Colorado Children's Health Insurance Program

Fiscal Year 2022–2023 PIP Validation Report

for

Kaiser Permanente Colorado

April 2023

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

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1. Executive Summary

The Code of Federal Regulations at 42 CFR Part 438—managed care regulations for the Medicaid program and Children's Health Insurance Program (CHIP), with revisions released May 6, 2016, effective July 1, 2017, and further revised on November 13, 2020, with an effective date of December 14, 2020—require states that contract with managed care health plans (health plans) to conduct an external quality review (EQR) of each contracting health plan. Health plans include managed care organizations (MCOs), prepaid inpatient health plans (PIHPs), primary care case management entities (PCCM entities), and prepaid ambulatory health plans (PAHPs). The regulations at 42 CFR §438.350 require that the EQR include analysis and evaluation by an external quality review organization (EQRO) of aggregated information related to healthcare quality, timeliness, and access. Health Services Advisory Group, Inc., (HSAG) serves as the EQRO for the State of Colorado, Department of Health Care Policy and Financing (the Department)— the agency responsible for the overall administration and monitoring of Colorado's Medicaid managed care program and Child Health Plan *Plus* (CHP+), Colorado's program to implement CHIP managed care. The Department contracts with five CHP+ MCOs across the State.

Pursuant to 42 CFR §457.1520, which requires states' CHIP managed care programs to participate in EQR, the Department required its CHP+ MCOs to conduct and submit performance improvement projects (PIPs) annually for validation by the State's EQRO. **Kaiser Permanente Colorado**, referred to in this report as **Kaiser**, an MCO, holds a contract with the State of Colorado for provision of medical and behavioral health (BH) services for the Department's CHP+ managed care program.

For fiscal year (FY) 2022–2023, the Department required health plans to conduct PIPs in accordance with 42 CFR §438.330(b)(1). In accordance with §438.330 (d), MCOs, PIHPs, PAHPs, and PCCM entities are required to have a quality program that (1) includes ongoing PIPs designed to have a favorable effect on health outcomes and beneficiary satisfaction and (2) focuses on clinical and/or nonclinical areas that involve the following:

Measuring performance using objective quality indicators

Implementing system interventions to achieve improvement in quality

Evaluating effectiveness of the interventions

Planning and initiating of activities for increasing or sustaining improvement

As one of the mandatory EQR activities required by 42 CFR §438.358(b)(1)(i), HSAG, as the State's EQRO, validated the PIPs through an independent review process. In its PIP evaluation and validation, HSAG used the Department of Health and Human Services, Centers for Medicare & Medicaid Services

(CMS) publication, *Protocol 1. Validation of Performance Improvement Projects: A Mandatory EQR-Related Activity,* October 2019.[1-1]

In July 2014, HSAG developed a new PIP framework based on a modified version of the Model for Improvement developed by Associates in Process Improvement and modified by the Institute for Healthcare Improvement.[1-2] The redesigned PIP methodology is intended to improve processes and outcomes of healthcare by way of continuous quality improvement (QI). The redesigned framework redirects MCOs to focus on small tests of change to determine which interventions have the greatest impact and can bring about real improvement. CMS agreed that given the pace of QI science development and the prolific use of Plan-Do-Study-Act (PDSA) cycles in modern improvement projects within healthcare settings, a new approach was needed and provided HSAG with approval to use this approach in all requesting states.

PIP Components and Process

The key concepts of the rapid-cycle PIP framework include forming a PIP team, setting aims, establishing a measure, determining interventions, testing interventions, and spreading successful changes. The core component of the approach involves testing changes on a small scale—using a series of PDSA cycles and applying rapid-cycle learning principles over the course of the improvement project to adjust intervention strategies—so that improvement can occur more efficiently and lead to long-term sustainability. The duration of rapid-cycle PIPs is approximately 18 months, from the initial Module 1 submission date to the end of intervention testing.

There are four modules with an accompanying reference guide for the MCOs to use to document their PIPs. Prior to issuing each module, HSAG held module-specific trainings with the MCOs to educate them about the documentation requirements and use of specific QI tools for each of the modules. The four modules are defined below:

- **Module 1—PIP Initiation:** Module 1 outlines the framework for the project. The framework includes building a PIP team, describing the PIP topic, and narrowed focus, and providing the rationale and supporting data for the selected narrowed focus. In Module 1, the narrowed focus baseline data collection specifications and methodology are defined, and the MCO sets aims (Global and SMART), completes a key driver diagram, and sets up the SMART Aim run chart for objectively tracking progress toward improvement for the duration of the project.

[1-1] Department of Health and Human Services, Centers for Medicare & Medicaid Services. *Protocol 1. Validation of Performance Improvement Projects (PIPs): A Mandatory EQR-Related Activity*, October 2019. Available at: https://www.medicaid.gov/medicaid/quality-of-care/downloads/2019-eqr-protocols.pdf. Accessed on: Feb 27, 2023.

[1-2] Langley GL, Moen R, Nolan KM, Nolan TW, Norman CL, Provost LP. *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance* (2nd edition). San Francisco: Jossey-Bass Publishers; 2009. Available at: http://www.ihi.org/resources/Pages/HowtoImprove/default.aspx. Accessed on: Feb 27, 2023.

- **Module 2—Intervention Determination:** In Module 2, there is increased focus on the QI activities reasonably expected to impact the SMART Aim. The MCO updates the key driver diagram from Module 1 after completing process mapping, failure modes and effects analysis (FMEA), and failure mode priority ranking, for a more in-depth understanding of the improvement strategies that are most likely to support achievement of the SMART Aim goal.
- **Module 3—Intervention Testing:** In Module 3, the MCO defines the intervention plan for the intervention to be tested, and the intervention effectiveness measure and data collection process are defined. The MCO will test interventions using thoughtful incremental PDSA cycles and complete PDSA worksheets.
- **Module 4—PIP Conclusions:** In Module 4, the MCO summarizes key findings, compares successful and unsuccessful interventions, and reports outcomes achieved. The MCO will synthesize data collection results, information gathered, and lessons learned to document the impact of the PIP and to consider how demonstrated improvement can be shared and used as a foundation for further improvement after the project ends.

PIP Terms

SMART (Specific, Measurable, Attainable, Relevant, Time-bound) Aim directly measures the PIP's outcome by answering the following: *How much improvement, to what, for whom, and by when?*

Key Driver Diagram is a tool used to conceptualize a shared vision of the theory of change in the system. It enables the MCO's team to focus on the influences in cause-and-effect relationships in complex systems.

FMEA (Failure Modes and Effects Analysis) is a systematic, proactive method for evaluating processes that helps to identify where and how a process is failing or might fail in the future. FMEA is useful to pinpoint specific steps most likely to affect the overall process, so that interventions may have the desired impact on PIP outcomes.

