Michigan Department
of Community Health

MDCH

Jennifer M. Granholm, Governor
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2008–2009 PIP VALIDATION REPORT

Improving the Penetration Rates for Children

for
Genesee County CMH

June 2009
for
Validation Year 1

HSAG HEALTH SERVICES
ADVISORY GROUP

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Performance improvement projects (PIPs) provide a structured method of assessing and improving processes, and thereby outcomes, of care for the population that prepaid inpatient health plans (PIHPs) serve. This structure facilitates the documentation and evaluation of improvements in care or service. PIHPs conduct PIPs to assess and improve the quality of clinical and nonclinical health care services received by beneficiaries.

This report summarizes the review conducted by Health Services Advisory Group, Inc. (HSAG), of the *Improving the Penetration Rates for Children* PIP submitted by **Genesee County CMH**. HSAG based the PIP evaluation on Centers for Medicare & Medicaid Services (CMS) guidelines as outlined in the CMS publication, *Validating Performance Improvement Projects: A Protocol for Use in Conducting Medicaid External Quality Review Activities*, final protocol, Version 1.0, May 1, 2002 (CMS PIP Protocol). In this report, HSAG refers to "steps" when discussing the PIP validation process and the CMS Protocols for validating PIPs. HSAG refers to "activities" when discussing conducting a PIP and CMS Protocols for conducting PIPs based on the CMS publication, *Conducting Performance Improvement Projects: A Protocol for Use in Conducting Medicaid External Quality Review Activities*, final protocol, Version 1.0, May 1, 2002.

HSAG developed the PIP Summary Form in collaboration with the Michigan Department of Community Health (MDCH) to be consistent with CMS' established protocols for conducting PIPs and to assist the PIHPs in meeting compliance requirements. The PIHPs received the summary form to complete and submit to HSAG for review. The PIP Summary Form assists the PIHPs in documenting the processes undertaken in conducting the study.

The validation of a PIHP's PIP involves 10 steps. Each step consists of elements necessary for the successful completion of a valid PIP. Some of the elements are critical elements and must be *Met* to produce an accurate and reliable PIP. Given the importance of critical elements, any critical element that receives a *Not Met* score will result in a *Not Met* validation status.

Overview

This topic addressed CMS' requirements related to quality outcomes—specifically, quality of, and access to, care and services. The focus of the PIP was improving penetration rates for children with a serious emotional disturbance (SED), children with a developmental disability (DD), and children who have both an SED and a DD. **Genesee County CMH**'s study questions were as follows:

- "Will the interventions the PIHP enacts to improve the FY 08–09 penetration rates of Medicaid-eligible children with a SED result in achieving a rate of at least 22.60 per 1,000 or 2.26 percent?"
- "Will the interventions the PIHP enacts to improve the FY 08–09 penetration rates of Medicaid-eligible children with a DD result in achieving a rate of at least 1.11 per 1,000 or 0.111 percent?"

- ◆ "Will the interventions the PIHP enacts to improve the FY 08–09 penetration rates of Medicaid-eligible children with a SED and DD result in achieving a rate of at least 4.70 per 1,000 or 0.47 percent?"

Genesee County CMH's study indicators measured the following:

- ◆ Study Indicator 1: The percentage of Medicaid-eligible children diagnosed as having an SED who had at least one encounter.
- ◆ Study Indicator 2: The percentage of Medicaid-eligible children diagnosed as having a DD who had a least one encounter.
- ◆ Study Indicator 3: The percentage of Medicaid-eligible children diagnosed as having both a DD and an SED who had at least one encounter.

Conclusions

For this validation cycle, HSAG reviewed and evaluated eight steps. The percentage score for all evaluation elements *Met* was 75 percent, the percentage score for critical elements *Met* was 89 percent, and the overall validation status was *Not Met*.

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

Table 1-1—Performance Across all Steps		
Review Steps	**Total Number of Evaluation Elements *Met*/Total Number Applicable Evaluation Elements**	**Total Number of Critical Elements *Met*/Total Number of Applicable Critical Evaluation Elements**
I. Review the Selected Study Topic(s)	2/5	0/1
II. Review the Study Question(s)	2/2	2/2
III. Review the Selected Study Indicator(s)	4/4	3/3
IV. Review the Identified Study Population	2/3	2/2
V. Review Sampling Methods	0/0	0/0
VI. Review Data Collection Procedures	4/6	0/0
VII. Assess the Health Plan's Improvement Strategies	2/2	1/1
VIII. Review Data Analysis and the Interpretation of Study Results	2/2	0/0
IX. Assess for Real Improvement	Not Assessed	Not Assessed
X. Assess for Sustained Improvement	Not Assessed	Not Assessed

Overall Validity and Reliability of the Findings

Based on the validation of this PIP study, HSAG's assessment determined that the reported PIP results were not credible.

Strengths

Genesee County CMH's study topic addressed a broad spectrum of care and services, the study questions were answerable and stated the problem to be studied in simple terms, and the study indicators were well-defined, objective, and measurable. **Genesee County CMH** accurately defined the study population, and the interventions included system changes likely to induce permanent change.

Opportunities for Improvement

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

As the study progresses, **Genesee County CMH** should address all *Points of Clarification* and all *Partially Met* and *Not Met* scores as noted in the discussion that follows.

Step I: Review the Selected Study Topic(s)

MDCH selected the study topic, and the PIHP provided plan-specific data in Activity VII that supported the selection of the study topic as relevant to the PIHP. *Point of Clarification:* Future submissions should include plan-specific data in Activity I of the PIP Summary Form. Additionally, the PIHP should provide historical penetration rates in Activity I. If they are not available, this should be documented.

Activity I did not discuss the eligible population. Future submissions of the PIP should include a discussion about the eligible study population in Activity I of the PIP Summary Form. The PIHP should document whether all eligible populations that met the study criteria were included.

The PIP submission did not discuss beneficiaries with special health care needs. Future submissions of the PIP should document if beneficiaries with special health care needs were included in or excluded from the study.

The PIHP did not explain the link between the study topic and improved beneficiary health, functional status, or satisfaction. Future submissions should document how the PIP will affect beneficiary health and functional status in Activity I of the PIP Summary Form.

Step II: Review the Study Question(s)

The study questions stated the problem to be studied in simple terms. *Point of Clarification*: The PIHP's study questions were not identical to the MDCH-specified study questions. Future submissions should clarify that the penetration rate includes beneficiaries with at least one encounter. Additionally, the PIHP will need to update the study questions as the PIP progresses.

Step III: Review the Selected Study Indicator(s)

The study indicators were well-defined, objective, and measurable. *Point of Clarification:* The PIHP needs to clarify in Activity III of the PIP Summary Form that "served by the PIHP" was the same as "who have at least one PIHP reported encounter." Additionally, the PIHP specified that the benchmark was "significantly greater than FY 05-06." The benchmark should be reported as a percentage. The Baseline goals appeared to be for Remeasurement 1; however, they were based on the Baseline results. Future submissions should include goals for the measurement period subsequent to the most recently submitted measurement period.

Step IV: Review the Identified Study Population

The study population was accurately and completely defined. *Point of Clarification:* The information to score this evaluation element was located in the attached February 6, 2009, memorandum from MDCH. Future submissions should include this information in the Activity IV narrative.

The February 6, 2009, memorandum from MDCH indicated that the PIHP should state that continuous enrollment does not apply to this study; however, this information was not included in the PIP Summary Form. Future submissions should document that continuous enrollment does not apply to this study in Activity IV of the PIP submission.

Step VI: Review Data Collection Procedures

The PIHP identified the data elements. *Point of Clarification:* The information to score this evaluation element was in the attached February 6, 2009, memorandum from MDCH. The information should be documented in Activity VI of the PIP Summary Form. Additionally, the PIHP should describe the qualifications for an encounter. Do encounters only include face-to-face visits? This should be clarified.

