement over time. The indicator(s) should be objective, clearly and unambiguously defined, and based on current clinical knowledge or health services research. Study indicator goals should be specific, measurable, attainable, relevant, and time-bound.

The description of the study Indicator(s) should:

- Include the complete title of the study indicator(s).
- Include a narrative description of the numerator(s) and denominator(s).
- Include the rationale for selecting the study indicator(s).
- If indicators are based on nationally recognized measures (e.g., HEDIS), include the year of the HEDIS technical specifications used for the applicable measurement year and update the year annually.
- Include complete dates for all measurement periods (with the day, month, and year).
- Include plan-specific goals for the remeasurement periods that are specific, measurable, attainable, relevant, and time-bound.
- Include the State-designated goal, if applicable.

Baseline Measurement Period (include date range) MM/DD/YYYY to MM/DD/YYYY	*Not Applicable – Only one Study Indicator for this Project*
Remeasurement 1 Period (include date range) MM/DD/YYYY to MM/DD/YYYY	*Not Applicable – Only one Study Indicator for this Project*
Remeasurement 1 Period Goal	*Not Applicable – Only one Study Indicator for this Project*
Remeasurement 2 Period (include date range) MM/DD/YYYY to MM/DD/YYYY	*Not Applicable – Only one Study Indicator for this Project*

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Step IV: Select the Study Indicator(s). A study indicator is a quantitative or qualitative characteristic or variable that reflects a discrete event or a status that is to be measured. The selected indicator(s) should track performance or improvement over time. The indicator(s) should be objective, clearly and unambiguously defined, and based on current clinical knowledge or health services research. Study indicator goals should be specific, measurable, attainable, relevant, and time-bound.

The description of the study Indicator(s) should:

- Include the complete title of the study indicator(s).
- Include a narrative description of the numerator(s) and denominator(s).
- Include the rationale for selecting the study indicator(s).
- If indicators are based on nationally recognized measures (e.g., HEDIS), include the year of the HEDIS technical specifications used for the applicable measurement year and update the year annually.
- Include complete dates for all measurement periods (with the day, month, and year).
- Include plan-specific goals for the remeasurement periods that are specific, measurable, attainable, relevant, and time-bound.
- Include the State-designated goal, if applicable.

Remeasurement 2 Period Goal	*Not Applicable – Only one Study Indicator for this Project*
State-Designated Goal or Benchmark	*Not Applicable – Only one Study Indicator for this Project*
Source of Benchmark	*Not Applicable – Only one Study Indicator for this Project*
Study Indicator 3: [Enter title]	**Provide a narrative description and the rationale for selection of the study indicator. Describe the basis on which the indicator was adopted, if internally developed.** *Not Applicable – Only one Study Indicator for this Project*
Numerator Description:	*Not Applicable – Only one Study Indicator for this Project*
Denominator Description:	*Not Applicable – Only one Study Indicator for this Project*

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Step IV: Select the Study Indicator(s). A study indicator is a quantitative or qualitative characteristic or variable that reflects a discrete event or a status that is to be measured. The selected indicator(s) should track performance or improvement over time. The indicator(s) should be objective, clearly and unambiguously defined, and based on current clinical knowledge or health services research. Study indicator goals should be specific, measurable, attainable, relevant, and time-bound.

The description of the study Indicator(s) should:

- Include the complete title of the study indicator(s).
- Include a narrative description of the numerator(s) and denominator(s).
- Include the rationale for selecting the study indicator(s).
- If indicators are based on nationally recognized measures (e.g., HEDIS), include the year of the HEDIS technical specifications used for the applicable measurement year and update the year annually.
- Include complete dates for all measurement periods (with the day, month, and year).
- Include plan-specific goals for the remeasurement periods that are specific, measurable, attainable, relevant, and time-bound.
- Include the State-designated goal, if applicable.

Baseline Measurement Period (include date range) MM/DD/YYYY to MM/DD/YYYY	*Not Applicable – Only one Study Indicator for this Project*
Remeasurement 1 Period (include date range) MM/DD/YYYY to MM/DD/YYYY	*Not Applicable – Only one Study Indicator for this Project*
Remeasurement 1 Period Goal	*Not Applicable – Only one Study Indicator for this Project*
Remeasurement 2 Period (include date range) MM/DD/YYYY to MM/DD/YYYY	*Not Applicable – Only one Study Indicator for this Project*

Step IV: Select the Study Indicator(s). A study indicator is a quantitative or qualitative characteristic or variable that reflects a discrete event or a status that is to be measured. The selected indicator(s) should track performance or improvement over time. The indicator(s) should be objective, clearly and unambiguously defined, and based on current clinical knowledge or health services research. Study indicator goals should be specific, measurable, attainable, relevant, and time-bound.

