

PERFORMANCE IMPROVEMENT PROJECT (PIP) DEVELOPMENT & IMPLEMENTATION TOOL



BACKGROUND

All MHPs/DMC-ODSs are required to conduct performance improvement projects (PIPs) that focus on both clinical and nonclinical areas each year as a part of the plan's quality assessment and performance improvement (QAPI) program, per 42 C.F.R. §§ 438.330 and 457.1240(b).

A PIP is a project that is designed to achieve significant improvement, sustained over time, in health outcomes and enrollee satisfaction. It may be designed to change behavior at a member, provider, and/or MHP/DMC-ODS/system level.

Each PIP will be evaluated every year by CalEQRO. Although topic selection and explanation may cover more than one PIP year, every section will be reviewed and updated as needed to ensure continued relevance and to address changes to the study, including new interventions.

Annual updates to these documents by the MHP/DMC-ODS should be identified by a change in font color or use of track changes.

The CalEQRO PIP Development and Implementation Tool is comprised of the following nine steps:

Step 1: Identifying the PIP Topic

Step 2: Developing the Aim Statement

Step 3: Identifying the PIP Population

Step 4: Describing the Sampling Method

Step 5: Selecting the PIP Variables and Performance Measures

Step 6: Describing the Improvement Strategy (Intervention) and Implementation Plan

Step 7: Describing the Data Collection Procedures

Step 8: Describing the Data Analysis and Interpretation of PIP Results

Step 9: Address the Likelihood of Significant and Sustained Improvement Through the PIP

INSTRUCTIONS

This tool provides a structure for development and submission of PIPs. It is based on **EQR Protocol 1: Validation of Performance Improvement Projects (PIPs)**, as a mandatory protocol delivered by the Centers for Medicare & Medicaid Services (CMS) in October of 2019. These can be found here:

[CMS 2019 External Quality Review Protocols.](#)

Following this tool will help ensure that the MHP/DMC-ODS addresses all of the required elements of a PIP, from planning to submission to implementation. If the MHP/DMC-ODS uses another format, they must ensure that all required elements of the PIP are addressed and included in their submission.

For each step, CalEQRO has indicated:

- The section of the CMS EQR Protocol 1: Validation of Performance Improvement Projects (PIPs) that this step addresses.
- Brief description of the step and key terms.
- Questions/prompts that will help complete the step.
- Worksheets to complete as part of each step.

Please define all acronyms at time of first use in these documents.

STEP 1: IDENTIFYING THE PIP TOPIC

Step 1 corresponds to CMS PROTOCOL STEP 1 – Review the Selected PIP Topic.

The PIP should target improvement in either a clinical service or non-clinical process that directly impacts beneficiary health and/or functional status.

The topics should reflect high-volume or high-risk conditions of the population served. High-risk conditions may occur for infrequent conditions or services. High risk also exists for populations with special health care needs, such as children in foster care, adults with disabilities, and the homeless. Although these individuals may be small in number, their special health care needs place them at high risk. If the PIP addresses a high-impact or high-risk condition, the importance of addressing this type of issue must be detailed in the study narrative.

PIP topics may be selected based on enrollee input. The topic should address a significant portion of the enrollees (or a specified sub-portion of enrollees) and have the potential to significantly impact enrollee health, functional status, or satisfaction.

Recommended benchmarks include those defined by:

[CMS Priority areas](#) CMS Quality of Care

[Core Set of Children’s Health Care Quality Measures for Medicaid and the Children’s Health Insurance Program \(CHIP\)](#)

[Core Set of Health Care Quality Measures for Adults Enrolled in Medicaid \(Adult Core Set\)](#)



[Complete Worksheet 1: Drafting the PIP Topic](#)

STEP 2: DEVELOPING THE AIM STATEMENT

Step 2 corresponds to CMS PROTOCOL STEP 2 – Review the PIP AIM Statement

The PIP aim statement identifies the focus of the PIP and establishes the framework for data collection and analysis. The PIP aim statement should define the improvement strategy, population, and time period. It should be clear, concise, measurable, and answerable.

A PIP aim statement is clear, concise, measurable, and answerable if the statement specifies measurable variables and analytics for a defined improvement strategy, population, and time period. Potential sources of information to help form the PIP aim statement include:

- State data relevant to the topic being studied
- MHP/DMC-ODS data relevant to the topic being studied
- CMS Child and Adult Core Set performance measures
- Enrollee focus groups or surveys
- Clinical literatures on recommended care and external benchmarks.

CMS recommends that the aim of the PIP aligns with at least one of the [National Quality Strategies](#), although others may be considered.

CRITIQUE OF EXAMPLE PIP AIM STATEMENTS

	Example PIP aim statements	Critique
Poor PIP Aim Statement	Does the MCP adequately address psychological problems in patients recovering from myocardial infarction?	<ul style="list-style-type: none"> • The PIP intervention is not specified • It is unclear how impact will be measured • The population and time period are not clearly defined
Good PIP Aim Statement	Will the use of cognitive behavioral therapy in patients with depression and obesity improve depressive symptoms over a six-month period during 2017?	<ul style="list-style-type: none"> • Specifies the PIP intervention (cognitive behavioral therapy) • Defines the population (patients with depression and obesity) and time period (six-month period during 2017) • Specifies the measurable impact (improve depressive symptoms)

 [Complete Worksheet 2: Drafting the Aim Statement](#)

STEP 3: IDENTIFYING THE PIP POPULATION

Step 3 corresponds to CMS PROTOCOL STEP 3 – Review the Identified PIP Population.

In this step, the MHP/DMC-ODS identifies the population for the PIP in relation to the PIP aim statement (such as age, length of enrollment, frequency of service use, type of treatment, diagnoses, and/or other characteristics).

Depending on the nature of the PIP aim statement, PIP population, and available data, the PIP may include the entire population or a sample of the population. PIPs that rely on existing administrative data, such as claims and encounter data, registry data, or vital records, are typically based on the universe of the PIP population. PIPs that rely on either medical record review or the hybrid method (which uses a combination of administrative data and medical record review) typically include a representative sample of the identified population.

If a sample was used for the PIP, go to [Step 4](#).

If the entire population was studied, skip Step 4 and go to [Step 5](#).

If HEDIS® measures and sampling methodology are used, go to [Step 5](#).

 [Complete Worksheet 3: Identifying the PIP Population](#)

STEP 4: DESCRIBING THE SAMPLING METHOD

Step 4 corresponds to CMS PROTOCOL STEP 4 – Review the Sampling Method.