PDSA (Plan-Do-Study-Act) cycle follows a systematic series of steps for gaining knowledge about how to improve a process or an outcome.

Approach to Validation

The goal of HSAG's PIP validation and scoring methodology is to ensure that the Department and key stakeholders can have confidence that the health plan executed a methodologically sound improvement project, and any reported improvement can be reasonably linked to the QI strategies and activities conducted by the health plan during the PIP. HSAG obtained the data needed to conduct the PIP validation from **Kaiser**'s module submission forms. In FY 2022–2023, these forms provided detailed information about **Kaiser**'s PIP and the activities completed in Module 4. (See Appendix A. Module Submission Form.) Following HSAG's rapid-cycle PIP process, each health plan submitted Module 4 according to the approved timeline. HSAG provided scores and feedback and assigned a level of confidence to the PIP in the Module 4 validation tool. If a PIP received less than *High Confidence* on initial review, the health plan had an opportunity to receive technical assistance from HSAG and to complete a single Module 4 resubmission to address the initial validation findings.

Validation Scoring

During validation, HSAG determines if criteria for each module are *Met.* Any validation criteria not applicable (*N/A*) were not scored. At the completion of Module 4, HSAG uses the validation findings from modules 1 through 4 to determine a level of confidence representing the validity and reliability of the PIP. Using a standardized scoring methodology, HSAG will assign a level of confidence.

- ***High confidence*** = The PIP was methodologically sound; the SMART Aim goals, statistically significant, clinically significant, or programmatically significant improvements were achieved for both measures; at least one tested intervention for each measure could reasonably result in the demonstrated improvement; and the MCO accurately summarized the key findings and conclusions.
- ***Moderate confidence*** = The PIP was methodologically sound, at least one tested intervention could reasonably result in the demonstrated improvement, and at least one of the following occurred:

  ☐ The SMART Aim goal, statistically significant, clinically significant, or programmatically significant improvement was achieved *for only one measure,* and the MCO accurately summarized the key findings and conclusions.

  ☐ Non-statistically significant improvement in the SMART Aim measure was achieved *for at least one measure,* and the MCO accurately summarized the key findings and conclusions.

  ☐ The SMART Aim goal, statistically significant, non-statistically significant, clinically significant, or programmatically significant improvement was achieved *for at least one measure*; however, the MCO *did not* accurately summarize the key findings and conclusions.

- ***Low confidence*** = One of the following occurred:

  ☐ The PIP was methodologically sound. However, no improvement was achieved for either measure during the PIP. The SMART Aim goals *were not* met, statistically significant improvement *was not* demonstrated, non-statistically significant improvement *was not* demonstrated, significant clinical improvement *was not* demonstrated, and significant programmatic improvement *was not* demonstrated.

  ☐ The PIP was methodologically sound. The SMART Aim goal, statistically significant, non-statistically significant, clinically significant, or programmatically significant improvement was achieved *for at least one measure*; however, *none* of the tested interventions could reasonably result in the demonstrated improvement.

  ☐ The rolling 12-month data collection methodology was followed for only one of two SMART Aim measures for the duration of the PIP.

- ***No confidence*** = The SMART Aim measure methodology and/or approved rapid-cycle PIP methodology/process *was not* followed through the SMART Aim end date.

PIP Topic Selection

In FY 2022–2023, **Kaiser** submitted the following PIP topic for validation: *Depression Screening and Follow-Up After a Positive Depression Screen.*

Kaiser defined a Global Aim and SMART Aim for the PIP. The SMART Aim statement includes the narrowed population, the baseline rate, a set goal for the project, and the end date. HSAG provided the following parameters to the health plan for establishing the SMART Aim for the PIP:

- **S**pecific: The goal of the project: What is to be accomplished? Who will be involved or affected? Where will it take place?
- **M**easurable: The indicator to measure the goal: What measure will be used? What current data (i.e., count, percent, or rate) are available for that measure? How much increase or decrease in the indicator will demonstrate improvement?
- **A**ttainable: Rationale for setting the goal: Is the desired achievement based on a particular best practice/average score/benchmark? Is the goal attainable (not too low or too high)?
- **R**elevant: The goal addresses the problem to be improved.
- **T**ime-bound: The timeline for achieving the goal.

Table 1-1 includes the SMART Aim statements established by **Kaiser**.

Table 1-1—PIP Measures and SMART Aim Statements

PIP Measures	SMART Aim Statements
Depression Screening	By June 30, 2022, we will increase the percentage of all CHP+ members assigned to Westminster and Englewood medical office buildings (MOBs) between ages 12 and 17 years who are screened for depression annually from 14.22% to 25.00%. This will be achieved by utilizing key driver diagram interventions.*
Follow-Up After a Positive Depression Screen	By utilizing key driver diagram interventions within 30 days of a positive screen, KP will maintain performance at 90% or higher follow-up rates of all CHP+ members ages 12–17 years who screen positive for depression as we increase our rates of case identification through improved screening rates by June 30, 2022.

* HSAG approved revisions to the SMART Aim statement in October 2022.

2. Findings

Module 4: PIP Conclusions

In FY 2022–2023, **Kaiser** continued the *Depression Screening and Follow-Up After a Positive Depression Screen* PIP. The health plan completed Module 4, the final module of the rapid-cycle PIP process, during FY 2022–2023. HSAG reviewed and conducted the final validation on the initial Module 4 submission form.

The health plan's final Module 4 submission met all validation criteria. The PIP was methodologically sound, the PIP results demonstrated significant improvement, at least one of the interventions could reasonably result in the demonstrated improvement, and the health plan accurately summarized key findings and conclusions. Based on the validation findings, HSAG assigned the *Depression Screening and Follow-Up After a Positive Depression Screen* PIP a level of *High Confidence*. Below are summaries of key Module 4 validation findings. Complete validation criteria, scores, and feedback from HSAG are provided in Appendix B. Module Validation Tool.

SMART Aim Measure Results

HSAG analyzed **Kaiser**'s PIP data to draw conclusions about the health plan's QI efforts. Based on its review, HSAG determined the methodological validity of the PIP, and evaluated **Kaiser**'s success in achieving the SMART Aim goal and in demonstrating statistically, clinically, or programmatically significant improvement.

The final SMART Aim measure results for **Kaiser**'s PIP are presented in Table 2-1. HSAG used the reported SMART Aim measure data to determine whether the SMART Aim goal was achieved and whether statistically significant improvement over baseline results was demonstrated.