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- Include a narrative description of the numerator(s) and denominator(s).
- Include the rationale for selecting the study indicator(s).
- If indicators are based on nationally recognized measures (e.g., HEDIS), include the year of the HEDIS technical specifications used for the applicable measurement year and update the year annually.
- Include complete dates for all measurement periods (with the day, month, and year).
- Include plan-specific goals for the remeasurement periods that are specific, measurable, attainable, relevant, and time-bound.
- Include the State-designated goal, if applicable.

Remeasurement 2 Period Goal	*Not Applicable – Only one Study Indicator for this Project*
State-Designated Goal or Benchmark	*Not Applicable – Only one Study Indicator for this Project*
Source of Benchmark	*Not Applicable – Only one Study Indicator for this Project*

Use this area to provide additional information, if necessary.

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Step V: Use Sound Sampling Techniques. If sampling is used to select consumers of the study, proper sampling techniques are necessary to provide valid and reliable information on the quality of care provided. Sampling techniques should be in accordance with generally accepted principles of research design and statistical analysis.

The description of the sampling methods should:

- Include components identified in the table below.
- Be updated annually for each measurement period and for each study indicator.
- Include a detailed narrative description of the methods used to select the sample and ensure sampling techniques support generalizable results.

Measurement Period	Study Indicator	Population Size	Sample Size	Margin of Error and Confidence Level
MM/DD/YYYY–MM/DD/YYYY				

Describe in detail the methods used to select the sample:

N/A, all eligible consumers will be included in the study.

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Step VI: Reliably Collect Data. The data collection process must ensure that data collected for the study indicators are valid and reliable.

The data collection methodology should include the following:

- Identification of data elements and data sources.
- When and how data are collected.
- How data are used to calculate the study indicators.
- A copy of the manual data collection tool, if applicable.
- An estimate of the administrative data completeness percentage and the process used to determine this percentage.

Data Sources (Select all that apply)

[ ] Hybrid—Both medical/treatment record review (manual data collection) and administrative data.

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

_____

Other Requirements
- [ ] Data collection tool attached
- [ ] Other data

_____

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

Other Requirements
- [X] Codes used to identify data elements (e.g., ICD-9/ICD-10, CPT codes)____ ICD-9/10, CPT Codes, NDC_____
- [ ] Data completeness assessment attached
- [ ] Coding verification process attached

Estimated percentage of administrative data completeness: _95__ percent.

Describe the process used to determine data completeness: Claims and encounters are submitted to MDHHS from all types of providers.

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

_____

Other Requirements
- [ ] Number of waves

_____
- [ ] Response rate _____
- [ ] Incentives used _____

Step VI: Reliably Collect Data. The data collection process must ensure that data collected for the study indicators are valid and reliable. **The data collection methodology should include the following:** • Identification of data elements and data sources. • When and how data are collected. • How data are used to calculate the study indicators. • A copy of the manual data collection tool, if applicable. • An estimate of the administrative data completeness percentage and the process used to determine this percentage.		
	MDHHS will not accept claims/encounters into its warehouse without meeting the minimum standards for submission. Providers are required to submit Medicaid encounters to MDHHS within 30 days after the service was provided. Transactions will not be accepted if they do not meet completeness requirements. Typically, over 95% of the transactions are submitted within the 30 days after service date timeframes.	

Step VI: Determine the Data Collection Cycle.	Determine the Data Analysis Cycle.
[ ] Once a year [ ] Twice a year [ ] Once a season [X] Once a quarter [ ] Once a month [ ] Once a week [ ] Once a day [ ] Continuous [ ] Other (list and describe):	[X] Once a year [ ] Once a season [ ] Once a quarter [ ] Once a month [ ] Continuous [ ] Other (list and describe):

Describe the data collection process:

Data analysis plan:

Rates are determined by dividing the number of those in the study population with the physical health service of interest (HbA1c and LDL-C) by all those in the study population. Rates will be compared between measurement periods using 2-proportion tests (95% two-sided confidence interval). Benchmark rates for the same HEDIS measure are available for a single year for Medicaid Health Plans in Michigan and will be used to compare to MSHN rates using 2-proportion tests (95% two-sided confidence interval).