If the entire population of beneficiaries is being included in the PIP, there is no need to describe the sampling method.

General information about the use of sampling methods and the types of sampling methods to use to obtain valid and reliable information can be found in Appendix B (page 337) of the [CMS EQR Protocols](#).

A sampling frame is the list from which the sample is drawn. It includes the universe of members of the target PIP population, such as individuals, caregivers, households, encounters, providers, or other population units that are eligible to be included in the PIP. The completeness, recency, and accuracy of the sampling frame are key to the representativeness of the sample

If sampling methods are used, the documentation presented must include the appropriateness and validity of the sampling method; the type of sampling method used and why; and what subset of the beneficiary population was used. General information about the use of sampling methods and the types of sampling methods to use to obtain valid and reliable information can be found in Appendix B of the [CMS EQR Protocols](#).¹

 [Complete Worksheet 4: Describing the Sampling Plan](#)

¹ EQR Protocol: Appendix B: Sampling Approaches, October 2019, DHHS, Centers for Medicare & Medicaid Services (CMS), OMB Approval No. 0938-0786

STEP 5: SELECTING PIP VARIABLES AND PERFORMANCE MEASURES

Step 5 corresponds to CMS PROTOCOL STEP 5 – Review the Selected PIP Variables and Performance Measures.

A **variable** is a measurable characteristic, quality, trait, or behavior of an individual or process being studied. Variables in PIPs can take a variety of forms, as long as the selected variables identify the MHP/DMC-ODS performance on the PIP questions objectively and reliably and use clearly defined indicators of performance. When choosing variables, select ones that are best suited to the available data, resources, and PIP aim statement.

Consider variables for which there are existing performance measures. To the extent possible, CMS encourages MCPs to choose variables for PIPs that reflect health outcomes.

A **performance measure** is used to measure the outcomes. Performance measures monitor the performance of MHP/DMC-ODS at a point in time, to track performance over time and to inform the evaluation of quality improvement activities. For the purpose of the CMS protocol, outcomes are defined as changes in beneficiary health, functional status, satisfaction, or goal achievement that results from health care or supportive services. CMS encourages use of the [Behavioral Health Core Set](#), the Certified Community Behavioral Health Clinics (CCBHC) measures, the [Healthcare Effectiveness Data Information Set \(HEDIS\)](#), as well as measures developed by the Agency for Health Research and Quality (AHRQ), and the National Quality Forum (NQF) for behavioral health or for SUD the American Society of Addiction Medicine (ASAM).

Example 1: An MHP/DMC-ODS's goal is to decrease the use of acute behavioral health hospitalizations and ED visits. The intervention is use of preventive and primary care, and the independent variable used to measure the intervention is the number of preventive and primary care visits. The performance measure (dependent variable) is the number of hospitalizations and emergency department visits, which is used to measure the improvement rate. The required data are available monthly through the electronic health record.

Example 2: An MHP/DMC-ODS's goal is to decrease use of antipsychotic medication by adolescents. The intervention is use of first-line psychosocial care for adolescents, and the independent variable used to monitor implementation of the intervention is the number of visits in which use of first-line psychosocial care for adolescents is documented. The performance measure (dependent variable) is a measure of antipsychotic medication prescribed (this could be the # of prescriptions, # of adolescents who have it prescribed or decrease in dosages, for example). The dependent variable would depend on the goal, which is the data used to measure the improvement rate. The required data are available every month through the electronic health record.

Example 3: A DMC-ODS's goal is to decrease readmissions to withdrawal management by adults with opioid use disorders. The intervention is use of intensive outpatient and Medication Assisted Treatment (MAT) services, and the independent variable used to monitor implementation of the intervention is the number of intensive outpatient and MAT visits. The performance measure (dependent variable) is the number of readmissions. Data are available quarterly through the electronic health record.

Data availability should also be considered when selecting variables for PIPs, as more frequent access to data, such as on a monthly or quarterly basis, supports continuous quality improvement (CQI) and Plan Do Study Act (PDSA) efforts and can allow an MHP/DMC-ODS to correct or revise course more quickly, if needed.

When selecting performance measures for a PIP, the MHP/DMC-ODS should first consider established measures (MHP/DMC-ODS, DHCS, CMS, etc.) because the specifications for these measures often have been refined over time, may reflect current clinical guidance, and may have benchmarks for assessing MHP/DMC-ODS performance.

 [Complete Worksheet 5: Selecting PIP Variables and Performance Measures](#)

STEP 6: DESCRIBING THE IMPROVEMENT STRATEGY (INTERVENTION) & IMPLEMENTATION PLAN

Step 6 corresponds to CMS PROTOCOL STEP 8 – Assess the Improvement Strategies.

This step describes the improvement strategy (sometimes referred to as an intervention) and how it will be carried out. Selected strategies should be evidence-based; that is, there should be existing evidence (published or unpublished) suggesting that the test of change (performance measure) would likely lead to the desired improvement in processes or outcomes (as measured by the variables). The effectiveness of the improvement strategy is determined by measuring change in performance according to the predefined measures that were selected in Step 5.



[Complete Worksheet 6: Describe Improvement Strategy \(Intervention\) & Implementation Plan](#)

STEP 7: DESCRIBING DATA COLLECTION PROCEDURES

Step 7 corresponds to CMS PROTOCOL STEP 6 – Review the Data Collection Procedures.

In this step, the MHP/DMC-ODS identifies the data to be collected, including addressing the validity and reliability of the procedures used to collect the data that inform the PIP measurements.

Validity means that the data are measuring what is intended to be measured. Reliability means that the data are producing consistent results.

To ensure validity and reliability of the data collected as part of the PIP, the data collection plan should specify:

- The data sources for the PIP
- The data to be collected
- How and when the data are to be collected
- Frequency of data collection
- Who will collect the data
- Instruments used to collect the data

Data sources may include:

- Encounter and claims systems
- Medical records
- Case management or electronic visit verification systems
- Tracking logs
- Surveys
- Provider and/or enrollee interviews

This step may involve two main kinds of data collection: administrative data sources and medical record review. Procedures to collect data from administrative data systems will be different from procedures for visual inspection or abstraction of medical records or other primary source documents. However, both types of data collection require assurances that data are valid and reliable. CMS encourages the plans to utilize those data sources that they are able to collect data from on a regular basis (e.g., monthly, quarterly, and semi-annually):



[Complete Worksheet 7: Describing The Data Collection Procedures](#)

STEP 8: DESCRIBING THE DATA ANALYSIS AND INTERPRETATION OF PIP RESULTS

Step 8 corresponds to CMS PROTOCOL STEP 7 – Review the Data Analysis and Interpretation of PIP Results.