Table 2-1—SMART Aim Measure Results

SMART Aim Measure	Baseline Rate	SMART Aim Goal Rate	Highest Rate Achieved	Statistically Significant Improvement Achieved (Y/N)
Depression Screening				
The percentage of all CHP+ members assigned to Westminster and Englewood medical office buildings (MOBs) between ages 12 and 17 years who are screened for depression annually.	14.22%	25.00%	29.69%	Yes

SMART Aim Measure	Baseline Rate	SMART Aim Goal Rate	Highest Rate Achieved	Statistically Significant Improvement Achieved (Y/N)
Follow-Up After a Positive Depression Screen				
The 30-day follow-up rate for all CHP+ members ages 12–17 years who screen positive for depression.	100%	90% or greater	100%	*Not applicable*

To guide the project, **Kaiser** established goals of increasing the percentage of members 12 through 17 years of age who receive a depression screening during a well visit at the Englewood and Westminster MOBs from 14.22 percent to 25.00 percent and maintaining the percentage of those members who receive BH services within 30 days of screening positive for depression at 90 percent or higher through the SMART Aim end date of June 30, 2022. **Kaiser**'s reported SMART Aim measure results demonstrated that the *Depression Screening* goal was exceeded, with the highest rate achieved, 29.69 percent, representing a statistically significant increase of 15.47 percentage points above the baseline rate. Because **Kaiser**'s baseline performance rate on the *Follow-Up After a Positive Depression Screen* measure was 100 percent, it was not possible for the PIP to demonstrate statistically significant improvement in this measure; however, the SMART Aim measure results showed that the health plan maintained the 100 percent follow-up rate throughout the project. The health plan's final SMART Aim run chart and SMART Aim measure data are provided in Appendix A. Module Submission Form.

Intervention Testing Results

In addition to evaluating the SMART Aim measure results, HSAG also evaluated the PIP intervention testing results for demonstrating significant clinical and programmatic improvement. In Module 4, **Kaiser** completed and submitted PDSA worksheets to report final intervention testing results for the PIP. HSAG evaluated PDSA worksheet documentation for each intervention to determine whether the intervention evaluation results demonstrated significant clinical or programmatic improvement. Table 2-2 summarizes **Kaiser**'s interventions described in the Module 4 PDSA worksheets, any improvement demonstrated by the intervention evaluation results, and the final status of the intervention at the end of the project.

Table 2-2—Final Intervention Testing Results

Intervention Description	Type of Improvement Demonstrated by Intervention Evaluation Results	Final Intervention Status
Auto-assign the depression screening questionnaire at the time the well visit is scheduled and provide the member with a link to complete the depression screening form (Patient Health Questionnaire-2 or -9 [PHQ-2/PHQ-9]) electronically via secure email when the well visit appointment is scheduled and request that the member complete the form prior to attending the appointment.	Significant *programmatic* and *clinical* improvement for *Depression Screening*	Adopted

Intervention Description	Type of Improvement Demonstrated by Intervention Evaluation Results	Final Intervention Status
Provide the member with an electronic tablet to complete the depression screening form (PHQ-2/PHQ-9) at appointment check-in, with screening responses captured directly in the electronic health record (EHR) from the tablet.	Significant *programmatic* improvement for *Depression Screening*	Adopted
Update the after-visit summary for members who screen positive for depression to provide additional, easily accessible provider contact information and resources for obtaining virtual or in-person BH follow-up services.	Improvement in *Follow-Up After a Positive Depression Screen* was not applicable because there was no room for improvement in the measure	Adopted

Kaiser tested three system-focused interventions for the project: Two interventions focused on *Depression Screening*, and one intervention focused on *Follow-Up After a Positive Depression Screen*. For the auto-assignment of depression screening questionnaire intervention, the health plan reported intervention testing results that demonstrated significant programmatic improvement in the clinics' depression screening process and significant clinical improvement in the percentage of members screened for depression. The health plan chose to adopt the auto-assignment intervention in response to the strong testing results. For the electronic tablet depression screening during office visit intervention, the health plan reported testing results demonstrating significant programmatic improvement and increased efficiency in depression screening and well visit processes. For the after-visit summary intervention, the focus was on providing members with easier access to follow-up care after a positive depression screen. Although there was no room for improvement in the follow-up rate, the health plan has adopted the intervention and expects that the after-visit summary contributed to maintaining the 100 percent follow-up rate for members who screen positive for depression.

Lessons Learned

An important part of the QI process is to consider how the information gathered and lessons learned during the PIP can be applied in future improvement efforts. **Kaiser** reported successes, challenges, and lessons learned as part of the Module 4 submission.

Kaiser documented the following lessons learned from the *Depression Screening and Follow-Up After a Positive Depression Screen* PIPs:

- Providing alternative modes of depression screening, such as the electronic tablet for depression screening during an office visit, can help address disparities in care among member subgroups that do not have access to, or have not enrolled in, **Kaiser**'s web-based patient portal, kp.org.
- The electronic tablet for depression screening intervention allowed **Kaiser** to gain experience in using tablets to collect information from patients during office visits.

- The transition to a new Healthcare Effectiveness Data and Information Set (HEDIS®)[1-3] vendor during the project allowed the health plan to identify and correct a previous underreporting of depression screening for the HEDIS *Depression Screening and Follow-Up for Adolescents and Adults (DSF)* measure.
- **Kaiser**'s supplemental analysis of the *Follow-Up After a Positive Depression Screen* measure results identified that less than 5 percent of members in the denominator (three of 64) qualified for the numerator solely on the basis of filling a prescription for anti-depressant medication. Of the three members in this group, one member received follow-up care from a primary care provider at six weeks, and the other two members were enrolled in depression care management but did not attend a follow-up visit within 30 days of the positive depression screen.

[1-3] HEDIS® is a registered trademark of the National Committee for Quality Assurance (NCQA).

3. Conclusions and Recommendations

Conclusions

Kaiser developed a methodologically sound improvement project that met both State and federal requirements. The health plan tested three interventions using the required QI processes and tools. At the conclusion of the PIP, the health plan accurately reported results that demonstrated achievement of the SMART Aim goal for *Depression Screening and Follow-Up After a Positive Depression Screen*, statistically significant improvement over baseline performance in *Depression Screening*, and clinically and programmatically significant improvement in *Depression Screening* linked to the tested interventions. For the *Follow-Up After a Positive Depression Screen* measure, **Kaiser** maintained a rate of 100 percent throughout the project. Based on the validation findings, HSAG assigned a level of *High Confidence* to the *Depression Screening and Follow-Up After a Positive Depression Screen* PIP.

Recommendations

HSAG has the following recommendations:

- **Kaiser** should apply lessons learned and knowledge gained from its efforts and HSAG's feedback throughout the PIP to future PIPs and other QI activities.
- **Kaiser** should continue improvement efforts in the PIP topic areas, and for the successful interventions, consider spreading beyond the narrowed focus. The conclusion of a project should be used as a springboard for sustaining the improvement achieved and attaining new improvements.

Appendix A. Module Submission Form

Appendix A contains the Module Submission Form provided by the health plan.