The PIHP did not describe the process for collecting data for the study indicators. Future submissions should include a description of the systematic process for collecting data.

The PIHP reported the timeline for the Baseline and Remeasurement 1 periods. *Point of Clarification:* Future submissions should include the timelines for Baseline, Remeasurement 1, and Remeasurement 2 in Activities III and IX of the PIP Summary Form.

The PIP submission did not include an administrative data collection algorithm, a data flow chart, or a narrative description. Future submissions should include an administrative data collection algorithm, a data flow chart, or a narrative description that outlines all of the steps in the production of the study indicators.

Step VII: Assess Improvement Strategies

The interventions were related to causes/barriers identified through a quality improvement process. *Point of Clarification:* The interventions implemented in February 2009 appeared to be a part of causal/barrier analysis. Future submissions should clarify this.

Analysis of Results

The PIHP did not perform sampling. The entire eligible population was included.

Table 1-2—Summary of Results				
Study Indicator	Baseline Measurement		Remeasurement 1	
	Goal	Results	Goal	Results
Study Indicator 1: The percentage of Medicaid-eligible children diagnosed as having an SED who had at least one encounter during the measurement year.	NR	2.14%	2.26%	TBD
Study Indicator 2: The percentage of Medicaid-eligible children diagnosed as having a DD who had a least one encounter during the measurement year.	NR	0.08%	0.11%	TBD
Study Indicator 3: The percentage of Medicaid-eligible children diagnosed as having both a DD and an SED who had at least one encounter during the measurement year.	NR	0.41%	0.47%	TBD

The Baseline goals reported by the PIHP were based on Baseline data and appeared to be more appropriate for Remeasurement 1. The Baseline goals were considered Not Reported (NR) since goals for Baseline were not established before the collection of Baseline data. For the Baseline measurement from October 1, 2005, to September 30, 2006, the PIHP reported that 2.14 percent of Medicaid-eligibile children in the PIHP's service area diagnosed as having an SED had at least one PIHP-reported encounter (Study Indicator 1). For Remeasurement 1, the goal was to increase the rate of Study Indicator 1 to 2.26 percent. The PIHP reported that only 0.08 percent of Medicaid-eligible children diagnosed as having a developmental disability had at least one PIHP-reported encounter (Study Indicator 2) during Baseline from October 1, 2005, to September 30, 2006. For Remeasurement 1, the goal was to increase the rate of Study Indicator 2 to 0.11 percent. Additionally, the PIHP reported that only 0.41 percent of Medicaid-eligible children diagnosed as having a developmental disability and a serious emotional disturbance had at least one PIHP-reported encounter (Study Indicator 3). For Remeasurement 1, the goal was to increase the rate of Study Indicator 3 to 0.47 percent. Although the PIHP had not yet progressed to the point of collecting remeasurement data, the PIHP reported several interventions, including screenings at different sites, improving coding, increasing involved staff, and developing collaborative agreements with community partners.

Scoring Methodology

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

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

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

	Evaluation Elements	Scoring
C	1. The written study question is answerable.	☐ Met ☐ Partially Met ☐ Not Met ☐ NA

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

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

HSAG will provide technical assistance to help the PIHP understand CMS' Protocol and make necessary revisions to the PIP. For future submissions, the PIHP has an opportunity to submit a revised PIP Project Summary Form that includes additional information to address any *Points of Clarification* and any critical and noncritical areas scored as *Partially Met* or *Not Met*.

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

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

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

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

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

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

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

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

Scoring Methodology Examples

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

Example 1:

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

Example 2:

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

DEMOGRAPHIC INFORMATION

Health Plan Name:	Genesee County CMH		
Study Leader Name:	Jonathan Nigrine, MA, LLP	Title:	Manager, Outcomes & Data Analysis
Phone Number:	(810) 257-3767	E-mail Address:	jnigrine@GenCMH.org
Name of Project/Study:	Improving the Penetration Rates for Children		
Type of Study:	Nonclinical ☐ Collaborative ☐ HEDIS		
Date of Study:	10/1/2005 to 9/30/2011		
Type of Delivery System:	PIHP	Number of Medicaid Beneficiaries in PIHP:	1,831
		Number of Medicaid Beneficiaries in Study:	1,570
Year 1 Validation		Validated through Step: VIII	
Results:	Baseline		
Initial Submission Date:	2/13/2009 Validation Date:	3/11/2009	
Resubmission Date:	Validation Date:		

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
I. **Review the Selected Study Topic(s): Topics selected for the study should reflect the Medicaid-enrolled population in terms of demographic characteristics, prevalence of disease, and the potential consequences (risks) of disease. Topics could also address the need for a specific service. The goal of the project should be to improve processes and outcomes of health care. The topic may be specified by the State Medicaid agency or based on input from Medicaid beneficiaries. The study topic:**		
1. Reflects high-volume or high-risk condition.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	This was a nonclinical PIP topic.
2. Is selected following collection and analysis of data. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	MDCH selected the study topic and the PIHP provided plan-specific data in Activity VII that supported the selection of the study topic as relevant to the PIHP. Point of Clarification: Future submissions should include plan-specific data in Activity I of the PIP Summary Form. Additionally, the PIHP should provide historical penetration rates in Activity I. If they are not available, this should be documented.
3. Addresses a broad spectrum of care and services. The score for this element will be Met or Not Met.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study topic addressed a broad spectrum of care and services.
4. Includes all eligible populations that meet the study criteria. NA is not applicable to this element for scoring.	☐ Met ☐ Partially Met ☑ Not Met ☐ NA	The eligible population was not discussed in Activity I. Future submissions of the PIP should include a discussion about the eligible study population in Activity I of the PIP Summary Form. The PIHP should document whether all eligible populations that met the study criteria were included.
5. Does not exclude beneficiaries with special health care needs. The score for this element will be Met or Not Met.	☐ Met ☐ Partially Met ☑ Not Met ☐ NA	There was no discussion about beneficiaries with special health care needs. Future submissions of the PIP should document if beneficiaries with special health care needs were included or excluded from the study.

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

** Total Evaluation Elements includes critical elements.

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

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
I. **Review the Selected Study Topic(s): Topics selected for the study should reflect the Medicaid-enrolled population in terms of demographic characteristics, prevalence of disease, and the potential consequences (risks) of disease. Topics could also address the need for a specific service. The goal of the project should be to improve processes and outcomes of health care. The topic may be specified by the State Medicaid agency or based on input from Medicaid beneficiaries. The study topic:**		
C* 6. Has the potential to affect beneficiary health, functional status, or satisfaction. The score for this element will be Met or Not Met.	☐ Met ☐ Partially Met ☑ Not Met ☐ NA	The PIHP did not explain the link between the study topic and improved beneficiary health, functional status, or satisfaction. Future submissions should document how the PIP will affect beneficiary health and functional status in Activity I of the PIP Summary Form.

Results for Step I									
# of Total Evaluation Elements					**# of Critical Elements**				
Total Evaluation Elements**	Met	Partially Met	Not Met	Not Applicable	Critical Elements***	Met	Partially Met	Not Met	Not Applicable
6	2	0	3	1	1	0	0	1	0

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

** Total Evaluation Elements includes critical elements.

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

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
II. **Review the Study Question(s): Stating the study question(s) helps maintain the focus of the PIP and sets the framework for data collection, analysis, and interpretation. The study question:**		
C* 1. States the problem to be studied in simple terms. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study questions stated the problem to be studied in simple terms. Point of Clarification: The PIHP's study questions were not identical to the MDCH-specified study questions. Future submissions should clarify that the penetration rate includes beneficiaries with at least one encounter. Additionally, the PIHP will need to update the study questions as the PIP progresses.
C* 2. Is answerable. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study questions were answerable.