In this step, the MHP/DMC-ODS should describe the plan for data analysis and interpretation of PIP results. The data collection plan described in Step 7 should link to plan for data analysis.

The data analytic plan should be based on a CQI philosophy and reflect an understanding of lessons learned and opportunities for improvement. Interpretation of the PIP results should involve assessing the causes of less-than-optimal performance and collecting data to support the assessment.

The primary source for the assessment should be analytic reports of PIP results prepared by the MHP/DMC-ODS, including both baseline and repeat measurements of PIP outcomes. In addition, reasonable benchmarks should be included, where possible, such as state-level data, data from other counties, or industry benchmarks.

This protocol requires the analysis to assess the extent to which any change in performance is statistically significant; however, it does not specify a level of statistical significance that must be met. MHPs/DMC-ODS should indicate the level of statistical significance used in the analysis and which findings were statistically significant.

 [Complete Worksheet 8: Data Analysis and Interpretation of PIP Results](#)

STEP 9: ADDRESS THE LIKELIHOOD OF SIGNIFICANT AND SUSTAINED IMPROVEMENT THROUGH THE PIP

Step 9 corresponds to CMS PROTOCOL STEP 9 – Assess The Likelihood that Significant and Sustained Improvement Occurred.

In this step, CalEQRO assesses the likelihood that significant and sustained improvement occurred as a result of the PIP. The assessment builds on findings from the previous steps. In this step, CalEQRO assess the overall validity and reliability of the PIP methods and findings to determine whether or not it has confidence in the results.

An important component of a PIP is to determine if the reported change is “real” change, or the result of an environmental or unintended consequence, or random chance. It is also essential to demonstrate sustained improvement.

To do so requires repeated measurements be conducted over the course of the PIP, and whether significant change in performance relative to baseline measurement was observed. The repeat measurement should use the same methodology as the baseline measurement. Any deviations in methodology (such as sampling, data source, or variable definition) must be thoroughly documented. If the PIP is in the early stages of implementation, and repeated measurements are not yet available, the analysis plan should describe the methodology for subsequent measurement. In assessing the likelihood that PIP results are sustainable, the analysis should include which findings were found to be significant either statistically, clinically, or programmatically over time.

PIP documentation should include the following

- Data that analyzes changes in processes or beneficiary outcomes based on the variables included and compared to baselines and benchmarks.
- Extent to which there was a quantitative improvement in process or outcomes.
- Extent to which statistical evidence supports that the improvement is true improvement.
- Results of statistical significance testing.
- Extent to which the improvements appear to be the result of the PIP improvement strategies.
- Issues associated with data analysis.

Potential sources of supporting information include:

- Statistical significance testing calculated on baseline and repeat indicator measurements (clarify that the appropriate test was used, such as a t-test for small samples)
- Benchmarks for quality specified by the state Medicaid agency or found in industry standards

- Interviews with staff and providers about the implementation and results of the PIP intervention

The EQRO will review the PIP methods and findings to assess whether there is evidence of statistically significant improvement that may be associated with the intervention implemented as part of the PIP. In addition, the EQRO may supplement the quantitative assessment with information gathered through interviews with staff and/or providers about the implementation and results of the PIP improvement strategies. Qualitative information may inform the assessment of whether observed changes were likely to be attributable to the PIP intervention, as opposed to a short-term event unrelated to the intervention or random chance.

 [Complete Worksheet 9: Likelihood Of Significant And Sustained Improvement Through The PIP](#)

DRAFT

PIP PLANNING, SUBMISSION, AND IMPLEMENTATION WORKSHEETS

Worksheet 1: Drafting The PIP Topic

Worksheet 2: Drafting the Aim Statement

Worksheet 3: Identifying the PIP Population

Worksheet 4: Describing the Sampling Method

Worksheet 5: Selecting PIP Variables and Performance Measures

Worksheet 6: Describe Improvement Strategy (Intervention) and Implementation Plan

Worksheet 7: Describing the Data Collection Procedures

Worksheet 8: Data Analysis and Interpretation of PIP Results

Worksheet 9: Likelihood of Significant and Sustained Improvement Through the PIP

Please define all acronyms at time of first use in these documents.

WORKSHEET 1: DRAFTING THE PIP TOPIC

MHP/DMC-ODS Name	Mendocino County Behavioral Health and Recovery Services
Project Leader/Manager/Coordinator	Navin Bhandari
Contact email address	bhandarin@mendocinocounty.org
Performance Improvement Title	Reducing recurrent inpatient hospitalization in the community
Type of PIP	<input type="checkbox"/> Clinical <input checked="" type="checkbox"/> Non-clinical
PIP period (# months):	Start 09/2020 to End 06/2022
Additional Information or comments	Two Year PIP

Briefly describe the aim of the PIP, the problem the PIP is designed to address, and the improvement strategy.

Mendocino County has seen an increase in re-admissions and conservatorships over the past few years, our inpatient psychiatric hospitalizations increased from 248 unique beneficiaries in CY 2017 to 286 unique beneficiaries in CY2019, in addition to the increased number of individuals hospitalized the average length of stay increased. Increased utilization of the highest levels of services has negative impacts on client care and system delivery cost. This PIP seeks to reduce the number of clients experiencing re-hospitalization by adding wraparound model support to the existing after care of those returning from inpatient care.

What MHP/DMC-ODS data have been reviewed that suggest the issue is a problem?

The MHP reviews re-hospitalization data in a number of formats. Re-hospitalization data are reviewed annually in EQRO data reports, as well as reviewed in monthly QA and UM meetings in conjunction with our Crisis services data reports shows that re-hospitalizations are increasing. Yearend review trend lines at the end of FY 19/20 showed increases in the number of individuals re-hospitalized within 30 rates days. Early FY 20/21 data reviews showed continued increasing trends in the number of re-hospitalizations. In addition, we were tracking re-hospitalizations within 7 days, and found that in FY 20/21 there was an average of 1-2 adults re-hospitalized per month, for a total of 19 individuals over the course of the year that were re-hospitalized within a week.

Annual EQRO data indicate inpatient psychiatric hospitalizations increased from 248 unique beneficiaries in CY2017 to 286 unique beneficiaries in CY2019 which is a 15% increase in hospitalizations from Calendar Year 2017 to Calendar Year 2019.

What are the barrier(s) that the qualitative and/or quantitative data suggest might be the cause of the problem?