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Performance Improvement Project (PIP)
Module 4 — PIP Conclusions Submission Form
Depression Screening and Follow–up After a Positive Depression Screen
for Kaiser Permanente

Managed Care Organization (MCO) Information	
MCO Name	Kaiser Permanente
PIP Title	*Depression Screening and Follow–up After a Positive Depression Screen*
Contact Name	Liz Chapman
Title	Contract Manager
Email Address	Elizabeth.Chapman@kp.org
Telephone Number	303-817-4379
Submission Date	10/21/2022
Resubmission Date (if applicable)	Not Applicable

Provide the following final documents with the Module 4 Submission

- Completed PDSA Worksheets

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Final SMART Aim Run Chart – *Depression Screening*

Instructions: In the space below, insert or attach the final SMART Aim run chart. Include the following:

- SMART Aim goal.
- Narrowed focus baseline percentage.
- Rolling 12-month measure data points for the duration of the PIP.
- Intervention markers to display how the timing of the interventions coincided with changes in the SMART Aim measure.

Important notes regarding interpretation of intervention start dates and changes to the depression screening SMART Aim measure:

- Due to the rolling 12-month look back period it can take several months before the cumulative impact of changes impacts the SMART Aim measure.
- At different points during the measurement period the 12-month look back period encompassed more or fewer months where utilization of medical services was heavily impacted by the Pandemic. This confounding effect overlays the impact of the PIP interventions.
- Depression rates are subject to seasonal variation as is screening in association with well visits (since a large proportion of pediatric well visits takes place during the late summer/early fall "sports physical season".
- The effect of implementing auto-assignment of depression-screening questionnaires that is triggered by the scheduling of an ***appointment*** has a (variably) delayed impact on screening that does not occur until the actual ***visit*** (or a few days before).

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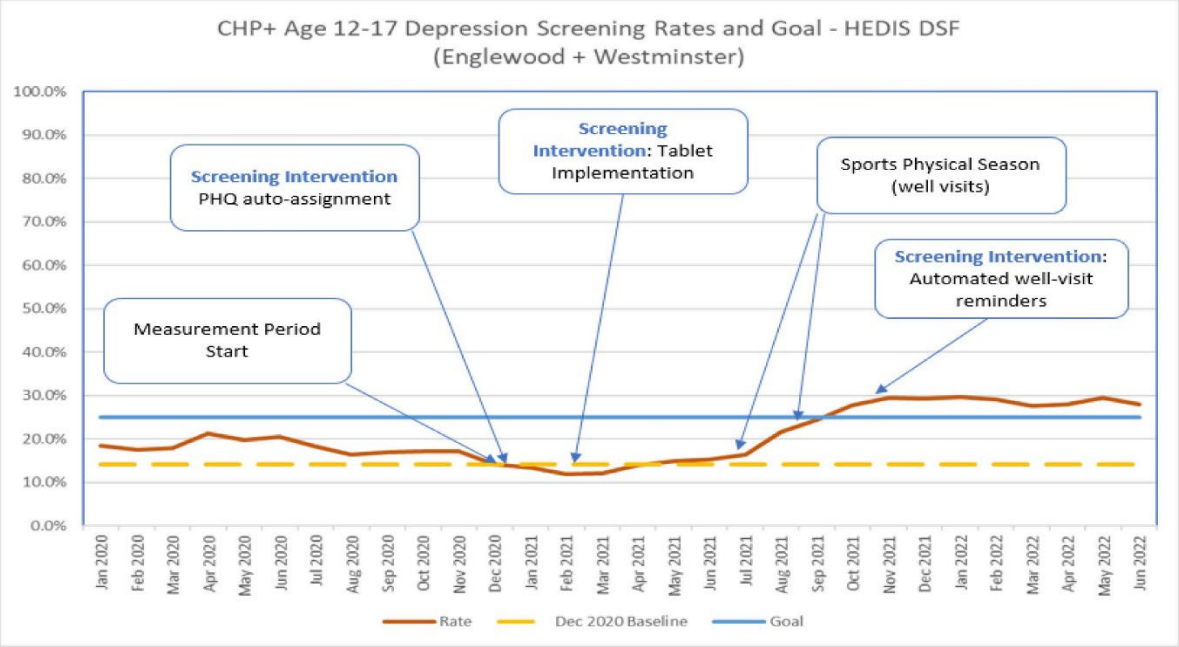

To confirm that the MCO used the 12-month methodology as required, check the box below.

ROLLING 12-MONTH ATTESTATION
☒ **The MCO confirms that the reported SMART Aim run chart data are based on rolling 12-month measurements.**

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Final Monthly SMART Aim Measure Data – *Depression Screening*

Table 1a—SMART Aim Measure Monthly Data - *Depression Screening*

SMART Aim rolling 12-Month Measurement Period (MM/DD/YYYY-MM/DD/YYYY)	Reporting Month	Numerator	Denominator	Percentage
02/01/2020-01/31/2021	Jan-21	30	223	13.45%
03/01/2020-02/28/2021	Feb-21	26	219	11.87%
04/01/2020-03/31/2021	Mar-21	28	230	12.17%
05/01/2020-04/30/2021	Apr-21	31	223	13.90%
06/01/2020-05/31/2021	May-21	33	222	14.86%
07/01/2020-06/30/2021	Jun-21	34	224	15.18%
08/01/2020-07/31/2021	Jul-21	36	221	16.29%
09/01/2020-08/31/2021	Aug-21	49	227	21.59%
10/01/2020-09/30/2021	Sep-21	57	233	24.46%
11/01/2020-10/31/2021	Oct-21	66	237	27.85%
12/01/2020-11/30/2021	Nov-21	68	231	29.44%
01/01/2021-12/31/2022	Dec-21	67	229	29.26%
02/01/2021-01/31/2022	Jan-22	68	229	29.69%
03/01/2021-02/28/2022	Feb-22	67	231	29.00%
04/01/2021-03/31/2022	Mar-22	63	229	27.51%
05/01/2021-04/30/2022	Apr-22	63	226	27.88%
06/01/2021-05/31/2022	May-22	66	224	29.46%
07/01/2021-06/30/2022	Jun-22	62	222	27.93%