Data collection process:

Data from the Medicaid Claims Dataset are all physical and mental health claims (excluding substance use disorder claims) for CMHSP consumers that were paid by Medicaid. Claims are updated nightly and available for the PIHP to retrieve from MDHHS once per week. Claims can be retrieved less frequently from MDHHS as well. These claims contain information on eligibility criteria (prescription fills) as well as outcomes of interest (PCP visits and HbA1c and LDL-C test). Claims are limited to identifying that a service was provided (with associated ICD-9/10 codes where applicable) but do not report the results from any screenings/tests.

Step 1: The PIHP will use the enrollment file (834) to identify all Medicaid enrollees in the measurement year. A file listing these individuals (5656) is uploaded per MDHHS requirements to DEG mailbox.

Step 2: On the following Monday morning claims files (5657) should be ready for downloading from the DEG mailbox

Step 3: Data is imported and merged with any previous claims data files

Step 4: The potentially eligible members will include those between the ages of 18 and 64, at of the end of the measurement period, who also satisfy the following:

- One, or both, of the following conditions during the measurement year:
  - At least one acute inpatient encounter, with any diagnosis of schizophrenia
  - At least two visits in an outpatient, intensive outpatient, partial hospitalization, ED or non-acute inpatient setting, on different dates of service, with any diagnosis of schizophrenia

Describe the data collection process:

- Members with diabetes, must be determined by the following (during the measurement year or the year prior to the measurement year)
  - Claim/encounter data:
    - At least two outpatient visits, observation visits, ED visits or nonacute inpatient encounters, on different dates of service, with a diagnosis of diabetes. Visit type need not be the same for the two encounters
    - At least one acute inpatient encounter with a diagnosis of diabetes
  - Pharmacy data:
    - Members who were dispensed insulin or oral hypoglycemic/anti-hyperglycemic on an ambulatory basis

Step 5: The eligible population (denominator), will be calculated by excluding the potential eligible members who meet the following conditions:

- Members with no more than one gap in enrollment of up to 45 days during the measurement year as determined by the 834 enrollment file. To determine continuous enrollment for a Medicaid beneficiary for whom enrollment is verified monthly, the member may not have more than a 1-month gap in coverage (i.e., a member whose coverage lapses for 2 months [60 days] is not considered continuously enrolled.

Step 6: The progress of the eligible population (numerator), will be calculated by counting the members who meet the following condition:

- A HbA1c and LDL-C tests performed during the measurement year

Data retrieval and analysis can be done by PIHP-contracted personnel or through a vendor supplied this same Medicaid Claims Data by the PIHP. Either process will follow the same data collection steps and yield the same results.

To ensure the completeness and accuracy of the data in determining the study indicator rate, the PIHP will take into account the time lag allowed for the submission of claims for the CMHSP consumers. The data utilized to determine the study indicator rate will be retrieved for analysis 90 days after the end of the measurement period.

Appendix B. State of Michigan 2017–2018 PIP Summary Form
Patients With Schizophrenia and Diabetes Who Had an HbA1c and LDL-C Test
for Region 5—Mid-State Health Network

Step VII: Study Indicator Results. Enter the results of the study indicator(s) in the table below. For HEDIS-based PIPs, the data reported in the PIP Summary Form should match the validated performance measure rate(s).

Enter results for each study indicator—including the goals, statistical testing with complete *p* values, and the statistical significance—in the table provided.

Study Indicator 1 Title: [Enter title of study indicator]

Time Period Measurement Covers	Indicator Measurement	Numerator	Denominator	Rate or Results	Goal	Statistical Test, Statistical Significance, and *p* Value
MM/DD/YYYY–MM/DD/YYYY	Baseline					
	Remeasurement 1					
	Remeasurement 2					
	Remeasurement 3					

Study Indicator 2 Title: [Enter title of study indicator]

Time Period Measurement Covers	Indicator Measurement	Numerator	Denominator	Rate or Results	Goal	Statistical Test, Statistical Significance, and *p* Value
MM/DD/YYYY–MM/DD/YYYY	Baseline					
	Remeasurement 1					
	Remeasurement 2					
	Remeasurement 3					

Appendix B. State of Michigan 2017–2018 PIP Summary Form
Patients With Schizophrenia and Diabetes Who Had an HbA1c and LDL-C Test
for Region 5—Mid-State Health Network

Step VII: Data Analysis and Interpretation of Study Results. Clearly document the results for each of the study indicator(s). Describe the data analysis performed and the results of the statistical analysis, and interpret the results. Through data analysis and interpretation, real improvement as well as sustained improvement can be determined.