QAPI saw reduction in hospitalizations and crisis services in March and April of 2020, suspected to be related to individuals sheltering in place, in July 2020 we saw a significant spike in hospitalizations relative to prior years (61 hospitalized in 7/2020 over 47 in 7/2019 and 51 in 7/2018). We suspected the increases in re-hospitalizations was related to the COVID 19 Pandemic, however the unique beneficiary hospitalization data has been increasing for longer than the pandemic, and the majority of the increases in re-hospitalizations within 30 days were also pre declaration of national emergency. Re-hospitalization data showed an average number 1-2 clients being re-hospitalized within seven days and an average of four clients being re-hospitalized within 30 days in FY 20/21.

Outreach and engagement has been impacted during the social distancing recommendations the Pandemic, as there had been ebbs and flows in the number of hospitalizations but increases in the number of readmissions within 30 days slowly increasing. Re-hospitalizations within seven days averaged 1-2 clients per month in FY 20/21. Total hospitalization in July 2020 rose above the same month in the two prior years by 19% (51 in 2018, 47 in 2019, and 61 in 2020). Our system offers all clients that are hospitalized 60 days of post crisis follow up to establish outpatient supports and further stabilize the crisis. We conducted a Performance Improvement Project in the past and found that this reduced our re-hospitalization rates. While the aftercare had been successful at reducing re-hospitalizations in the past, there was an increase in the number of re-hospitalizations in Fiscal Year 18-19.

Who was involved in identifying the problem? (Roles, such as providers or enrollees, are sufficient; proper names are not needed.) Were beneficiaries or stakeholders who are affected by the issue or concerned with the issue/topic included?

QA Staff, RQMC Staff, Crisis staff, QIC attendees, QAQI attendees, UM attendees.

The number of hospitalizations fluctuates over the year and trends are reviewed on a monthly basis. QIC stakeholders expressed concern for the increase in hospitalizations and asked what more can be done to reduce them.

Are there relevant benchmarks related to the problem? If so, what are they?

Because we have seen hospitalization rates increasing over the last several years, BHRS is using the 2019 Calendar Year data of 286 unique beneficiaries hospitalized as the benchmark. Mendocino County had a low number of hospitalizations in Calendar Year 2016 at 214 unique beneficiaries hospitalized. An additional benchmark we will use is re-hospitalization within 30 days. In Fiscal Year 19/20 84

individuals were re-hospitalized within 30 days. The PIP team will monitor the re-hospitalization rates monthly and will also look at the year to date data.

 **Step 1: Identifying the PIP Topic**

WORKSHEET 2: DRAFTING THE AIM STATEMENT

What is the Aim Statement of this PIP? (The Aim statement should be concise, answerable, measurable and time bound.)

“Will adding targeted intensive services that include natural supports for all clients identified as at risk of re-hospitalization reduce re-hospitalization by 10% and all hospitalizations by 15% by June of 2022.”

Briefly state the improvement strategy that this PIP will use. (Additional information regarding the improvement strategy/intervention should be supplied in Step 6.)

The improvement strategies will consist of the development of wraparound strategies for high-risk individuals. We will identify individuals as high risk if they are a MHP beneficiary that has been hospitalized two or more times in the past 24 months.

We will review follow up care training that staff receive for consistency. We will implement a Multi-Disciplinary Team to review and identifying those that are high risk to ensure that the added intensive service follow up occurs and includes family or natural supports. Clients identified as high risk will be offered the intensive services with natural support participation and we will measure on outpatient service attendance, medication compliance, engagement in services as process measures impacting re-hospitalization rates.

In reviewing the adult individuals that were hospitalized over the past 24 months, we found that while the majority had only been hospitalized once, 13% (93 clients) had been hospitalized twice, 5% (34 clients) had been hospitalized three times, 2% (16 clients) were hospitalized 4 times, just over 1% (7 clients) had been hospitalized 5 times, 0.5% of clients had been hospitalized six, seven, and eight times each (3 clients each), and 0.1% of the clients hospitalized had been hospitalized nine and ten times (one client each).

Who is the population on which this PIP focuses? Provide information on the study population such as age, length of enrollment, diagnosis, and other relevant characteristics of the affected population.

We are identifying the population as adult MHP beneficiaries at risk of re-hospitalization as defined by having been hospitalized at least twice in a 24 month period. We estimated that at least 43 individuals per year meet the target population

based on averaging the last two years of individuals that have been re-hospitalized within 30 days.

Of the hospitalizations over the past 24 months (986 hospitalizations of 666 adult individuals) the majority (66%) were in the 26-59 age group, 13% were in the 22-25 age group, 12% were in the 18-21 age group, 9% were in the over 60 year old age group, and 2 individuals hospitalized (0.02%) had unknown ages. The ethnic break down shows the adults hospitalized predominantly identify as Caucasian/white in rates consistent with the county population distribution; 11.8% identify as Hispanic/Latino which is less than the county distribution; 3.5% identify as African American/Black which is over the county distribution; 3.8% identify as Native American or American Indian which is a little more than half of the census identified rate of individuals in Mendocino County; 0.2% identify as Asian or Pacific Islander, fewer than County distribution rates, and those that identify as having two or more ethnicities make up 0.3% of those hospitalized which is much less than the almost 4% distribution indicated by the census. Unfortunately, a large percentage of the individuals hospitalized, over 13%, had ethnic identities that are currently unknown to us.

Of the hospitalizations over the past 24 months approximately 50% identify Ukiah as their residence city, 14% identify Willits as their city of residence, 12% identify Fort Bragg as their city of residence, 7% identify a residence outside of Mendocino County, the remainder are from areas considered our outlying areas, unknown residences, and homeless (less than 1%).

What is the timeframe for this PIP, from concept development to completion?

This is a two year Performance Improvement Project from concept to completion. We started development in September of 2020, however the start date for PIP development was delayed due to impacts of the pandemic and need to make alterations to original concept as we initially intended for socialization and peer groups to be part of the targeted wraparound activities offered.

Concept Development: September 2020

PIP Development and Refinement for Pandemic impacts: February 2021

Start Development of MDT strategies and initial data collection: January 2022

Implement Wraparound Model: target date: December 2021

Review Data and Adjust Interventions as needed: Target date January-June 2022

End data collection: Target date June 30, 2022`

Finalize PIP: Target date July/August 2022

Additional Information or comments:

Initial interventions included group activities for social skills and network building, which have not been able to be implemented under COVID-19 Pandemic Public Health guidance. This has contributed to delays in implementation timelines, and adjustment to proposed intervention strategies.