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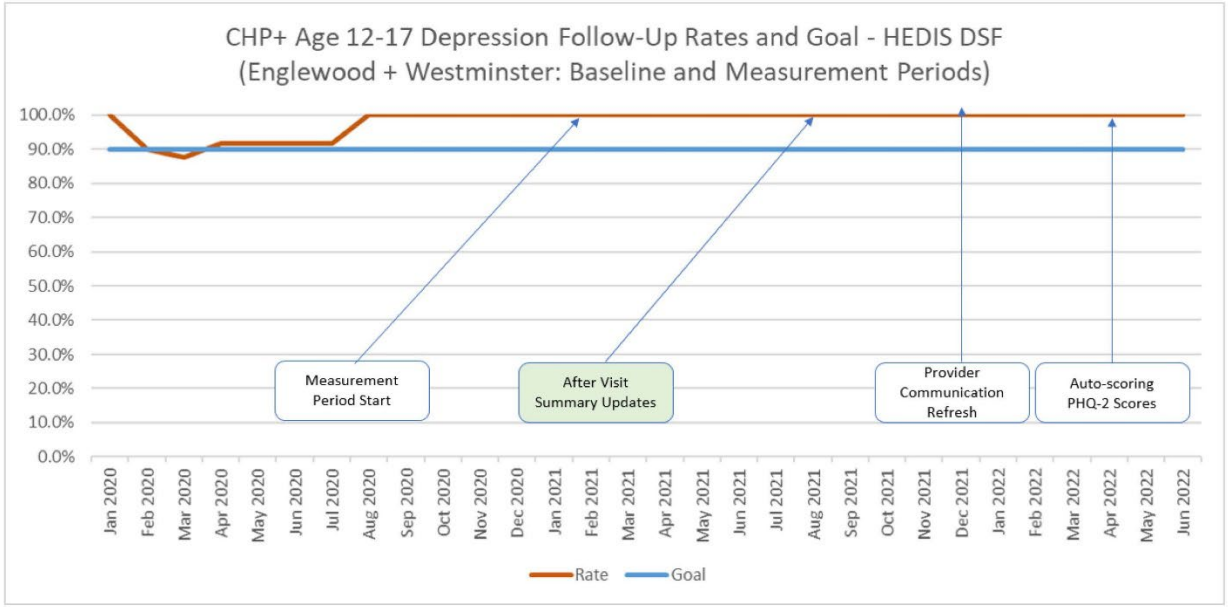
Final SMART Aim Run Chart – Follow–*up After a Positive Depression Screen*



ROLLING 12-MONTH ATTESTATION
☒ **The MCO confirms that the reported SMART Aim run chart data are based on rolling 12-month measurements.**

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Final Monthly SMART Aim Measure Data – *Follow–up After a Positive Depression Screen*

Table 1b—SMART Aim Measure Monthly Data - *Follow–up After a Positive Depression Screen*				
SMART Aim rolling 12-Month Measurement Period	**Reporting Month**	**Numerator**	**Denominator**	**Percentage**
02/01/2020-01/31/2021	Jan-21	8	8	100.00%
03/01/2020-02/28/2021	Feb-21	4	4	100.00%
04/01/2020-03/31/2021	Mar-21	4	4	100.00%
05/01/2020-04/30/2021	Apr-21	5	5	100.00%
06/01/2020-05/31/2021	May-21	5	5	100.00%
07/01/2020-06/30/2021	Jun-21	6	6	100.00%
08/01/2020-07/31/2021	Jul-21	8	8	100.00%
09/01/2020-08/31/2021	Aug-21	8	8	100.00%
10/01/2020-09/30/2021	Sep-21	10	10	100.00%
11/01/2020-10/31/2021	Oct-21	10	10	100.00%
12/01/2020-11/30/2021	Nov-21	10	10	100.00%
01/01/2021-12/31/2022	Dec-21	10	10	100.00%
02/01/2021-01/31/2022	Jan-22	11	11	100.00%
03/01/2021-02/28/2022	Feb-22	12	12	100.00%
04/01/2021-03/31/2022	Mar-22	12	12	100.00%
05/01/2021-04/30/2022	Apr-22	10	10	100.00%
06/01/2021-05/31/2022	May-22	12	12	100.00%
07/01/2021-06/30/2022	Jun-22	8	8	100.00%

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Final Key Driver Diagrams

Instructions: In the space below, provide the updated final key driver diagrams. The MCO must use the following color-coding system in the final key driver diagrams. The MCO should ensure that one key driver diagram is provided for each outcome: ***Depression Screening*** and ***Follow–up After a Positive Depression Screen***.

- Green highlight for successful adopted interventions.
- Yellow highlight for interventions that were adapted or not tested.
- Red highlight for interventions that were abandoned.
- Blue highlight for interventions that require continued testing.

[Attach the final Key Driver Diagram for *Depression Screening*]

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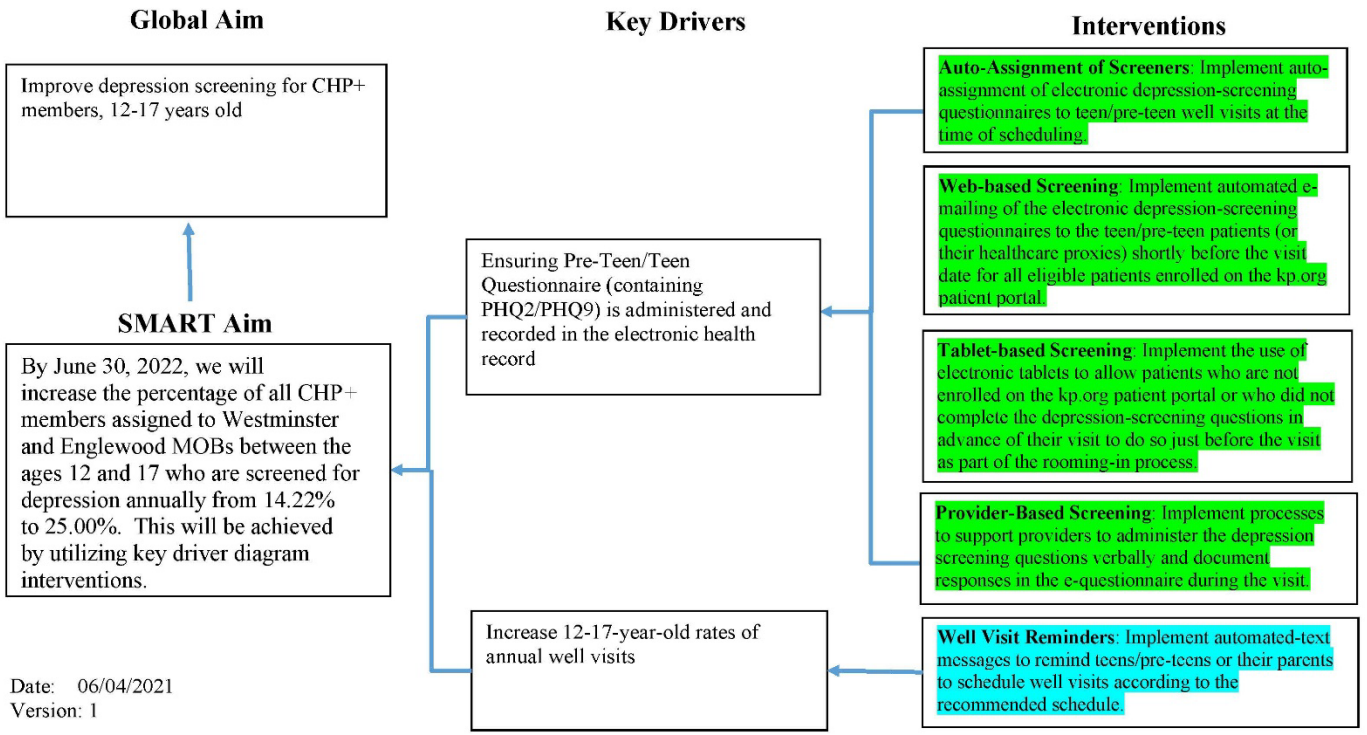