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

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

** Total Evaluation Elements includes critical elements.

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

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
III. **Review the Selected Study Indicator(s): A study indicator is a quantitative characteristic or variable that reflects a discrete event (e.g., an older adult has not received an influenza vaccination in the last 12 months) or a status (e.g., a beneficiary's blood pressure is or is not below a specified level) that is to be measured. The selected indicators should track performance or improvement over time. The indicators should be objective, clearly and unambiguously defined, and based on current clinical knowledge or health services research. The study indicators:**		
C* 1. Are well-defined, objective, and measurable. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study indicators were well-defined, objective, and measurable. Point of Clarification: The PIHP needs to clarify in Activity III of the PIP Summary Form that "served by the PIHP" was the same as "who have at least one PIHP reported encounter." Additionally, the PIHP specified that the benchmark was "significantly greater than FY 05-06." The benchmark should be reported as a percentage. The Baseline goals appeared to be for Remeasurement 1; however, they were based on the Baseline results. Future submissions should include goals for the subsequent measurement period of the most recently submitted measurement period.
2. Are based on current, evidence-based practice guidelines, pertinent peer-reviewed literature, or consensus expert panels.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	MDCH selected the study indicators.
C* 3. Allow for the study question to be answered. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study indicators allowed for the study questions to be answered.
4. Measure changes (outcomes) in health or functional status, beneficiary satisfaction, or valid process alternatives. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study indicators measured changes (outcomes) in valid process alternatives.

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

** Total Evaluation Elements includes critical elements.

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

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
III.	**Review the Selected Study Indicator(s): A study indicator is a quantitative characteristic or variable that reflects a discrete event (e.g., an older adult has not received an influenza vaccination in the last 12 months) or a status (e.g., a beneficiary's blood pressure is or is not below a specified level) that is to be measured. The selected indicators should track performance or improvement over time. The indicators should be objective, clearly and unambiguously defined, and based on current clinical knowledge or health services research. The study indicators:**	
C*	5. Have available data that can be collected on each indicator. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	Data were available for collection on the study indicators.
	6. Are nationally recognized measures, such as HEDIS technical specifications, when appropriate. The scoring for this element will be Met or NA.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	The study indicators were not nationally recognized measures.
	7. Includes the basis on which the indicator(s) was adopted, if internally developed.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	The study indicators were not internally developed.

Results for Step III									
# of Total Evaluation Elements					**# of Critical Elements**				
Total Evaluation Elements**	Met	Partially Met	Not Met	Not Applicable	Critical Elements***	Met	Partially Met	Not Met	Not Applicable
7	4	0	0	3	3	3	0	0	0

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

** Total Evaluation Elements includes critical elements.

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

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
IV. **Review the Identified Study Population: The selected topic should represent the entire eligible Medicaid-enrolled population, with systemwide measurement and improvement efforts to which the study indicators apply. The study population:**		
C* 1. Is accurately and completely defined. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study population was accurately and completely defined. Point of Clarification: The information to score this evaluation element was located in the attached February 6, 2009, memorandum from MDCH. Future submissions should include this information in the Activity IV narrative.
2. Includes requirements for the length of a beneficiary's enrollment in the PIHP.	☐ Met ☑ Partially Met ☐ Not Met ☐ NA	The February 6, 2009, memorandum from MDCH indicated the PIHP should state that continuous enrollment does not apply to this study; however, this information was not included in the PIP Summary Form. Future submissions should document that continuous enrollment does not apply to this study in Activity IV of the PIP submission.
C* 3. Captures all beneficiaries to whom the study question applies. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The study population captured all beneficiaries to whom the study questions applied.

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

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

** Total Evaluation Elements includes critical elements.

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

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
V. **Review Sampling Methods: (This step is scored only if sampling is used.) If sampling is used to select beneficiaries of the study, proper sampling techniques are necessary to provide valid and reliable information on the quality of care provided. The true prevalence or incidence rate for the event in the population may not be known the first time a topic is studied. Sampling methods:**		
1. Consider and specify the true or estimated frequency of occurrence.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Sampling techniques were not used in this study.
2. Identify the sample size.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Sampling techniques were not used in this study.
3. Specify the confidence level.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Sampling techniques were not used in this study.
4. Specify the acceptable margin of error.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Sampling techniques were not used in this study.
C* 5. Ensure a representative sample of the eligible population.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Sampling techniques were not used in this study.
6. Are in accordance with generally accepted principles of research design and statistical analysis.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Sampling techniques were not used in this study.

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

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

** Total Evaluation Elements includes critical elements.

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

Section 3: **Michigan 2008-2009 PIP Validation Tool:**
Improving the Penetration Rates for Children
for Genesee County CMH

HSAG HEALTH SERVICES ADVISORY GROUP

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
VI. **Review Data Collection Procedures: Data collection must ensure that the data collected on the study indicators are valid and reliable. Validity is an indication of the accuracy of the information obtained. Reliability is an indication of the repeatability or reproducibility of a measurement. Data collection procedures include:**		
1. The identification of data elements to be collected. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The PIHP identified the data elements. Point of Clarification: The information to score this evaluation element was in the attached February 6, 2009, memorandum from MDCH. The information should be documented in Activity VI of the PIP Summary Form. Additionally, the PIHP should describe the qualifications for an encounter. Do encounters only include face-to-face visits? This should be clarified.
2. The identification of specified sources of data. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The source of data was identified.
3. A defined and systematic process for collecting Baseline and remeasurement data. NA is not applicable to this element for scoring.	☐ Met ☐ Partially Met ☑ Not Met ☐ NA	The process for collecting data for the study indicators was not described. Future submissions should include a description of the systematic process for collecting data.
4. A timeline for the collection of Baseline and remeasurement data. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The PIHP reported the timeline for the Baseline and Remeasurement 1 periods. Point of Clarification: Future submissions should include the timelines for Baseline, Remeasurement 1, and Remeasurement 2 in Activities III and IX of the PIP Summary Form.
5. Qualified staff and personnel to abstract manual data.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Manual data collection was not used for this PIP.

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

** Total Evaluation Elements includes critical elements.

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

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
VI.	**Review Data Collection Procedures: Data collection must ensure that the data collected on the study indicators are valid and reliable. Validity is an indication of the accuracy of the information obtained. Reliability is an indication of the repeatability or reproducibility of a measurement. Data collection procedures include:**	
C* 6. A manual data collection tool that ensures consistent and accurate collection of data according to indicator specifications.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Manual data collection was not used for this PIP.
7. A manual data collection tool that supports interrater reliability.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Manual data collection was not used for this PIP.
8. Clear and concise written instructions for completing the manual data collection tool.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Manual data collection was not used for this PIP.
9. An overview of the study in written instructions.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	Manual data collection was not used for this PIP.
10. Administrative data collection algorithms/flow charts that show activities in the production of indicators.	☐ Met ☐ Partially Met ☑ Not Met ☐ NA	An administrative data collection algorithm, a data flow chart, or a narrative description was not included. Future submissions should include an administrative data collection algorithm, a data flow chart, or a narrative description that outlines all of the steps in the production of the study indicators.
11. An estimated degree of administrative data completeness. Met = 80 - 100 percent Partially Met = 50 - 79 percent Not Met = <50 percent or not provided	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	Administrative data completeness was 100 percent and the PIHP provided supporting documentation for how the percentage was determined.

Results for Step VI									
# of Total Evaluation Elements					**# of Critical Elements**				
Total Evaluation Elements**	Met	Partially Met	Not Met	Not Applicable	Critical Elements***	Met	Partially Met	Not Met	Not Applicable
11	4	0	2	5	1	0	0	0	1

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

** Total Evaluation Elements includes critical elements.

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

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
VII. **Assess Improvement Strategies: Real, sustained improvements in care result from a continuous cycle of measuring and analyzing performance, as well as, developing and implementing systemwide improvements in care. Interventions are designed to change behavior at an institutional, practitioner, or beneficiary level. The improvement strategies are:**		
C* 1. Related to causes/barriers identified through data analysis and quality improvement processes. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The interventions were related to causes/barriers identified through a quality improvement process. Point of Clarification: The interventions implemented in February 2009 appeared to be a part of causal/barrier analysis. Future submissions should clarify this.
2. System changes that are likely to induce permanent change.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The interventions included system changes likely to induce permanent change.
3. Revised if the original interventions are not successful.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	The study was not to the point of revising interventions at the time of the evaluation.
4. Standardized and monitored if interventions are successful.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	The study was not to the point of standardizing and monitoring interventions at the time of the evaluation.