We were reluctant to offer electronic groups as many services were currently offered electronically, and had been seeing declining participation and even some groups declining participation.

 [Step 2: Developing the Aim Statement](#)

WORKSHEET 3: IDENTIFYING THE PIP POPULATION

Who is the population on which this PIP focuses? Provide information on the study population such as age, length of enrollment, diagnosis, and other relevant characteristics of the affected population. Please include data, sources of information and dates of sources.

This PIP focuses on adults MHP beneficiaries identified as high risk of re-hospitalization as defined by having had two or more hospitalizations in the prior 24 month period. The PIP interventions will be offered to all adults individuals eligible via the risk criteria.

Will all enrollees be included in the PIP?

Yes All enrollees eligible for the PIP will be offered the chance to be included.

No

If no, who will be included? How will the sample be selected?

The population will be individuals at risk of re-hospitalization, as defined by having two or more hospitalizations in the prior 24 months.

The Multi Disciplinary Team (MDT) will be a part of the performance improvement interventions, by identifying individuals at risk and ensuring that wraparound inspired family/natural support based services are offered to individuals that meet the target population criteria. Modeled after the Wraparound youth services, the interventions will seek to involve the client's family or natural supports in the intensive services and post crisis engagement. For individuals without identifiable natural supports, the intervention will work to engage a Peer supports for the individual. The MDT team

consists of multidisciplinary service providers and will prioritize engagement family members and natural supports identified by the client as supportive of their wellbeing in creating post crisis and outpatient intensive services. The team will work together with the client and their natural supports to identify challenges contributing to the hospitalization and to identify client strengths to overcome those challenges. The team will work with the client to outline a service plan to reduce the risk factors to hospitalization.

Additional Information or comments: The initial intervention, peer wraparound supports and three question survey were administered to the participants with very minimal response. High risk of re-hospitalization participants indicated they neither want or have natural support, do not want to sign Release of Information (ROI) to share information, and do not want to participate with NAMI for peer support. Menu of free services offered was started as another intervention when the initial intervention was not well accepted.

 **Step 3: Identifying the PIP Population**

WORKSHEET 4: DESCRIBING THE SAMPLING PLAN

If the entire population is being included in the PIP, skip Step 4.

If the entire population is NOT being included in the PIP, complete the following:

Describe the sampling frame for the PIP.

All clients eligible for the PIP will be offered the chance to participate, and so the only sampling method is self selection. Clients may chose to opt out of services offered.

Specify the true or estimated frequency of the event.

Determine the required sample size to ensure that there are a sufficient number of enrollees taking into account non-response, dropout, etc.

State the confidence level to be used.

State the margin of error.
Additional Information or comments

 **Step 4: Describing the Sampling Plan**

WORKSHEET 5: SELECTING PIP VARIABLES AND PERFORMANCE MEASURES

The questions below can be answered generally. Please complete the tables below for specific details.

<p>What are the PIP variables used to track the intervention(s)? The outcome(s)? Refer to the tables 5.1 – 5.3 for details.</p> <p>Individuals that have been hospitalized two or more times in the past 24 months will be referred for intensive services that include natural supports. The variables that we will track related to the interventions include the number of service contacts individuals keep (as opposed to cancel/no show/decline). The outcomes that we will monitor related to the number of intervention contacts include follow up with outpatient appointments, follow up with medication management appointments, re-hospitalization within 30 days, annual unique beneficiary hospitalization count.</p> <p>See tables.</p>
<p>What are the performance measures? Describe how the Performance Measures assess an important aspect of care that will make a difference to beneficiary health or functional status?</p> <ol style="list-style-type: none"> 1) Percentage of kept appointments for outpatient appointments 2) Percentage of kept appointments for medication management appointments 3) Reduction in re-hospitalization rates 4) Reduction in unique beneficiary hospitalization count 5) Reduction in ANSA Score
<p>What is the availability of the required data?</p> <p>All data will be available to BHRS QA, RQMC QA, and the MDT Team</p>
<p>Additional Information or comments</p>

TABLE 5.1 VARIABLE(S) AND INTERVENTION(S)

Goal	(Independent) Variable	Intervention	Performance Measure (Dependent Variable)	Improvement Rate
1. Reduce the number of unique beneficiaries being hospitalized from 286 as in CY 2019 by 15% (Target goal approx. 243 clients per year)	Number of adult individuals qualified as at risk	Number of Wraparound post hospital interventions	Number of unique adult beneficiaries hospitalized per year	29.37%
2. Reduce re-hospitalizations by 10% as compared to an average of prior 2 years (43 per year)	Number of adult individuals qualified as at risk	Number of Wraparound post hospital interventions	Number of adults re-hospitalized within 30 days	44.18%
3. Increased engagement in outpatient services	Number of outpatient services appointment scheduled	Increased contact through Wraparound services	Percentage of kept outpatient services appointments	-10%
4. Increased engagement in medication management	Number of medication management appointments	Increased contact through Wraparound services	Percentage of kept medication management appointments	28%
5. Reduced ANSA scores	Aggregate Starting score	Increased social contact through Wraparound services	Aggregate Ending score	Not analyzed

TABLE 5.2 SOURCES OF INDEPENDENT AND DEPENDENT VARIABLES

	Variable	Source of Data	Availability of Data
1	Number of individuals with two or more hospitalizations in the past 24 months	EHR and TAR logs	Collected and reviewed on a continuous basis

2	Number of Wraparound Services offered	EHR- will require special notation and tracking for the purposes of the PIP	Collected as needed and reviewed monthly for PIP
3	Outpatient Appointments	EHR	Collected and reviewed monthly
4	Medication Management Appointments	EHR	Collected and reviewed monthly
5	ANSA Score	EHR	Aggregate reviewed monthly, additionally as needed

 **Step 5: Selecting the PIP Variables and Performance Measures**

WORKSHEET 6: DESCRIBE IMPROVEMENT STRATEGY (INTERVENTION) AND IMPLEMENTATION PLAN

Answer the general questions below. Then provide details in the table below.

<p>Describe the improvement strategy/intervention.</p> <p>The improvement strategy is to increase intensive contacts with natural supports involved in case management and care planning for those individuals that are at high risk of hospitalization due to history of more than two hospitalizations within the prior 24 months.</p> <p>The PIP team will begin by identifying the individuals that meet the definition of the high risk criteria. Initially social groups were proposed as a strategy as we suspect isolation in particular related to the COVID Pandemic to be a factor in increasing hospitalization rates. Unfortunately, surges related to the Delta variant prevented implementing those strategies, and the interventions were adjusted to be more individually based initially.</p> <p>Wraparound models in family and children’s services include involving as much of the individual’s social network as possible in services, and ensuring that all are in agreement and support of treatments. This PIP will utilize those principles for adults at</p>

risk of hospitalization, including existing supports but also creating provider supports through the intensive services and connecting to peer based supports.