Date: 06/04/2021
Version: 1

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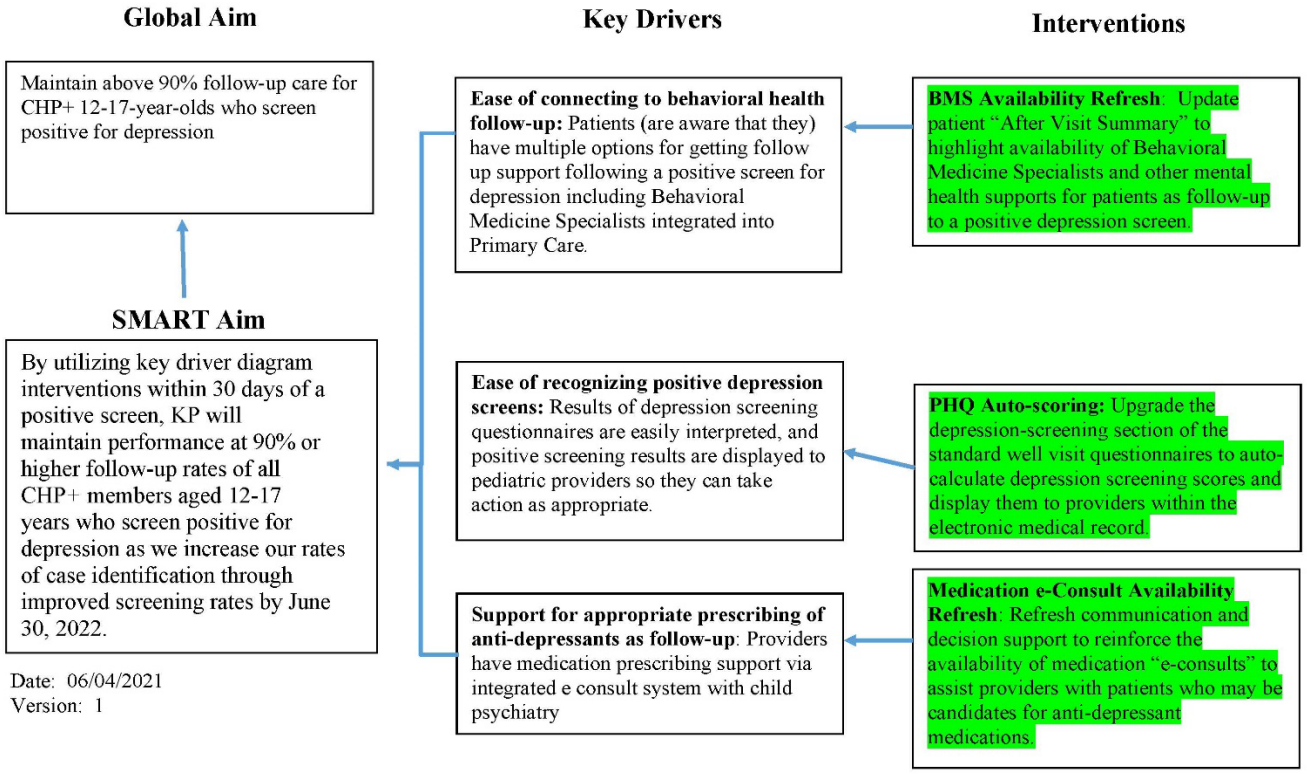
[Attach the final Key Driver Diagram for *Follow–up After a Positive Depression Screen*]



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Project Conclusions

Instructions: In Table 2a, for ***Depression Screening***, and in Table 2b, for ***Follow–up After a Positive Depression Screen***, provide a description of the following:

- **Project Conclusions**: The narrative should include whether the SMART Aim goal, statistically significant, clinically significant, or programmatically significant improvement was achieved and what led to the success of the project. If the SMART Aim goal was not achieved and statistically significant improvement in the SMART Aim measure was not achieved, the narrative should describe if there was any non-statistically significant improvement demonstrated by the SMART Aim measure. If the SMART Aim goal or significant improvement was *not* achieved, the narrative should explain why improvement was not achieved and include planned changes to address the lack of improvement in future improvement projects.
- **Intervention Testing Conclusions**: Describe the intervention(s) that had the greatest impact on the SMART Aim, why the MCO came to these conclusions, and how the timing of the intervention(s) related to changes in the SMART Aim measure rate. This narrative should align with the results of the PDSA cycle(s) detailed in the PDSA worksheet(s).
- **Spread of Successful Intervention(s)**: For successful intervention(s), the MCO will describe its plan for spreading the intervention(s) beyond the selected narrowed focus of the PIP.
- **Challenges Encountered**: Describe any challenges or barriers that occurred during the project and the MCO's actions to overcome or address the challenge(s) and/or barrier(s).
- **Lessons Learned/Information Gained**: Describe the knowledge and experience gained from the project. This information can prove to be highly valuable and be applied to future projects.
- **Sustainability of Improvement:** Below each table, provide a narrative description of plans for sustaining any improvement achieved beyond the SMART Aim end date.