Results for Step VII								
# of Total Evaluation Elements					**# of Critical Elements**			
Total Evaluation Elements**	Met	Partially Met	Not Met	Not Applicable	Critical Elements***	Met	Partially Met	Not Met	Not Applicable
4	2	0	0	2	1	1	0	0	0

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

** Total Evaluation Elements includes critical elements.

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

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EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
VIII. **Review Data Analysis and Study Results: Review the data analysis process for the selected clinical or nonclinical study indicators. Review appropriateness of, and adherence to, the statistical analysis techniques used. The data analysis and interpretation of the study results:**		
C* 1. Are conducted according to the data analysis plan in the study design. NA is not applicable to this element for scoring.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	The PIHP explained that there was not sufficient time to complete the data analysis plan. Future submissions should document a data analysis plan that includes calculating the rate, comparison to goals, and statistical tests that will be used for comparisons. Data analysis should be completed according the plan outlined in the study.
C* 2. Allow for the generalization of results to the study population if a sample was selected. If sampling was not used, this element is scored NA.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	A sample was not selected.
3. Identify factors that threaten the internal or external validity of findings. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	Factors that threaten the validity of the study were identified.
4. Include an interpretation of findings. NA is not applicable to this element for scoring.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	The PIHP indicated that it did not have sufficient time. Future submissions should include an interpretation of the findings for each measurement period. The interpretation should include a narrative description of the rates and a comparison of the results to goals and additional measurement periods.
5. Are presented in a way that provides accurate, clear, and easily understood information. NA is not applicable to this element for scoring.	☑ Met ☐ Partially Met ☐ Not Met ☐ NA	The Baseline rates were provided in Activity IX of the PIP Summary Form. They were presented in an accurate, clear, and easily understood way.
6. Identify the initial measurement and the remeasurement of the study indicators.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	This was a Baseline study.

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

** Total Evaluation Elements includes critical elements.

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

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
VIII. **Review Data Analysis and Study Results: Review the data analysis process for the selected clinical or nonclinical study indicators. Review appropriateness of, and adherence to, the statistical analysis techniques used. The data analysis and interpretation of the study results:**		
7. Identify statistical differences between the initial measurement and the remeasurement.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	This was a Baseline study.
8. Identify factors that affect the ability to compare the initial measurement with the remeasurement.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	This was a Baseline study.
9. Include an interpretation of the extent to which the study was successful.	☐ Met ☐ Partially Met ☐ Not Met ☑ NA	This was a Baseline study.

Results for Step VIII									
# of Total Evaluation Elements					**# of Critical Elements**				
Total Evaluation Elements**	Met	Partially Met	Not Met	Not Applicable	Critical Elements***	Met	Partially Met	Not Met	Not Applicable
9	2	0	0	7	2	0	0	0	2

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

** Total Evaluation Elements includes critical elements.

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

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
IX.	**Assess for Real Improvement: Through repeated measurement of the quality indicators selected for the project, meaningful change in performance relative to the performance observed during baseline measurement must be demonstrated. Assess for any random, year-to-year variations, population changes, or sampling errors that may have occurred during the measurement process.**	
1. The remeasurement methodology is the same as the Baseline methodology.	☐ Met ☐ Partially Met ☐ Not Met ☐ NA	Not assessed. The study had not progressed to the point of assessing for real improvement.
2. There is documented improvement in processes or outcomes of care.	☐ Met ☐ Partially Met ☐ Not Met ☐ NA	Not assessed. The study had not progressed to the point of assessing for real improvement.
3. The improvement appears to be the result of planned intervention(s).	☐ Met ☐ Partially Met ☐ Not Met ☐ NA	Not assessed. The study had not progressed to the point of assessing for real improvement.
4. There is statistical evidence that observed improvement is true improvement.	☐ Met ☐ Partially Met ☐ Not Met ☐ NA	Not assessed. The study had not progressed to the point of assessing for real improvement.

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

** Total Evaluation Elements includes critical elements.

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

EVALUATION ELEMENTS	SCORING	COMMENTS
Performance Improvement Project/Health Care Study Evaluation		
X. **Assess for Sustained Improvement: Assess for any demonstrated improvement through repeated measurements over comparable time periods. Assess for any random, year-to-year variations, population changes, or sampling errors that may have occurred during the remeasurement process.**		
1. Repeated measurements over comparable time periods demonstrate sustained improvement, or that a decline in improvement is not statistically significant.	☐ Met ☐ Partially Met ☐ Not Met ☐ NA	Not assessed. Sustained improvement cannot be assessed until the study has a Baseline measurement and a minimum of two annual remeasurement periods of data.

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

** Total Evaluation Elements includes critical elements.

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

Table 3-1—2008-2009 PIP Validation Report Scores: Improving the Penetration Rates for Children for Genesee County CMH										
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. Review the Selected Study Topic(s)	6	2	0	3	1	1	0	0	1	0
II. Review the Study Question(s)	2	2	0	0	0	2	2	0	0	0
III. Review the Selected Study Indicator(s)	7	4	0	0	3	3	3	0	0	0
IV. Review the Identified Study Population	3	2	1	0	0	2	2	0	0	0
V. Review Sampling Methods	6	0	0	0	6	1	0	0	0	1
VI. Review Data Collection Procedures	11	4	0	2	5	1	0	0	0	1
VII. Assess Improvement Strategies	4	2	0	0	2	1	1	0	0	0
VIII. Review Data Analysis and Study Results	9	2	0	0	7	2	0	0	0	2
IX. Assess for Real Improvement	4		Not Assessed			0		No Critical Elements		
X. Assess for Sustained Improvement	1		Not Assessed			0		No Critical Elements		
Totals for All Steps	**53**	**18**	**1**	**5**	**24**	**13**	**8**	**0**	**1**	**4**

Table 3-2—2008-2009 PIP Validation Report Overall Scores: Improving the Penetration Rates for Children for Genesee County CMH	
Percentage Score of Evaluation Elements Met*	75%
Percentage Score of Critical Elements Met**	89%
Validation Status***	*Not Met*

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

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

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

Partially Met equals low confidence that the PIP was valid.

Not Met equals reported PIP results that were not credible.

EVALUATION OF THE OVERALL VALIDITY AND RELIABILITY OF PIP RESULTS
HSAG assessed the implications of the study's findings on the likely validity and reliability of the results based on CMS Validating Protocols. HSAG also assessed whether the State should have confidence in the reported PIP findings.
Met **= Confidence/high confidence in reported PIP results** *******Partially Met* **= Low confidence in reported PIP results** ********Not Met* **= Reported PIP results not credible**
Summary of Aggregate Validation Findings * ☐ *Met*   ** ☐ *Partially Met*   *** ☒ X *Not Met*
Summary statement on the validation findings: Steps I through VIII were assessed for this PIP Validation Report. Based on the validation of this PIP, HSAG's assessment determined the reported PIP results were not credible.

Introduction

The appendices consist of the documentation that supported the validation process conducted by HSAG using the CMS Protocol for validating PIPs. Appendix A provides the CMS rationale in reviewing each step, and Appendix B is a resource to help health plans understand the broad concepts in each activity. Appendix C is the PIP Summary Form **Genesee County CMH** submitted to HSAG for review. HSAG has not altered the content or made grammatical corrections. This appendix does not include any attachments provided with the PIP submission. New or altered information in the PIP Summary Form is dated and highlighted or in bold. Deleted information appears in strike-through font.

This section contains these appendices:

- Appendix A: CMS Validation Rationale by Step
- Appendix B: Definitions and Explanations by Activity
- Appendix C: **Genesee County CMH**'s Submitted PIP Summary Form for *Improving the Penetration Rates for Children*

CMS Validation Rationale

Step I. Review the Selected Study Topic(s)

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

Step II. Review the Study Question(s)

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

Step III. Review the Selected Study Indicator(s)

A study indicator is a quantitative or qualitative characteristic (variable) reflecting a discrete event (e.g., an older adult has/has not received an influenza vaccination in the last 12 months) or a status (e.g., a beneficiaries blood pressure is/is not below a specified level) that is to be measured.

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

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

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

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

Step IV. Review the Identified Study Population

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

Step V. Review Sampling Methods

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

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

Step VI. Review Data Collection Procedures

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

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

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

1. The key to successful manual data collection is in the selection of data collection staff. Appropriately qualified personnel with conceptual and organizational skills should be used to abstract the data; however, the specific skills should vary depending on the nature of the data collected and the degree of professional judgment required. For example, if data collection involves searching throughout the medical record to find and abstract information or judging whether clinical criteria were met, experienced clinical staff members, such as registered nurses, should collect the data. However, if the abstraction involves verifying the presence of a diagnostic test report, trained medical assistants or medical records clerks may be used.

2. Clear guidelines for obtaining and recording data should be established, especially if multiple reviewers are used to perform this activity. The PIHP should determine the necessary qualifications of the data collection staff before finalizing the data collection instrument. An abstractor would need fewer clinical skills if the data elements within the data source are more clearly defined. A glossary of defined terms for each project should be part of the training of abstractors to ensure consistent interpretation among project staff members.

3. The number of data collection staff members used for a given project affects the reliability of data. A smaller number of staff promotes interrater reliability; however, it may also increase the amount of time it takes to complete a task. Intrarater reliability (i.e., the reproducibility of judgments by the same abstractor at a different time) should also be considered (CMS PIP Validating Protocol, page 12).

Step VII. Assess Improvement Strategies

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

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

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

Step VIII. Review Data Analysis and Interpretation of Study Results

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

Step IX. Assess for Real Improvement

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

Step X. Assess for Sustained Improvement

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

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

Definitions	Explanations
Activity I. Choose the Study Topic	
Broad spectrum of care	◆ Clinical focus areas: includes prevention and care of acute and chronic conditions and high-volume/high-risk services. High-risk procedures may also be targeted (e.g., care received from specialized centers). ◆ Nonclinical areas: continuity or coordination of care provided from multiple providers and across multiple episodes of care (e.g., disease-specific or condition-specific care).
Eligible population	◆ Is defined as those beneficiaries who meet the study topic parameters and this information is documented in Step I.
Selected by the State	◆ If the study topic was selected by the State Medicaid agency, this information is included as part of the description under "Step I: Choose the Study Topic" in the PIP Validation Tool. The plans are required to provide documentation for each evaluation element even if the study topic was selected by the State.
Activity II. Define the Study Questions(s)	
Study question	◆ The question(s) directs and maintains the focus of the PIP and sets the framework for data collection, analysis, and interpretation. The question(s) must be measurable and clearly defined. The study question(s) must be in the x/y format: "Does doing X result in Y?" ◆ Examples: 1. Does educational outreach about immunizations increase the rates of immunizations for children 0–2 years of age? 2. Does increasing influenza immunizations for beneficiaries with chronic asthma impact overall health status? 3. Will increased planning and attention to follow-up after inpatient discharge improve the rate of mental health follow-up services?

Definitions	Explanations

Activity III. Select the Study Indicator(s)

Study indicator	◆ A quantitative or qualitative characteristic reflecting a discrete event or status that is to be measured. Indicators are used to track performance and improvement over time. ◆ Example: The percentage of enrolled beneficiaries who were 12–21 years of age who had at least one comprehensive well-care visit with a primary care practitioner or an obstetrician-gynecologist during the measurement year.
Sources identified	◆ Documentation/background information that supports the rationale for the study topic, study question, and indicators. ◆ Examples: HEDIS measures, medical community practice guidelines, evidence-based practices, or provider agreements. ◆ Practice guideline examples: American Academy of Pediatrics (AAP) or American Diabetes Association (ADA).

Activity IV. Use a Representative and Generalizable Study Population

Eligible population	◆ Refers to beneficiaries who are included in the study. ◆ Includes age, health conditions, enrollment criteria, and measurement periods. ◆ Example: The eligible population includes all children 0–2 years of age as of December 31 of the measurement period, with continuous enrollment and no more than one gap of 30 days or less in enrollment.

Activity V. Use Sound Sampling Methods

True or estimated frequency of occurrence	◆ This may not be known the first time a topic is studied. In this case, assume that a maximum sample size is needed to establish a statistically valid baseline for the study. HSAG will review whether the PIHP defined the impact the topic has on the population or the number of eligible beneficiaries in the population.
Sample size	◆ Indicates the size of the sample to be used.
Representative sample	◆ Refers to the sample reflecting the entire population.
Confidence level	◆ Statistical confidence is a numerical statement of the probable degree of certainty or accuracy of an estimate (e.g., a 95 percent level of confidence with a 5 percent margin of error).

Definitions	Explanations

Activity VI. Use Valid and Reliable Data Collection Procedures

Definitions	Explanations
Data elements	◆ Identification of data elements includes unambiguous definitions of data that will be collected (e.g., a description of the numerator/denominator, laboratory values).
Interrater reliability (IRR)	◆ The HSAG PIP Review Team evaluates if there is a tool, policy, and/or process in place to verify the accuracy of the data abstracted. Is there an over-read (IRR) process for the review of a minimum percentage of records? ◆ Examples: A policy that includes how IRR is tested, documentation of training, and instruments and tools used.
Algorithms	◆ The development of any systematic process that consists of an ordered sequence of steps. Each step depends on the outcome of the previous step. ◆ The HSAG PIP Review Team expects the PIHP to describe the process it used in data collection. What are the criteria (e.g., what Current Procedural Terminology (CPT) and/or source codes were used)?
Data completeness	◆ For the purposes of PIP scoring, data completeness refers to the degree of completeness of the administrative data (e.g., encounter data or claims data). Providers compensated by PIHPs on a fee-for-service basis are required to submit claims for reimbursement. However, providers generally have several months before they must submit the claim for reimbursement, and processing claims by the health plan may take several additional months, creating a claims lag. Providers paid on a capitated or salaried basis do not need to submit a claim to be paid, but they should provide encounter data for the visit. In this type of arrangement, some encounter data may not be submitted. ◆ PIPs that use administrative data need to ensure that the data has a high degree of completeness prior to its use. Evidence of data completeness levels may include claim processing lag reports, trending of provider submission rates, policies and procedures regarding timeliness requirements for claims and encounter data submission, encounter data submission studies, and comparison reports of claims/encounter data versus medical record review. Discussion in the PIP should focus on evidence of data completeness at the time the data was collected for use in identifying the population, sampling, and/or calculation of the study indicators. Statements such as, "Data completeness at the time of the data pull was estimated to be 97.8 percent based on claims lag reports (see attached Incurred But Not Reported report)," along with the attachment mentioned, usually (but not always) are sufficient evidence to demonstrate data completeness.

Definitions	Explanations
Activity VII. Include Improvement Strategies and Implement Interventions	
Causes and barriers	◆ Interventions for improvement are identified through evaluation or barrier analysis. If there is no improvement, what problem-solving processes are put into place to identify possible causes and proposed changes to implement solutions? ◆ It is expected that interventions associated with improvement of quality indicators will be system interventions.
Standardized	◆ If the interventions result in successful outcomes, the interventions should continue and the PIHP should monitor them to ensure that the outcomes remain. ◆ Examples: If the use of practice guidelines was a successful intervention, then the PIHP continues to use them. If mailers were a successful intervention, then the PIHP continues the mailings and monitors outcomes.
Activity VIII. Describe Data Analysis and Interpret Study Results	
Analysis plan	◆ Each study should have a plan for how data analysis will occur. ◆ The HSAG PIP Review Team will evaluate whether this plan was followed.
Generalization to the study population	◆ Study results can be applied to the general population with the premise that comparable results will occur.
Factors that threaten internal and external validity	◆ Did the analysis identify any factors (internal or external) that would threaten the validity of study results? ◆ Example: A change in record extraction (e.g., a vendor was hired or there were changes in the HEDIS methodology).
Presentation of data analysis	◆ Results should be presented in tables or graphs with measurement periods, results, and benchmarks clearly identified.
Identification of initial measurement and remeasurement of study indicators	◆ Clearly identify in the report which measurement period the indicator results reflect.
Statistical differences between initial measurement and remeasurement periods	◆ The HSAG PIP Review Team looks for evidence of a statistical test (e.g., Fisher's Exact or a Chi-square test).
Identification of the extent to which the study was successful	◆ The HSAG PIP Review Team looks for improvement over several measurement periods. ◆ Both interpretation and analysis should be based on continuous improvement philosophies, with the PIHP documenting data results and the follow-up steps that will be taken for improvement.

Definitions	Explanations
Activity IX. Report Improvement	
Remeasurement methodology is the same as baseline	◆ The HSAG PIP Review Team looks to see that the study methodology remains the same for the entire study.
Documented improvement in processes or outcomes of care	◆ The study report should document how interventions were successful in affecting system processes or outcomes. ◆ Examples: A change in data collection or a rate increase or decrease demonstrated in graphs/tables.
Activity X. Describe Sustained Improvement	
Sustained improvement	◆ The HSAG PIP Review Team looks to see if study improvements have been sustained over the course of the study. This needs to be demonstrated over a period of several (more than two) annual remeasurement periods.

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DEMOGRAPHIC INFORMATION

PIHP Name: Genesee County CMH

Study Leader Name: Jonathan Nigrine, MA, LLP   Title: Manager, Outcomes & Data Analysis

Telephone Number: (810) 257-3767   E-mail Address: jnigrine@GenCMH.org

Name of Project/Study: Improving the Penetration Rates for Children with Serious Emotional Disturbance, Children with a Developmental Disability, and Children who have both a Serious Emotional Disturbance, and a Developmental Disability

Type of Study: ☐ Clinical ☒ Nonclinical ☐ Collaborative ☐ HEDIS	**Section to be completed by HSAG** __X__ Year 1 Validation __X__ Initial Submission _____ Resubmission _____ Year 2 Validation _____ Initial Submission _____ Resubmission _____ Year 3 Validation _____ Initial Submission _____ Resubmission
Type of Delivery System: PIHP	__X__ Baseline Assessment _____ Remeasurement 1 _____ Remeasurement 2 _____ Remeasurement 3
Date of Study: 10/1/2005 (baseline period); 1/1/2009 (start of study activities) to 9/30/2011	
Number of Medicaid Beneficiaries Served by PIHP 1831 children, 7374 total in FY 2008	Year 1 validated through Step __VIII__ Year 2 validated through Step _____
Number of Medicaid Beneficiaries in Project/Study 1570 children served in FY 06; total 59595 Medicaid children in catchment area	Year 3 validated through Step _____
Submission Date: 2/13/2009	

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

Study topic:

Improving penetration rates for children with serious emotional disturbance (SED), children with a developmental disability (DD), and children who have both a serious emotional disturbance and a developmental disability (SED-DD). The topic was required by the Michigan Department of Community Health (MDCH).

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

Study question:

1. Will the interventions the PIHP enacts to improve the FY08-09 penetration rates of Medicaid eligible children with serious emotional disturbance result in achieving a rate of at least 22.60 per 1000, or 2.26%?

2. Will the interventions the PIHP enacts to improve the FY08-09 penetration rates of Medicaid eligible children with developmental disabilities result in achieving a rate of at least 1.11 per 1000, or 0.111%?

3. Will the interventions the PIHP enacts to improve the FY08-09 penetration rates of Medicaid eligible children with serious emotional disturbance and developmental disabilities result in achieving a rate of at least 4.70 per 1000, or 0.47%?

We initially wished to frame our questions based on requirements in our MDCH contract attachment P.7.0.2. However, this turned out not to be possible. First, no rates were specified in the attachment for children with DD or for those with SED and DD. (The contract attachment is provided as accompanying document *Attachment p.7.0.2.pdf.* See the highlighted sections on page 2.) This was presumably a result of the fact that the PIHP did not frame rates for these populations in our response to MDCH's initial request. The reason was that Genesee County CMH underwent a substantial change in how the DD designation was assigned in state reporting; the changes that ensued had an impact on the SED designation as well. Please see the accompanying document, *Explanation and analysis of changes in reporting the DD demographic element.pdf* for details.

Because two targets were not framed by MDCH, and the third is suspect due to the data issues identified in the *Explanation and analysis* document, we have chosen to select target rates using the same strategy with which we selected the rate for SED children that we initially proposed to MDCH (and which MDCH accepted). The strategy is to exceed the top of the 95% confidence interval for the current rate. We compute the interval using what Brown, Cai and DasGupta (2001) term the Wilson interval. This is an alternative to the standard binomial confidence interval that performs better near 0% and 100% (Brown et al., 2001) - which is the range in which our performance falls on these indicators. The use of the methods advocated by Brown *et al.* was found acceptable by HSAG in Genesee's PIP submission for 2008.

Based on consultation with HSAG (see *Summary of Genesee-HSAG consultation.pdf* for an email record of the issues discussed and decisions made), it was determined that, **in establishing baseline rates as well as targets, estimated values for the numerator should be substituted for the raw values.** The method for arriving at the new values is specified in *Explanation and analysis…*.

Per MDCH instructions, the denominator produced by the State-commissioned actuarial study, 59595, was used (see *Milliman letter 2007-06.pdf* for population values and *MDCH PIP memo 2009-02-06.pdf*, highlighted section page 2, for the instruction to use the same denominator in both baseline and remeasurement computations.

Reference: Brown, L.D., Cai, T.T., and DasGupta, A. (2001). Interval Estimation for a Binomial Proportion. *Statistical Science, 16*(2), 101-133.

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C. Activity III: Select the study indicator(s). A study indicator is a quantitative or qualitative characteristic or variable that reflects a discrete event (e.g., an older adult has not received an influenza vaccination in the last 12 months) or a status (e.g., a beneficiaries blood pressure is/is not below a specified level) that is to be measured. The selected indicators should track performance or improvement over time. The indicators should be objective, clearly and unambiguously defined, and based on current clinical knowledge or health services research.	
Study Indicator 1 : Penetration rate for SED children	**Describe the rationale for selection of the study indicator:** Required by MDCH.
Numerator: (no numeric value)	**Number of Medicaid-eligible children with SED served by the PIHP during FY 2008-2009.**
Denominator: (no numeric value)	**Number of Medicaid eligible children in Genesee County**
Baseline Measurement Period	**FY 2006 (10/1/2005-9/30/2006)**
Baseline Goal	**2.26% or 22.6 / 1000**
Remeasurement 1 Period	
Remeasurement 2 Period	
Benchmark	**Significantly greater than FY05-06 level (see B. Activity II for details)**
Source of Benchmark	**MDCH contract requirement, based on CMH-defined target.**
Study Indicator 2 : Penetration rate for DD children	**Describe the rationale for selection of the study indicator:** Required by MDCH.
Numerator: (no numeric value)	**Number of Medicaid-eligible children with DD served by the PIHP during FY 2008-2009.**
Denominator: (no numeric value)	**Number of Medicaid eligible children in Genesee County**
Baseline Measurement Period	**FY 2006 (10/1/2005-9/30/2006)**
Baseline Goal	**0.111 % or 1.11 / 1000**
Remeasurement 1 Period	
Remeasurement 2 Period	
Benchmark	**Significantly greater than FY05-06 level (see B. Activity II**
Source of Benchmark	**Determined in the same manner as the benchmark for indicator 1.**

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C. Activity III: Select the study indicator(s). A study indicator is a quantitative or qualitative characteristic or variable that reflects a discrete event (e.g., an older adult has not received an influenza vaccination in the last 12 months) or a status (e.g., a beneficiaries blood pressure is/is not below a specified level) that is to be measured. The selected indicators should track performance or improvement over time. The indicators should be objective, clearly and unambiguously defined, and based on current clinical knowledge or health services research.	

Study Indicator 3 : Penetration rate for dual SED-DD children	**Describe the rationale for selection of the study indicator:** Required by MDCH.
Numerator: (no numeric value)	**Number of Medicaid-eligible children with both SED and DD served by the PIHP during FY 2008-2009.**
Denominator: (no numeric value)	**Number of Medicaid eligible children in Genesee County**
Baseline Measurement Period	**FY 2006 (10/1/2005-9/30/2006)**
Baseline Goal	**0.47% or 4.70 / 1000**
Remeasurement 1 Period	
Remeasurement 2 Period	
Benchmark	**Significantly greater than FY05-06 level (see B. Activity II**
Source of Benchmark	**Determined in the same manner as the benchmark for indicator 1.**

Use this area to provide additional information. Discuss the guidelines used and the basis for each study indicator.   **For information on how the goals were determined, please see the narrative and associated documents referenced in section II.B. above.**

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

Study population:

The study population is all Medicaid eligible children who reside in Genesee County CMH's geographic catchment area. As represented in the denominator for each indicator, it has been defined by the Michigan Department of Community Health.

Given that the three indicators measure penetration for three distinct subpopulations (SED, DD, and dual SED-DD), it is assumed that the ratios of these subpopulations within the overall population do not change over time. Given that economic stresses in Genesee County are increasing over time, and therefore the case mix of Medicaid enrollees may be changing, the mix of SED, DD and SED-DD children in the population may not be stable over time. However, it is not realistically possible to measure any changes in these subpopulations, so the current method of comparing to the overall population is reasonable.

Also, MDCH has mandated the use of the FY 2006 population as the denominator for both the baseline and the follow-up measurement periods. It is not clear that Medicaid enrollment can be assumed to be steady over time, but we are following MDCH directives in this case (see *MDCH PIP memo 2009-02-06.pdf*, highlighted section page 2).

E. Activity V: Use sound sampling methods. If sampling is used to select beneficiaries of the study, proper sampling techniques are necessary to provide valid and reliable information on the quality of care provided. The true prevalence or incidence rate for the event in the population may not be known the first time a topic is studied.

Measure	Sample Error and Confidence Level	Sample Size	Population	Method for Determining Size (*Describe*)	Sampling Method (*Describe*)
N/A - The study population is all Medicaid eligible children who reside in Genesee County CMH's geographic catchment area.					

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

Data Sources

[ ] Hybrid (medical/treatment records and administrative)

[ ] Medical/Treatment Record Abstraction

    Record Type

      [ ] Outpatient

      [ ] Inpatient

      [ ] Other _____

    Other Requirements

      [ ] Data collection tool attached

      [ ] Data collection instructions attached

      [ ] Summary of data collection training attached

      [ ] IRR process and results attached

[ ] Other Data

  _____

  _____

  _____

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

  _____

  _____

  _____

  _____

[X] Administrative Data

    Data Source

      [X] Programmed pull from claims/encounters

      [ ] Complaint/appeal

      [ ] Pharmacy data

      [ ] Telephone service data /call center data

      [ ] Appointment/access data

      [ ] Delegated entity/vendor data _____

      [X] Other _State-reported demographic data file_____

    Other Requirements

      [ ] Data completeness assessment attached

      [ ] Coding verification process attached

[ ] Survey Data

    Fielding Method

      [ ] Personal interview

      [ ] Mail

      [ ] Phone with CATI script

      [ ] Phone with IVR

      [ ] Internet

      [ ] Other _____

    Other Requirements

      [ ] Number of waves _____

      [ ] Response rate _____

      [ ] Incentives used _____

F. Activity VIb: Determine the data collection cycle.	Determine the data analysis cycle.
[X] Once a year [ ] Twice a year [ ] Once a season [ ] Once a quarter [ ] Once a month [ ] Once a week [ ] Once a day [ ] Continuous [ ] Other (list and describe): The measure specified by MDCH is the penetration rate within the FY08-099 fiscal year. The entire year's worth of data must be collected before this can be analyzed.	[X] Once a year [ ] Once a season [ ] Once a quarter [ ] Once a month [ ] Continuous [ ] Other (list and describe): Analysis will depend on the data being present, and the data are available on an annual cycle, as noted at left.

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

Estimated percentage degree of administrative data completeness: _near 100____ percent (relative to data needed for the present study).

Describe the process used to determine data completeness and accuracy:

Our encounter data are very complete and accurate, per External Quality Review Performance Measure Validation findings, 2005-2009. For GCCMH source documentation, see, e.g. Genesee's 2009 ISCAT, page 25. It is extremely unlikely that any children served had no encounters submitted, which his how they would fail to be counted in the present study. Please see the accompanying document *Explanation and analysis of changes in reporting the DD demographic element.pdf* for a discussion of issues around the validity and reliability of children's assignment to the SED, DD, or dual SED-DD groups.

With respect to completeness, the eligibility categories are required to be entered in Genesee County CMH's information system. Thus, the data are present for every case. The SED and DD elements are also required MDCH demographic fields. Thus, any records submitted to MDCH without valid values will generate error returns. Where errors occur on data submission, our IT department follows up to ensure they are corrected.

There are concerns about the historical validity of Genesee's disability designation assignments. Beginning in FY 2009, tight criteria were issued to ensure definitions were being applied appropriately. See *MI-DD-SA memo.pdf* for a sample of the educational materials provided to ensure eligibility was coded correctly. Additional training was provided at provider and supervisor meetings.

Supporting documentation:

Please see HSAG documentation of Performance Measure Validation findings from 2005 through 2009, and *Explanation and analysis of changes in reporting the DD demographic element.pdf* .

See also *Genesee ISCAT 2009.pdf*, and the supporting data submitted to HSAG for Performance Measure Validation.

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G. Activity VIIa: Include improvement strategies (interventions for improvement as a result of analysis). List chronologically the interventions that have had the most impact on improving the measure. Describe only the interventions and provide quantitative details whenever possible (e.g., "Hired four customer service representatives" as opposed to "Hired customer service representatives"). Do not include intervention planning activities.

Date Implemented (MMYY)	Check if Ongoing	Interventions	Barriers That Interventions Address
10/2008	X	Adopt CAFAS-based eligibility determination in Access Center	Lack of standardization in eligibility determinations
12/2008	X	Create a new liaison position in the CMH Access Center to facilitate referrals from schools and other community settings.	Community stakeholders have identified difficulty in knowing how to make referrals, and in "handing off" cases to CMH.
1/2009	X	Implement screenings for children at the PIHP/CMH's children's center, rather than at the main building.	Poor follow-through from Access to services; adult-oriented screening setting that was uncomfortable for some children/families
1/2009	X	Begin screening children offsite two days per week, at Mott Children's Health Center	Mott is a major, grant-funded, stand-alone children's health provider with some outpatient mental health services. Referrals to CMH from Mott have not traditionally been frequent, possibly because of parents' and providers' tendency to look within Mott's own system for all services.
1/2009	X	Improve coding of referral sources in the Access Center	Analysis of referral data showed a misunderstanding by clerical staff led to data that were not useful. Accurate coding will allow us to better identify and target potential referral sources, and referral sources from which consumers are less likely to make it to the screening - and then create interventions to address issues identified.
1/2009	X	Develop collaborative agreements to facilitate referrals from community partners	(1) The perception that it is difficult to refer to CMH; (2) families' difficulty in following through to CMH based on a community stakeholder's suggestion.
2/2009		Identify and address reasons for difficulty in completing services through data analysis, record reviews, and/or consumer interviews.	A large number of consumers leave care prematurely, and successful completion of service is associated with longer LOS. In many cases, cases with successful outcomes remain in care longer than a year. So, low penetration rate may also, in part, reflect premature discharge from care.
2/2009		Study patterns of no-shows, failures to connect from Access to providers, and early terminations, to determine how to better enhance families' follow-through with services	Difficulty in following through with services, and a system that requires multiple steps in accessing services.

G. Activity VIIa: Include improvement strategies (interventions for improvement as a result of analysis). List chronologically the interventions that have had the most impact on improving the measure. Describe only the interventions and provide quantitative details whenever possible (e.g., "Hired four customer service representatives" as opposed to "Hired customer service representatives"). Do not include intervention planning activities.

Date Implemented (MMYY)	Check if Ongoing	Interventions	Barriers That Interventions Address
2/2009		Study ways to facilitate cross-referrals into the SED-DD network from the Substance Abuse Coordinating Agency	Given that both the SED-DD network and the SACA fall under the PIHP's umbrella, there may be ways to facilitate referrals that will be more effective than for other community agencies.

Describe the process used for the casual/barrier analyses that led to the development of the interventions:

The PIHP has been monitoring children's access issues for several years. The PIP committee developed the attached Ishiwaka ("fishbone") diagram (*Genesee causal analysis 2009-01.pdf*) to document causes of poor penetration. As the project is just beginning, we have not implemented several analyses and interventions that flow from our analysis. A number of *ad hoc* analyses were conducted to test the hypotheses the committee generated. Two of the most salient findings driving current interventions are the following:

- Of child cases leaving care in FY 08, 53% had discharge coded for one of the following reasons: withdrew/unable to contact; does not wish to continue; planned transfer but did not continue services. D/c reason "accomplished goals" was associated with longest mean LOS, at 519 days

- In FY 08, 53% of scheduled Access appointments for children led to a service being provided at Access. Of 941 distinct children scheduled with Access in FY 08, 551 (59%) wound up receiving an Access service at some point during the FY.

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

Describe interventions:

Baseline to Remeasurement 1:

 (These will be summarized in the report submitted that includes Remeasurement 1).

Remeasurement 1 to Remeasurement 2:

Remeasurement 2 to Remeasurement 3:

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

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

Please see below.

Baseline Measurement:

MDCH produced its final baseline figures on Feb. 6. Because Genesee has additional measurement issues, we will need to recompute the numbers. In the week since the data were produced, we have not yet been able to duplicate MDCH's baseline figures exactly. We received raw data for comparison, to allow us to debug our reporting, only the afternoon of Feb. 11, two days before this document is due.

Given these issues, we have based our baseline measures on locally-produced data. Values may change slightly in subsequent reports, because our query methodology will have been adapted to match MDCH's exactly. See our response to Activity II and *Explanation and analysis of changes in reporting the DD demographic element.pdf* for details of the issues.

The denominator represents the MDCH-supplied number of Medicaid children in Genesee County, the PIHP's catchment area. The numerators for the three indicators are the number of children with SED, DD, and SED-DD served during Fiscal 2006, adjusted with the algorithm described in the *Explanation and analysis* document, per the PIHP's consultation with HSAG (*Summary of Genesee-HSAG consultation.pdf*).

Baseline to Remeasurement 1:

Numerators will be computed for FY 2009 in the same way as for the baseline, except that no adjustment in eligibility group will be needed because we are confident eligibility is being assigned in a valid way at this point. The plan for each indicator is to compare the penetration rate with the criterion rate, obtained based on the baseline rate, using the Wilson method (Brown *et al.*, 2001) to determine the numerator required to achieve a significantly larger penetration rate.

Because concerns remain about the imperfect translation of FY06 categories to FY 09 categories, for heuristic purposes we will also compute the overall child penetration rate and determine whether it differs significantly from the baseline rate; since it represents the sum of the three individual rates, regardless of subpopulation assignment, it is not subject to the validity concerns the subpopulation measures are. Overall performance may provide clues to help interpret individual subpopulation findings. We will conduct and report additional *ad hoc* analyses to clarify other issues as suggested by the data.

Remeasurement 1 to Remeasurement 2:

Each remeasurement will be compared with the criteria set at baseline.

Remeasurement 2 to Remeasurement 3:

Each remeasurement will be compared with the criteria set at baseline.

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

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

Baseline Measurement:

As noted repeatedly above, issues regarding assignment to the three subpopulations may hinder our ability to interpret the findings. Detailed analysis of the impact will be completed based on the actual findings. Overall penetration rate, aggregating the three groups, will be examined to help understand our results and provide firm evidence regarding generalizability at least to the overall child population, if not to the SED, DD, and SED-DD subpopulations.

Baseline to Remeasurement 1:

Obviously, remeasurement 1 has not yet taken place. However, several issues are anticipated. First are the issues regarding assignment of cases to the disability designation groups.

Second, there are serious questions about the validity of any statistical analysis based on the methodology required by MDCH. The measure definitions used were implemented because they were required, and it was made clear that statistical analyses are expected. Based on statistical analysis, an inference could be made to the PIHP's expected performance over time, were valid statistical measure able to be used. However, using the period 1 denominator as the denominator in each subsequent measurement period is a violation of the assumption of independence, as well as producing a frankly incorrect penetration rate in each subsequent period. Alternative means of data analysis, e.g. χ^2, would not solve these problems; the issues are inherent to the use of the baseline denominator in all subsequent periods.

However, as a heuristic means of developing a target - e.g., a number substantially greater than the baseline number - the method remains useful. To the extent that repeated remeasurements demonstrate consistency, we may have more confidence in the observed performance. *Ad hoc* analyses supporting, e.g. changes in referral patterns or length of stay, may also help to provide confidence that meaningful system change has actually taken place.

The change in definition methodology for group membership, which has been discussed at length in this document and the attachment, *Explanation and analysis of changes in reporting the DD demographic element.pdf*, is likely to limit our ability to interpret and generalize the findings as they apply to the specific subpopulations.

Remeasurement 1 to Remeasurement 2:

N/A at this time.

Remeasurement 2 to Remeasurement 3:

N/A at this time.

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

Quantifiable Measure 1: Penetration rate for SED children

Time Period Measurement Covers	Baseline Project Indicator Measurement	Numerator	Denominator	Rate or Results	Industry Benchmark	Statistical Test Significance, and *p* value
10/1/2005-9/30/2006	*Baseline:*	1275	59595	2.14%	N/A	N/A
	Remeasurement 1					
	Remeasurement 2					
	Remeasurement 3					
	Remeasurement 4					
	Remeasurement 5					

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

N/A at baseline.

Quantifiable Measure 2: Penetration rate for DD children

Time Period Measurement Covers	Baseline Project Indicator Measurement	Numerator	Denominator	Rate or Results	Industry Benchmark	Statistical Test Significance, and *p* value
10/1/2005-9/30/2006	*Baseline:*	49	59595	0.082%	N/A	N/A
	Remeasurement 1					
	Remeasurement 2					
	Remeasurement 3					
	Remeasurement 4					
	Remeasurement 5					

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

N/A at baseline.

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

Quantifiable Measure 3: Penetration rate for dual SED-DD children

Time Period Measurement Covers	Baseline Project Indicator Measurement	Numerator	Denominator	Rate or Results	Industry Benchmark	Statistical Test Significance, and *p* value
10/1/2005-9/30/2006	*Baseline:*	246	59595	0.41%	N/A	N/A
	Remeasurement 1					
	Remeasurement 2					
	Remeasurement 3					
	Remeasurement 4					
	Remeasurement 5					

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

N/A at baseline.

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