The strategy is to engage the person socially and have their supports reinforcing outpatient services in attempt to reduce the necessity of repeat hospitalizations.

What was the quantitative or qualitative evidence (published or unpublished) suggesting that the strategy (intervention) would address the identified barriers and thereby lead to improvements in processes or outcomes?

Statewide Children's Wraparound Initiative: Biennial Legislative Report, Oregon Department of Human Services

The Wraparound Process User's Guide: A Handbook for Families, National Wraparound Initiative Advisory Group

Does the improvement strategy address cultural and linguistic needs? If so, in what way?

The team based wraparound model does include all members of the client's social supports and that includes culturally identified supports whether tribal affiliations or spiritual leaders. It is the policy of the MHP to address cultural and linguistic needs of our consumers developing service plans.

When and how often is the intervention applied?

The Wraparound/natural supports inclusive intervention will be applied between a weekly and monthly basis depending on the individual needs of the client. The data and success of the intervention will be reviewed monthly, with interventions applied and adjusted as needed based on outcomes.

Who is involved in applying the intervention?

Crisis workers and outpatient service Care Managers will be most directly involved in applying the intervention through engaging the client in including natural supports and engaging the client and natural support team in service planning and care management.

How is competency/ability in applying the intervention verified?

MDT Monthly reviews of intervention implementation will assess consistency of application of intervention tools.

How is the MHP ensuring consistency and/or fidelity during implementation of the intervention (i.e., what are the process indicators)?

By monitoring the implementation on a monthly basis and reviewing the data on a regular basis to see that the process indicators of improved connection and engagement with outpatient services are maintaining the separate tracking of the:

1) Outpatient Management kept appointments 2) Medication Management kept appointments 3) Improved ANSA scores
Additional Information or comments: There are only few clients with ANSA scores. ANSA scores will not be included in the intervention and data analysis.

Complete this table and add (or attach) other tables/figures/charts as appropriate.

TABLE 6.1 IMPROVEMENT STRATEGY SUMMARY

	Intervention	Intervention Target Population	Date (MM/YYYY) Intervention Began	Frequency of Intervention Application	Corresponding Process Indicator(s)
1	Natural supports included in intensive services for identified high risk clients	All	12/2021	Upon beginning of PIP, at least weekly post hospitalization, and modified thereafter as needed	Kept outpatient appointments
2	Natural supports included in intensive services for identified high risk clients	All	12/2021	Upon beginning of PIP, at least weekly post hospitalization, and modified thereafter as needed	Kept med management appointments
3	Natural supports included in intensive services for identified high risk clients	All	12/2021	Upon beginning of PIP, at least weekly post hospitalization, and modified thereafter as needed	Improvement in ANSA Scores

 **Step 6: Describing the Improvement Strategy (Intervention) and Implementation Plan**

WORKSHEET 7: DESCRIBING THE DATA COLLECTION PROCEDURES

Describe the methods for collecting valid and reliable data.

BHRS and RQMC will pull data from the EHR on a monthly data for review. The MDT meetings will provide data on implementation challenges. As data review indicates need for modifications we will adjust and continue measuring. Re-hospitalization and TAR logs will be reviewed monthly.

What are the data sources being used?

The EHR holds the data for ANSA scores, hospitalization data, and kept appointments. TAR logs also support re-hospitalization data collection.

What are the data elements being collected?

- 1) Number of adult clients who are identified as at risk (Target Population)
- 2) Number of Wraparound/Natural supports included in Services provided to the target population
- 3) Percent of kept outpatient services within the target population
- 4) Percent of kept medication management services within the target population
- 5) ANSA scores within the target population
- 6) Number of adults that are Re-hospitalized within 30 days per year within the target population
- 7) Number of Unique Adult Beneficiaries that are hospitalized per year

What is the frequency of data collection (daily, weekly, monthly, annually, etc.)?

- 1) Number of adult clients who are identified as at risk (Target Population) will be collected at the beginning of the PIP and additional clients added as qualify on a monthly basis based on reviews by the MDT.
- 2) Number of Wraparound/Natural supports included in Services provided to the target population will be collected and reviewed on a monthly basis.
- 3) Percent of kept outpatient services within the target population will be collected and reviewed on a monthly basis.

4) Percent of kept medication management services within the target population will be collected and reviewed on a monthly basis.

5) ANSA scores within the target population will be reviewed on a monthly basis. ANSA scores are collected at a minimum of every six months and additionally as needed due to change in client needs or client plan development.

6) Number of adults that are Re-hospitalized within 30 days per year within the target population will be collected and reviewed monthly.

7) Number of Unique Adult Beneficiaries that are hospitalized per year will be reviewed at the end of each calendar year.

Who will be collecting the data?

BHRS QA and RQMC QA will collect the data. It will be reviewed in QAPI meetings along with a PIP MDT.

What data collection instruments are being used? Please note if the MHP/DMC-ODS has created any instruments for this PIP.

EXYM (EHR) and Excel

Additional Information or comments: There are only few clients with ANSA scores. ANSA scores will not be included in the intervention and data analysis as mentioned in number 5 above.

[Step 7: Describing the Data Collection Procedures](#)

WORKSHEET 8: DATA ANALYSIS AND INTERPRETATION OF PIP RESULTS

After carrying out the PIP, collecting, analyzing and interpreting the data, answer the following questions *with respect to the original aim of the PIP*:

What are the results of the study?

There were 286 unique adult beneficiaries hospitalized in CY 2019. The goal was set to reduce the total hospitalization by 15% and bring it down to 243. The intervention was started in December 2021 and the data collection was ended in June 2022, based on six month data collection there were total of 101 unique adult beneficiaries hospitalized. If we make it a full calendar year using predictive analysis, it will be 202 total number of unique adult beneficiaries hospitalized in CY 2022. This will be 29.37% less hospitalization than the baseline year which is almost 15% more than the targeted goal of 15%. Similarly, total number of unique adult beneficiaries re-

hospitalized within 30 days was 43 based on an average of two prior years. The goal after PIP interventions were implemented was 10% reduction in re-hospitalization within 30 days to 39 re-hospitalization in CY 2022. Based on six months data analysis, within 30 days re-hospitalization is 44.18% less than the baseline year which is 34% more than targeted goal. These numbers suggest that there are other variables associated with the reduction in number of hospitalization and re-hospitalization. Those multitude of variables could be other available programs and resources such as: Assisted Outpatient Treatment Program, new Crisis Residential Treatment services, Respite services, LPS conservatorship etc. than only the intervention implemented in this PIP.

How often were the data analyzed?

Data were reviewed regularly in the PIP meetings, usually on a monthly basis and analyzed at the end of the final data collection.

Who conducted the data analysis, and how are they qualified to do so?

RQMC and RCS staffs: Tim Schraeder, Sarah Livingston, Sarah Walsh collected data. BHRS reviewed the data and conducted synthesis and analysis.

How was change/improvement assessed?

Change/improvement was assessed by conducting MDTs and reviewing progress made by the participants in keeping outpatient and medication management appointments and reduction in total hospitalization and re-hospitalization within 30 days.

To what extent was the data collection plan adhered to—were complete and sufficient data available for analysis?

This Non-Clinical PIP was a two year PIP and the concept was started in September 2020. Although, the concept was built up and the team was ready for intervention, it was impacted by the COVID-19 Pandemic and the intervention did not start until at the end of December 2021. To adhere the baseline data, the data collections were started in January 2022 and ended in June 2022 to compare CY 2022 data to baseline data. Therefore, only six months of data are available to compare and analyze after the intervention was started.

Were any statistical analyses conducted? If so, which ones? Provide level of significance.

No statistical analysis was conducted.

Were factors considered that could threaten the internal or external validity of the findings examined?

Self-selection and motivation of participants could be the internal factors. Other factors such as: Assisted Outpatient Treatment Program, Crisis Residential Treatment

services, Respite services, LPS conservatorship etc. could be considered external factors.

Additional Information or comments:

Results suggest that the total number unique adult hospitalization is reduced by 29.37%. Re-hospitalization within 30 days was reduced by 44.18%. Although, kept outpatient appointments are decreased by 10% in CY 2022 as compared to CY 2019, kept medication managements appointments are increased by 29% in CY 2022 as compared to CY 2019.

Present the objective results at each interval of data collection. Complete this table and add (or attach) other tables/figures/charts as appropriate.

TABLE 8.1 PIP RESULTS SUMMARY

Performance Measures	Baseline Measurement	Re-measurement 1	Re-measurement 2	Re-measurement 3	Re-measurement 4	Re-measurement 5	Re-measurement 6	Dates of Baseline and Re-measurements	FINAL Measurement
Number of unique adult beneficiaries hospitalized per year	286 CY 2019	15 Jan 2022	17 Feb 2022	22 March 2022	15 April 2022	16 May 2022	16 June 2022	Dates are noted in each measurement column	101 Total for six months
Number of adults re-hospitalized within 30 days	43 An average of prior 2 years	1 Jan 2022	0 Feb 2022	1 March 2022	2 April 2022	3 May 2022	5 June 2022	Dates are noted in each measurement column	12 Total for six months
Percentage of kept outpatient services appointments	90 % CY 2019	71% Jan 2022	71% Feb 2022	91% March 2022	83% April 2022	75% May 2022	86% June 2022	Dates are noted in each measurement column	80% Average for six months
Percentage of kept medication management appointments	19% CY 2019	43% Jan 2022	43% Feb 2022	55% March 2022	42% April 2022	57% May 2022	47% June 2022	Dates are noted in each measurement column	48% Average for six months
Aggregate ANSA score	NA	NA	NA	NA	NA	NA	NA	NA	NA

Step 8: Describing the Data Analysis and Interpretation of PIP Results

Chart 1:

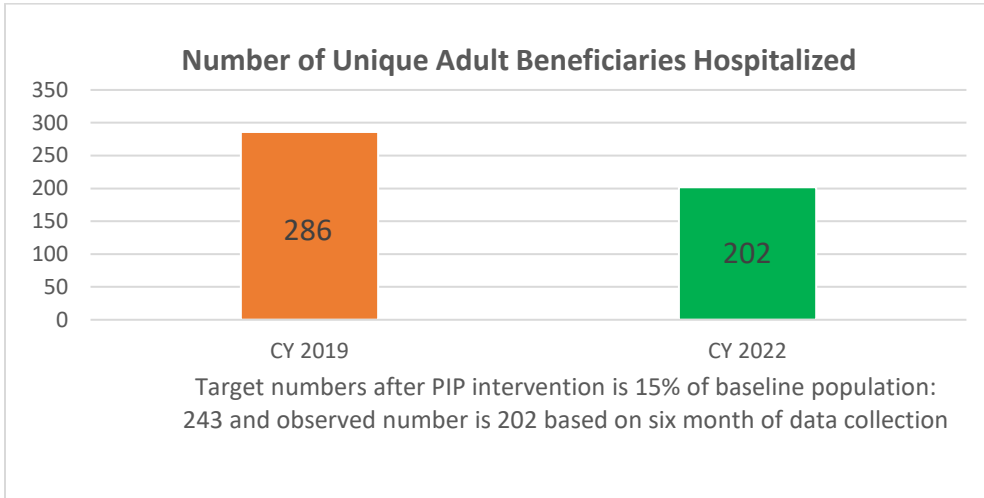


Chart 2:

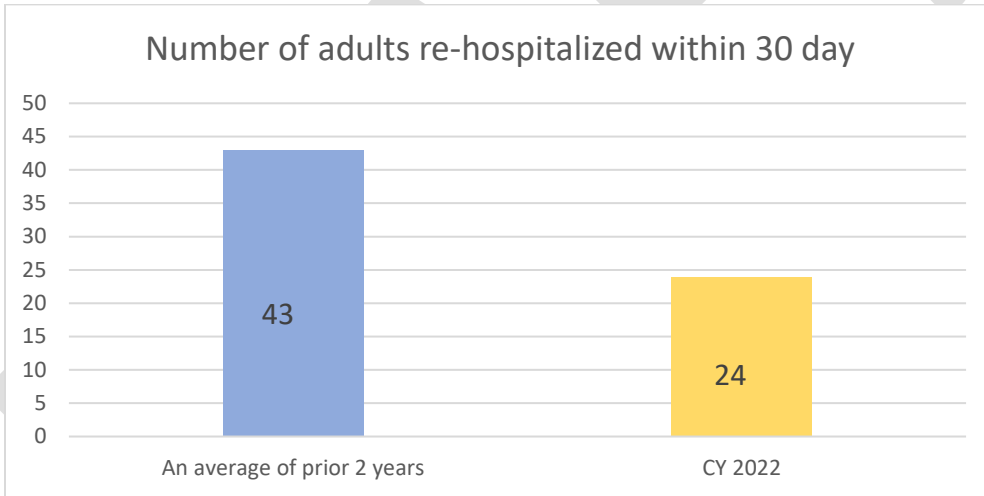


Chart 3:

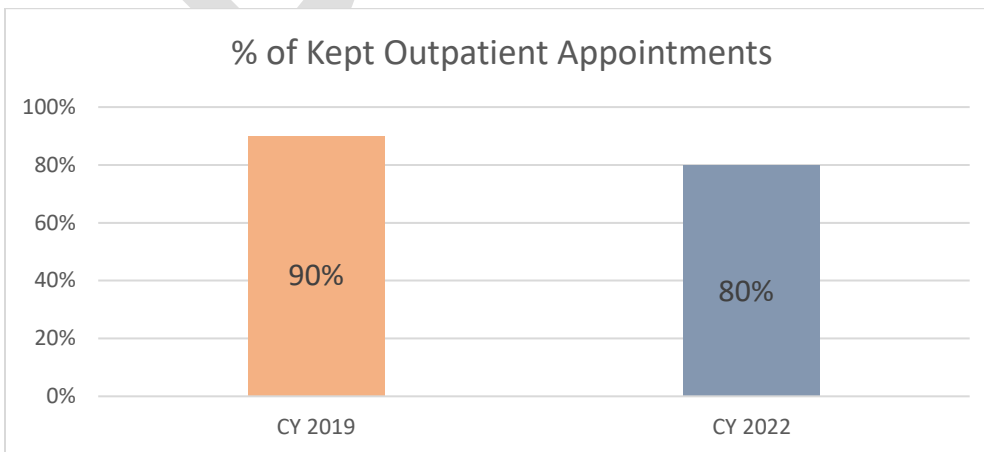
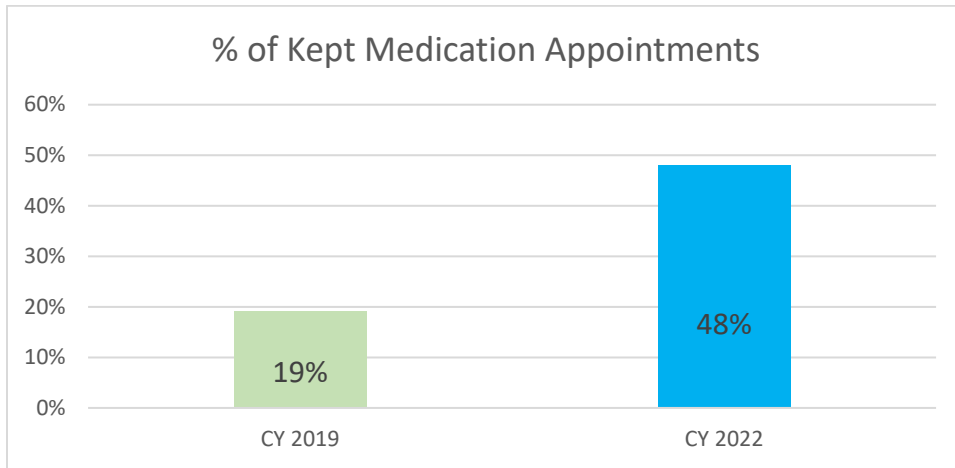


Chart 4:



WORKSHEET 9: LIKELIHOOD OF SIGNIFICANT AND SUSTAINED IMPROVEMENT THROUGH THE PIP

What is the conclusion of the PIP?

Number of total hospitalizations and re-hospitalization within 30 days of unique adult beneficiaries decreased from the baseline year, compared to current CY 2022. But the decrease in number could be combination of PIP interventions and other factors.

Do improvements appear to be the results of the PIP interventions? Explain.

Improvements appear to be combination of PIP interventions and other factors associated with hospitalization and re-hospitalization such as other local resources: Assisted Outpatient Treatment Program, new Crisis Residential Treatment services, Respite services, LPS conservatorship etc.

Does statistical evidence support that the improvement is true improvement?

Although reduction in hospitalization and re-hospitalization is true, it is unclear if statistical evidence supports the improvement is true due to possibility of other factors involved.

Did any factors affect the methodology of the study or the validity of the results? If so, what were they?

The initial intervention, peer wraparound supports and three question survey were administered to the participants with very minimal response. High risk of re-hospitalization participants indicated they neither want or have natural support, do not want to sign Release of Information (ROI) to share information, and do not want to

<p>participate with NAMI for peer support. Menu of free services offered was started as another intervention when the initial intervention was not well accepted.</p>
<p>What, if any, factors threatened the internal or external validity of the outcomes?</p> <p>Internal factors could be motivation of the participants and self-selection criteria. External factors could be available support services such as: Assisted Outpatient Treatment Program, new Crisis Residential Treatment services, Respite services, LPS conservatorship etc.</p>
<p>Was the improvement sustained through repeated measurements over comparable time periods? (If this is a new PIP, what is the plan for monitoring and sustaining improvement?)</p> <p>Considering six months intervention data, the overall hospitalization and re-hospitalization within 30 days showed sustained improvement and gradual declining in number of hospitalization and re-hospitalization within 30 days. Kept outpatient appointments were reduced by 10% compared to the baseline data. On the other side, kept medication management appointments were increased by 29% compared to the baseline data.</p>
<p>Were there limitations to the study? Initially, one of the variables indicated in the concept phase was ANSA Scores which was not collected because there are only few clients with ANSA Scores and not sufficient to analyze data. ANSA scores were going to be measured to see if any change occurred, even though this was not a clinical pip. However, we learned early in the implementation, that few of the clients that were being re-hospitalized were completing ANSA scores as they were often not engaged in outpatient services.</p>
<p>What is the MHP/DMC-ODS's plan for continuation or follow-up?</p> <p>The intervention applied through out the PIP will continue even after the PIP completion. Peer wraparound supports and three question survey were administered when intervention was started in the beginning with the minimal response. Menu of services was administered after the modification in intervention. Menu of services will be given to clients continuously even after the completion of PIP. Kept appointments for outpatient services and medication management will be monitored which ultimately help to reduce overall hospitalization and re-hospitalization within 30 days.</p>
<p>Additional Information or comments</p>

 **Step 9: Address the Likelihood of Significant and Sustained Improvement Through the PIP**

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