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Table 2a—Project Conclusions – *Depression Screening*	
Project Conclusions	◆ Kaiser Permanente exceeded its SMART goal for depression screening by increasing the depression screening rate in the narrowed focus population from 14.22% to 27.93%, approximately three percentage points above the target. ◆ This improvement was statistically significant at the 99% confidence level for the narrowed population. ◆ Statistical significance is further supported by looking at the impact on the larger population of all patients (not just CHP+ patients) age 12-17 at the study sites. The screening rate in that population increased from 16.0% (514/3209) to 35.2% (1042/2963) over the same period in response to the same interventions. ◆ Kaiser Permanente also considers the changes to depression screening processes implemented as part of the PIP project to be clinically and programmatically significant since: **1.** Clinical Significance: Screening larger number of teens/pre-teens for depression will increase the number of cases of depression identified and treated. See Table 2b for supporting data. 2. Programmatic significance: Screening using automated processes frees staff and provider time to focus on patient care.
Intervention Testing Conclusions	◆ Kaiser Permanente believes the interventions with the greatest impact upon screening rates were: 1. Implementing automated e-mailing of the electronic depression-screening questionnaires to the teen/pre-teen patients (or their healthcare proxies) shortly before the visit date for all eligible patients enrolled on the kp.org patient portal; and **2.** Implementing the use of electronic tablets to allow patients who are not enrolled on the kp.org patient portal or who did not complete the

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	depression-screening questions in advance of their visit to do so just before the visit as part of the rooming-in process. ◆ Creating and auto assigning the electronic questionnaires was foundational. However, it was introducing these two new ways of getting the questionnaires into the hands of patients/caregivers themselves that made it possible to screen larger number of patients while minimizing impact upon time spent during the appointment itself. • Interviews with clinicians and medical office management confirmed providers' strong preference for having patients complete these questionnaires in advance rather than administering them verbally during the appointment • Improvement in screening rates started in Feb/March after both interventions sites had time to get used to the new workflows and after the lag between scheduling and attending appointments had run out. It then continue through Q2 and then accelerated in Q3 when the higher volume of well visits magnified the impact well-visit-linked screening
Spread of Successful Interventions	◆ Kaiser Permanente has already largely completed the spread of these two interventions (and the foundational innovation of auto-assigning electronic depression-screening questionnaires to well visits) beyond the selected narrowed focus population. • From the start this intervention was applied to all teen/pre-teen well visits at the study sites, regardless of the patients' insurance type. • Auto assignment of pediatric well visit questionnaires, to include embedded teen/pre-teen depression-screening questions is now standard at all KP locations in Colorado. The use of electronic tablets for administering these and other patient questionnaires has been extended to all pediatric and primary care departments in which teens receive well care.

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Challenges Encountered During Project	◆ Obtaining accurate real-time data for lead/process measures such as those below proved very challenging: • Number of depression-screens performed *in association with a well visit* • Screening modality (web-entered, table-entered, provider-entered) ◆ Our pediatric department was revising its well visit questionnaires during the early part of the measurement period. The teen and pre-teen questionnaires had the PHQ-2 embedded, with autoscoring in place to allow for those who screened positive on the PHQ-2 to have the PHQ-9 administered automatically in series with the initial teen or pre-teen questionnaire ◆ Our legacy system for calculating the DSF HEDIS measure was failing to pick up screening instances using some versions of the PHQ-2 questionnaire. (Note: this was addressed with revisions to modules 1 and 2 to update KP's baseline rate and SMART goals). ◆ Implementation of tablet-based screening workflows required a significant IT/funding/workflow effort. ◆ The outcome measure takes time to influence due to its 12-month look-back period. ◆ Seasonal variation in well visit volume coupled with the impact of the COVID-19 pandemic on healthcare utilization made it difficult to distinguish the impact of interventions from other confounding variables.
Lessons Learned/Information Gained Throughout the Project	◆ KP acquired significant additional experience with using tablets to collect information from patients during the "rooming-in process." ◆ KP identified that we were under-reporting our actual HEDIS performance on DSF due to the missed PHQ-2s referenced above (this was addressed as part of our transition to a new HEDIS vendor). ◆ Lower rates of kp.org patient portal enrollment in some groups makes implementation of alternative modes of screening important to avoid creating disparities in care.

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Sustainability of Improvement – *Depression Screening*

Instructions: In the space below, describe the MCO's plan for sustaining improvement achieved for ***Depression Screening*** beyond the SMART Aim end date.

KP has identified the following potential threats to sustaining the improvement achieved for depression screening:

- Generalized "questionnaire fatigue" among patients leading to lower rates of questionnaire completion.
  - KP will review the use of screening questionnaires across topics to ensure that:
    - patients are not re-screened more frequently than appropriate
    - screening questionnaires are combined, edited, or suppressed as appropriate to reduce duplicative screening
    - as needed, patient-messaging clarifies why patients are receiving questionnaires
- Provider resistance to using visit time to administer the provider-entered version of the depression screening questions.
  - KP will pursue strategies to maximize the completion of screening questionnaires on kp.org or on tablets to minimize the impact upon the provider visit.
- Low rates of kp.org patient portal enrollment in some populations
  - KP will continue to identify opportunities to promote kp.org enrollment (e.g., during onboarding encounters)
  - KP will continue to identify and work to mitigate barriers to kp.org enrollment (e.g., obtaining proxy access for parents or guardians requires extra steps when the parent or guardian is not a KP member on the same plan as the child)
- Fewer opportunities to screen for depression in patients who do not adhere to well-visit recommendations
  - KP will continue to test approaches to improving well visit adherence, including ongoing evaluation of the impact of well-visit text message reminders

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Table 2b—Project Conclusions – *Follow-up after a Positive Depression Screen*	
Project Conclusions	◆ The project's SMART Aim goal of maintaining the follow up after depression screening rate above 90% was achieved. ◆ Because both the baseline rate and the outcome rate were 100%, questions regarding the impact of the tested interventions (statistical significance, clinical significance, programmatic significance) are not applicable.
Intervention Testing Conclusions	◆ Since the follow-up rate started (and stayed at) 100% it was not improvable. Therefore, the question of which intervention was most impactful is less meaningful. However: ◆ Kaiser Permanente's assessment is that connection to Behavioral Medicine Specialists integrated into Primary Care is a key mechanism for ensuring follow-up after a positive depression screening and that therefore updating the patient "After Visit Summary" to ensure high levels of awareness regarding how to access this support are helpful in maintaining exceptional levels of performance on this measure.
Spread of Successful Interventions	◆ Since the follow-up rate started (and stayed at) 100% it was not improvable. Therefore, the question of which interventions were successful and should be spread is less meaningful. However: ◆ Kaiser Permanente has made the updated after visit summary highlighting depression supports available to all locations and insurance types.
Challenges Encountered During Project	◆ There were some challenges in engaging staff and providers in activities aimed at maintaining a performance measure already at 100%. For the most part, however, the interventions aimed at improving follow-up rates proceeded were implemented without issue.

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Table 2b—Project Conclusions – *Follow-up after a Positive Depression Screen*	
Lessons Learned/Information Gained Throughout the Project	◆ At the request of HCPF, Kaiser Permanente investigated the frequency with which patients in the follow-up denominator qualified for the numerator ***solely*** on the basis of filling a prescription for anti-depressant medication. ○ Of the 64 patients in the denominator for August 2022, 11 initially qualified for the numerator on the basis of a prescription fill. ○ Chart reviews of those 11 revealed that in the 30 days following the positive depression screen 8 of those 11 also met one or more other DSF criteria for appropriate follow-up. ○ Of the three that satisfied ***only*** the anti-depressant criterion, one had a 6-week follow-up with the PCP and the other two were enrolled in Kaiser Permanente's Depression Care Management but were not seen within 30 days (one missed an appointment, the other could not be reached, following several attempts). ○ Percent qualifying for inclusion in the HEDIS DSF numerator **solely** on the basis of an anti-depressant dispensing event: 3/64 = <5%.

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Sustainability of Improvement – *Follow–up after a Positive Depression Screen*

Instructions: In the space below, describe the MCO's plan for sustaining improvement achieved for ***Follow–up After a Positive Depression Screen*** beyond the SMART Aim end date.

KP has identified the following potential threats to sustaining the high levels of achievement previously-achieved for Follow–up After a Positive Depression Screen:

- Loss of staff or provider engagement in screening for depression if a positive impact on patient care is not made visible.
    - KP will look to data from a larger population than the narrowed focus population studied in this PIP to provide evidence that over time and accounting for seasonal variation and pandemic effects, more screening leads to more patients experiencing depression being identified and treated.

      For the narrowed focus population, the rolling 12-month numerators and denominators were 8 positive screens and 8 numerator-qualifying follow-ups for the first month of the measurement period (Jan 2021) and also for the final month (Jun 2022)… which is too few cases to make even a preliminary judgment as to the program's impact on increasing the number (as opposed to the percentage) of young patients receiving follow up for depression.

      However, even if we examine only the PIP study sites and measurement period, analyzing follow-up data for ***all*** patients (not just CHP+ patients) in the target age range shows an increase from 95/98 in Jan 2021 to 181/185 in June 2022…. which suggests that more patients do receive effective follow-up when this collection of interventions is in place.

Appendix B. Module Validation Tool

Appendix B contains the Module Validation Tool provided by HSAG.

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Criteria	Score	HSAG Feedback and Recommendations
1. The rolling 12-month data collection methodology was followed for the SMART Aim measures for the duration of the PIP.	☒ Met ☐ Partially Met ☐ Not Met ☐ Not Applicable	
2. The MCO provided evidence to demonstrate at least one of the following: ☒ The SMART Aim goal was achieved. ☒ Statistically significant improvement over the narrowed focus baseline percentage was achieved (95 percent confidence level, $p < 0.05$.) ☐ Non-statistically significant improvement in the SMART Aim measure. ☒ Significant *clinical* improvement in processes and outcomes. ☒ Significant *programmatic* improvement in processes and outcomes.	☒ Met ☐ Partially Met ☐ Not Met ☐ Not Applicable	For *Depression Screening*: • The SMART Aim goal was achieved. • Statistically significant improvement over baseline was achieved. • Significant *programmatic* and significant *clinical* improvement were demonstrated for the *Auto-Assignment of Depression Screening Questionnaire* intervention. • Significant *programmatic* improvement was demonstrated for the *Use of Electronic Tablets for Depression Screening Questionnaire* intervention. For *Follow-up After a Positive Depression Screen*: • The SMART Aim goal was achieved. • *Note:* It was not possible to demonstrate statistically significant improvement over baseline because the baseline percentage was 100%; however, the rate of 100% was maintained throughout the project.

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Criteria	Score	HSAG Feedback and Recommendations
3. If improvement, as outlined for Criterion 2, was demonstrated, at least one of the tested interventions could reasonably result in the demonstrated improvement.	☒ Met ☐ Partially Met ☐ Not Met ☐ Not Applicable	
4. The MCO completed the Plan-Do-Study-Act (PDSA) worksheets with accurately reported data and interpretation of testing results.	☒ Met ☐ Partially Met ☐ Not Met ☐ Not Applicable	
5. The narrative summaries of the project conclusions were complete and accurate.	☒ Met ☐ Partially Met ☐ Not Met ☐ Not Applicable	
6. If improvement, as outlined for Criterion 2, was demonstrated, the MCO documented plans for sustaining improvement beyond the SMART Aim end date.	☒ Met ☐ Partially Met ☐ Not Met ☐ Not Applicable	

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Based on the validation findings, HSAG determined the following confidence level for this PIP:

☒ **High confidence:** The PIP was methodologically sound, the SMART Aim goals, statistically significant, clinically significant, or programmatically significant improvements were achieved for both measures, at least one tested intervention for each measure could reasonably result in the demonstrated improvement, and the MCO accurately summarized the key findings and conclusions.

☐ **Moderate confidence:** The PIP was methodologically sound, at least one tested intervention could reasonably result in the demonstrated improvement, and at least one of the following occurred:

- ☐ The SMART Aim goal, statistically significant, clinically significant, or programmatically significant improvement was achieved *for only one measure* and the MCO accurately summarized the key findings and conclusions.
- ☐ Non-statistically significant improvement in the SMART Aim measure was achieved *for at least one measure* and the MCO accurately summarized the key findings and conclusions.
- ☐ The SMART Aim goal, statistically significant, non-statistically significant, clinically significant, or programmatically significant improvement was achieved *for at least one measure*; however, the MCO *did not* accurately summarize the key findings and conclusions.

☐ **Low confidence:** One of the following occurred:

- ☐ The PIP was methodologically sound. However, no improvement was achieved for either measure during the PIP. The SMART Aim goals *were not* met, statistically significant improvement *was not* demonstrated, non-statistically significant improvement *was not* demonstrated, significant clinical improvement *was not* demonstrated, and significant programmatic improvement *was not* demonstrated.
- ☐ The PIP was methodologically sound. The SMART Aim goal, statistically significant, non-statistically significant, clinically significant, or programmatically significant improvement was achieved *for at least one measure*; however, *none* of the tested interventions could reasonably result in the demonstrated improvement.
- ☐ The rolling 12-month data collection methodology was followed for only one of two SMART Aim measures for the duration of the PIP.

☐ **No confidence:** The SMART Aim measure methodology and/or approved rapid-cycle PIP methodology/process *was not* followed through the SMART Aim end date.

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Summary of Validation Findings:

HSAG assigned a level of *High Confidence* to the PIP based on the Module 4 submission form and PDSA worksheet documentation. The documentation demonstrated the following:
• Significant improvement achieved for both the *Depression Screening* and *Follow-up After a Positive Depression Screen* measures:
  ○ Both the SMART Aim goal and statistically significant improvement were achieved for *Depression Screening*. In addition, the health plan documented intervention testing results that supported significant *programmatic* improvement related to depression screening.
  ○ The SMART aim goal was achieved for *Follow-up After a Positive Depression Screening* and the health plan maintained a 100% follow-up care rate throughout the project.
• Interventions were carried out and evaluated according to the approved Module 3 plan and the health plan provided detailed intervention testing results, clear rationale for intervention or evaluation revisions, and detailed and insightful summaries of lessons learned from intervention testing.
• Clear, comprehensive, and accurate summaries of key findings and conclusions from the PDSA cycles and from the project, overall.