The data analysis and interpretation of study indicator results should include the following for each measurement period:

- Data presented clearly, accurately, and consistently in both table and narrative format.
- A clear and comprehensive narrative description of the data analysis process, including a comparison of the results to the goal and the type of statistical test completed. Statistical testing *p* value results should be calculated and reported to four decimal places (e.g., 0.0235).
- Discussion of any random, year-to-year variations; population changes; sampling errors; or statistically significant increases or decreases that occurred during the remeasurement process.
- A statement indicating whether or not factors that could threaten (a) the validity of the findings for each measurement period and/or (b) the comparability of measurement periods were identified. If there were no factors identified, this should be documented in Step VII.

Describe the data analysis process and provide an interpretation of the results for each measurement period.

Baseline Measurement:

Baseline to Remeasurement 1:

Baseline to Remeasurement 2:

Baseline to Remeasurement 3:

Baseline to Final Remeasurement:

Appendix B. State of Michigan 2017–2018 PIP Summary Form
Patients With Schizophrenia and Diabetes Who Had an HbA1c and LDL-C Test
for Region 5—Mid-State Health Network

Step VIII: Improvement Strategies (interventions for improvement as a result of analysis). Interventions are developed to address causes/barriers identified through a continuous cycle of data measurement and data analysis.

This step should include the following:

- Processes used to identify barriers/interventions.
- Processes used to prioritize barriers.
- Prioritized list of barriers with corresponding interventions.
- Processes used to evaluate the effectiveness each intervention and the evaluation results.
- For remeasurement periods, how evaluation and analysis results guided continuation, revision, or discontinuation of interventions.

Please describe the process used to identify barriers and develop corresponding interventions. Include the team/committee/group that conducted the causal/barrier analysis and the QI tools used to identify barriers, such as data mining, key driver diagram, fishbone diagram, process-level data, etc. Describe the process used to prioritize the barriers and designate high-priority barriers. Lastly, describe the process used to evaluate the effectiveness of each intervention. The documentation should be dated to identify when steps in the ongoing quality improvement process were initiated and revisited.

Describe the causal/barrier analysis process, quality improvement team consumers, and quality improvement tools:

Describe the processes, tools, and/or data analysis results used to identify and prioritize barriers:

Describe the processes and measures used to evaluate the effectiveness of each intervention:

Step VIII: Improvement Strategies (interventions for improvement as a result of analysis). Interventions are developed to address causes/barriers identified through a continuous cycle of data measurement and data analysis.

This step should include the following:

- Processes used to identify barriers/interventions.
- Processes used to prioritize barriers.
- Prioritized list of barriers with corresponding interventions.
- Processes used to evaluate the effectiveness each intervention and the evaluation results.
- For remeasurement periods, how evaluation and analysis results guided continuation, revision, or discontinuation of interventions.

Barriers/Interventions Table:

Use the table below to list barriers, corresponding intervention descriptions, intervention type, target population, and implementation date. For each intervention, select if the intervention was (1) new, continued, or revised, and (2) consumer, provider, or system. Update the table as interventions are added, discontinued, or revised.

Date Implemented (MM/YY)	Select if Continued, New, or Revised	Select if Consumer, Provider, or System Intervention	Priority Ranking	Barrier	Intervention That Addresses the Barrier Listed in the Previous Column
	Click to select status	Click to select status			
	Click to select status	Click to select status			
	Click to select status	Click to select status			

Step VIII: Improvement Strategies (interventions for improvement as a result of analysis). Interventions are developed to address causes/barriers identified through a continuous cycle of data measurement and data analysis.

This step should include the following:

- Processes used to identify barriers/interventions.
- Processes used to prioritize barriers.
- Prioritized list of barriers with corresponding interventions.
- Processes used to evaluate the effectiveness each intervention and the evaluation results.
- For remeasurement periods, how evaluation and analysis results guided continuation, revision, or discontinuation of interventions.

	Click to select status	Click to select status			

Report the evaluation results for each intervention and describe the steps taken based on the evaluation results. Was each intervention successful? How were successful interventions continued or implemented on a larger scale? How were less-successful interventions revised or discontinued?

Describe evaluation results for each intervention:

Describe next steps for each intervention based on evaluation results: