APS Healthcare

California EQRO

Updates to document noted in blue.

- This outline is a compilation of the "Road Map to a PIP" and the PIP Validation Tool that CAEQRO uses in evaluating PIPs. The use of this format for PIP submission will assure that the MHP addresses all of the required elements of a PIP. The MHP is not limited to using this format and may submit evidence of the PIP in other formats which address the required elements.
    - PDSA Cycles can be submitted as separate documents or outlined as part of #3 barrier analysis (understanding causes), #10 interventions (testing change ideas), as well as #15 data analysis and triggering changes. Conducting PDSA cycles is for purposes of learning and testing; many PDSA cycles in themselves do not complete a PIP.
- Your PIP should focus on a consumer-related problem (access, timeliness, outcomes) which is measured (indicators), for which interventions will be applied to create improvement. Simply setting up a monitoring system for some facet of care is not a PIP unless it is focused on improving an indicator.
- Do not set up a PIP to evaluate the effectiveness of a given program; this is a program evaluation. The individuals receiving the intervention need to be related to the identified problem, upon which various interventions (not just a program's services) can be tested and applied to create improvement.
- You are not limited to the space in this document. It will expand, so feel free to use more room than appears to be provided, and include relevant attachments.
- Emphasize the work completed over the past year, if this is a multi-year PIP. A PIP that has not been active and was developed in a prior year may not receive "credit."
- PIPs generally should not last longer than roughly two years. An MHP is advised to consult with CAEQRO before continuing a PIP into a third year.

CAEQRO PIP Outline via Road Map

MHP: SLO
Date PIP Began: 11/1/13 (pilot)

Title of PIP: The effect of expedited MD scheduling following a hospitalization
Clinical or Non-Clinical: Non-Clinical

Assemble multi-functional team

1. Describe the stakeholders who are involved in developing and implementing this PIP.

The stakeholders who contributed ideas and energy to this PIP included:

- Numerous consumers
- Peer advocates from Transitions Mental Health Association

Behavioral Health staff including:

- Daisy Ilano, MD, Medical Director
- Judy Vick, LMFT, Adult Services Division Manager
- Greg Vickery, LMFT, Quality Support Team Division Manager
- Dave Boorman, LPT, SLO Adult Outpatient Clinic Program Supervisor
- Janet Lorenzo, ASO II, Quality Support Team
- Line staff/Medication Managers

"Is there really a problem?"

2. Define the problem. Describe the data reviewed and relevant benchmarks that validate the problem exists. Explain why this is a problem priority for the MHP, how it is within the MHP's scope of influence, and what specific consumer population it affects.

SLO MH's historical process for transitioning a new consumer's services from the Psychiatric Health Facility (PHF) to outpatient services involves several discreet steps. The initial step involves a call from a PHF nurse to Mental Health Managed Care to schedule a follow up appointment with a Licensed Psychiatric Technician at a clinic site (the standard is face-to-face follow up within seven days). After this initial visit, a consumer is scheduled for a comprehensive assessment by a therapist (not an MD or NP). The standard is fourteen days, but due to staffing issues and access demand variability, this wait time can range from 7 to more than 30 days, historically. The next step is authorization, which usually occurs within 7-14 days of the intake appointment. The final step is scheduling with the MD or NP, usually within 30 days of the authorization. Medications prescribed on the PHF are generally refilled while awaiting face-to-face contact with the MD or NP.

The primary problems associated with this sequential approach are:

1. Delays in accessing MD appointments may result in readmissions to the PHF that could be prevented by earlier follow up with an MD/NP. The MHP documented 61 readmissions to the PHF within 30 days of discharge for the first two quarters of FY '13-'14.
2. Staff report difficulties/inefficiencies related to getting refill requests while waiting for the outpatient MD appointment.
3. In the best case scenario, a beneficiary waits:
   7 days (D/C to follow up)
   14 days (Follow up to Assessment)
   7 days (Assessment to authorization)
   +21 days (Authorization to MD visit)
   48 days (D/C to MD visit)
4. Consumers report dissatisfaction with the wait time to see an MD.
5. A low percentage of consumers who were not open to MH outpatient services get linked to outpatient following an admission to the PHF. We think one reason for the low rate of linkage is wait time to see the MD/NP.

The MHP is committed to improving access to outpatient services following an admission to the PHF for a number of reasons, most notably a hope that readmissions to the PHF will go down and quality of care for consumers will increase if we evaluate and modify our approach.

Team Brainstorming: "Why is this happening?"
Root cause analysis to identify challenges/barriers

3. a) What are the likely causes of the problem? Describe the data and other information gathered and analyzed to understand the barriers/causes of the problem that affects the mental health status, functional status, or satisfaction. How did you use the data and information to understand the problem?

The three main causes are:

1. A historical practice of scheduling appointments sequentially due to concerns about authorizing outpatient services prior to a comprehensive assessment to determine medical necessity for services.
2. The MHP tracks wait time for post PHF follow up, intake assessment and MD evaluation separately, but had not previously looked at the entire wait as a whole.
3. The MHP experienced significant difficulty in hiring behind retiring staff members and had a number of other staff in key positions on leaves of absence for long portions of the end of FY '12-'13 and beginning of FY '13-'14. The result was an increase in wait time for intake assessment. We did not target this cause for intervention.

b) What are barriers/causes identified that require intervention? Use Table A, and attach any charts, graphs, or tables to display the data.

Table A – List of Validated Causes/Barriers

Describe Cause/Barrier	Briefly describe data examined to validate the barrier
Sequential scheduling	This was not a data driven problem, but rather a historical notion, based on interpretation of Title 9 regulations and DHCS directives, that required a determination of medical necessity prior to provision of outpatient SMHS.
Segregated data collection	This was not a problem with data collection so much as a problem with data interpretation and the use of the data. We tracked and reported wait time for post PHF follow up, intake assessment and MD evaluation separately, but had not previously put the pieces together. For this study, we calculated the wait time from PHF D/C to MD or NP follow up appointment for all consumers who were discharged after 7/1/13 through 3/27/14 who also had a kept appointment with an MD/NP subsequent to D/C.

Formulate the study question

4. State the study question. This should be a single question in 1-2 sentences which specifically identifies the problem for improvement, the general intervention, and the desired outcome.

Would expediting a MD/NP evaluation after PHF D/C result in any or all of the following?

1. Reduced wait time to see an MD
2. An increase in successful linkage to outpatient care, measured by increased attendance at a psychiatric evaluation.
3. Reduced readmission to the PHF prior to follow up with the outpatient MD

5. Does this PIP include all beneficiaries for whom the study question applies? If not, please explain. (Remember that all PIPs must include Medi-Cal beneficiaries)

Yes, the PIP include all consumers, including Medi-Cal beneficiaries, discharged from the PHF who attend an expedited follow up appointment with an outpatient MD or NP.

6. Describe the population to be included in the PIP, including the number of beneficiaries.

The PIP pilot study includes all consumers, including Medi-Cal beneficiaries, discharged from the PHF who attend a follow up appointment with an outpatient MD or NP from 7/1/2013 through 3/31/2014. Participants: business-as-usual scheduling group, N = 17. Expedited scheduling (intervention) group, N = 10. The full PIP includes all beneficiaries discharged from the PHF who attend a follow up appointment with an LPT and then an expedited appointment with an outpatient MD or NP from 4/1/2014 through 3/31/2015 (N = 52).

7. Describe how the population is being identified for the collection of data.

The information for the pilot study was collected from the MHP's EHR on 3/27/14 using a custom Crystal Report. Extensive chart review and hand tabulation of results was necessary.

8. a) If a sampling technique was used, how did the MHP ensure that the sample was selected without bias? N/A

b) How many beneficiaries are in the sample? Is the sample size large enough to render a fair interpretation?

The pilot study included 17 patients who received a follow up appointment with an LPT staff and then scheduled for intake in a business-as-usual manner. Another 10 patients had and kept an expedited appointment with an MD/NP. The full PIP includes all beneficiaries discharged from the PHF who attended a follow up appointment with an LPT and then an expedited appointment with an outpatient MD or NP from 4/1/2014 through 3/31/2015 (N = 52). While the number is modest, we believe the implications for care are significant enough to justify the study.

"How can we try to address the broken elements/barriers?"
Planned interventions

Specify the performance indicators in Table B and the Interventions in Table C.

9. What indicators were selected to measure improvement?

1. Wait time from D/C to kept MD/NP appointment (Days – average and range)
2. Percentage of new clients scheduled for follow up who kept an expedited outpatient MD/NP appointment
3. # readmissions for study participants before the MD/NP first outpatient appointment compared to pilot study period readmission data

a) Why were these performance indicators selected?

We selected these indicators because we believe better linkage to outpatient treatment following an admission will result in better care, reduced readmission, and better outcomes for clients.

b) How do these performance indicators measure changes in mental health status, functional status, beneficiary satisfaction, or process of care with strong associations for improved outcomes?
Include process indicators that reflect monitoring the application of the interventions.

Readmission to an acute level of care is stressful to a consumer and costly for the MHP. Improving linkages to outpatient follow up, particularly with an MD/NP to evaluate medication stability, are important steps to improve outcome and reduce the need for readmission.

Remember the difference between *percentage* changed and *percentage points* changed – a very common error in reporting the goal and also in the re-measurement process.

Table B – List of Performance Indicators, Baselines, and Goals

#	Describe Performance Indicator	Numerator	Denominator	Baseline for performance indicator (number)	Goal (number)
1	Wait time from D/C to kept MD/NP appointment	1245 days (baseline)	17 (baseline)	73.24 (Average) 42-140 (Range) (Business-as-usual, from pilot study)	21 (Average) 2-37 (Range)
2	Percentage of new clients who kept an outpatient MD/NP appointment	17 (clients who kept MD/NP follow up)	64 (Total clients referred for MD/NP follow up)	26.56% (Business-as-usual, from pilot study)	33.3%

#	Describe Performance Indicator	Numerator	Denominator	Baseline for performance indicator (number)	Goal (number)
3	# readmissions before the MD/NP first outpatient appointment (from pilot study)	8 (clients readmitted)	27 (clients who kept an outpatient MD/NP appointment)	29.63% (readmission before MD appointment rate)	20%

10. Use Table C to summarize interventions.

a) In column 2, describe each intervention.
b) In column 3, identify the barriers/causes each intervention is designed to address.
c) In column 4, identify the corresponding indicator which will measure the performance of each intervention.
d) Do not cluster different interventions together.

Table C - Interventions

1) Number of Intervention	2) List each specific intervention	3) Barrier(s)/causes each specific intervention is designed to target	4) Corresponding Indicator	5) Dates Applied
1	Expedite scheduling of an intake with an MD/NP for each consumer upon kept D/C follow up appointment	Sequential scheduling delays	1, 2, 3	4/1/2014

Apply Interventions: "What do we see?"

Data analysis: apply intervention, measure, interpret

11. Describe the data to be collected.

1. Wait time from D/C to kept MD/NP appointment (Days – average and range).
2. Percentage of new clients scheduled for follow up who kept an outpatient MD/NP appointment.
3. # Readmissions before the MD/NP first outpatient appointment when expedited scheduling is used.

12. Describe method of the data collection and the sources of the data to be collected. Did you use existing data from your Information System? If not, please explain why.

Data was collected from the wait metrics report, which is a custom-built Crystal report that pulls data from Anasazi. Extensive case-by-case review occurred to confirm that appointments were kept and to count readmission data.

13. Describe the plan for data analysis. Include contingencies for untoward results.

Calculate raw numbers and compare to baseline data and report % improvements and statistical significance of any variance. Review each case with a readmission before the MD/NP date to gather and compare clinical information of significance (look for diagnosis trends, in particular).

14. Identify the staff that will be collecting data as well as their qualifications, including contractual, temporary, or consultative personnel.

Data was collected and analyzed by Greg Vickery, LMFT, Division Manager (permanent full time MHP staff member).

15. Describe the data analysis process. Did it occur as planned? Did results trigger modifications to the project or its interventions? Did analysis trigger other QI projects?

Early data collection identified several problems with how an Anasazi assessment is being used in practice. The form was modified and additional training provided to staff. An additional problem with the custom Crystal report was identified and was corrected. The process required more record review and hand counting than was anticipated. The intervention was not modified, but the measurement approach was refined over time.

The PIP was successful enough, based on early results descriptive results, that we expanded the process to other urgent referrals, such as referrals from jail. Several clinics bought into the process so fully that results exceeded expectations. These changes were not part of the PIP.

Table D - Table of Results for Each Performance Indicator and Each Measurement Period

Describe performance indicator	Date of baseline measurement	Baseline measurement (numerator/ denominator)	Goal for % improvement	Intervention applied & dates applied	Date of re-measurement	Re-measurement Results (numerator/ denominator)	% improvement achieved
THIS IS THE BASELINE INFORMATION FROM TABLES A, B, AND C USED HERE FOR COMPARISON AGAINST RESULTS							
#1 Wait time from D/C to kept MD/NP appointment (days) when expedited scheduling used	3/27/2014	1245/17 = 73.24	21 (Average) 2-37 (Range)	*Expedited scheduling, applied 4/1/2014*	4/1/14 – 6/30/14	179/8 = 22.38	+69.44%
					7/1/2014 – 9/30/14	335/13 = 25.77	+64.81%
					10/1/14 --12/31/14	249/10 = 24.90	+66.00%
					1/1/15 – 3/31/15	217/14 = 15.50	+78.83
					Total (running):	**980/45 = 22.14**	**+69.77%**
#2 Percentage of clients who kept an expedited outpatient MD/NP appointment	3/27/2014	17/64 = 26.56%	33.3%	*Expedited scheduling, applied 4/1/2014*	4/1/14 – 6/30/14	7/9 = 77.78%	+65.85%
					7/1/2014 – 9/30/14	11/13 = 84.61%	+68.61%
					10/1/14 --12/31/14	9/10 = 90.00%	+70.49%
					1/1/15 – 3/31/15	12/14 = 85.71%	+69.01%
					Total (running):	**39/46 = 84.53%**	**+68.94%**
# 3 # readmissions before the first MD/NP outpatient appointment when expedited scheduling used	3/27/2014	8/27 = 29.63%	20%	*Expedited scheduling, applied 4/1/2014*	4/1/14 – 6/30/14	1/8 = 12.50%	+46.81%
					7/1/2014 – 9/30/14	0/21 = 0%	+100%
					10/1/14 --12/31/14	0/9 = 0%	+100%
					1/1/15 – 3/31/15	2/14 = 14.28%	+51.80%
					Total (running):	**3/52 = 5.77%**	**+80.52%**

"Was the PIP successful?" What are the outcomes?

17. Describe issues associated with data analysis:

a. Data cycles clearly identify when measurements occur.

See above tables. Data was collected at regular intervals throughout the year.

b. Statistical significance

See attached spreadsheet. ANOVA was completed in Excel, and each measure was significant at alpha .05.

c. Are there any factors that influence comparability of the initial and repeat measures?

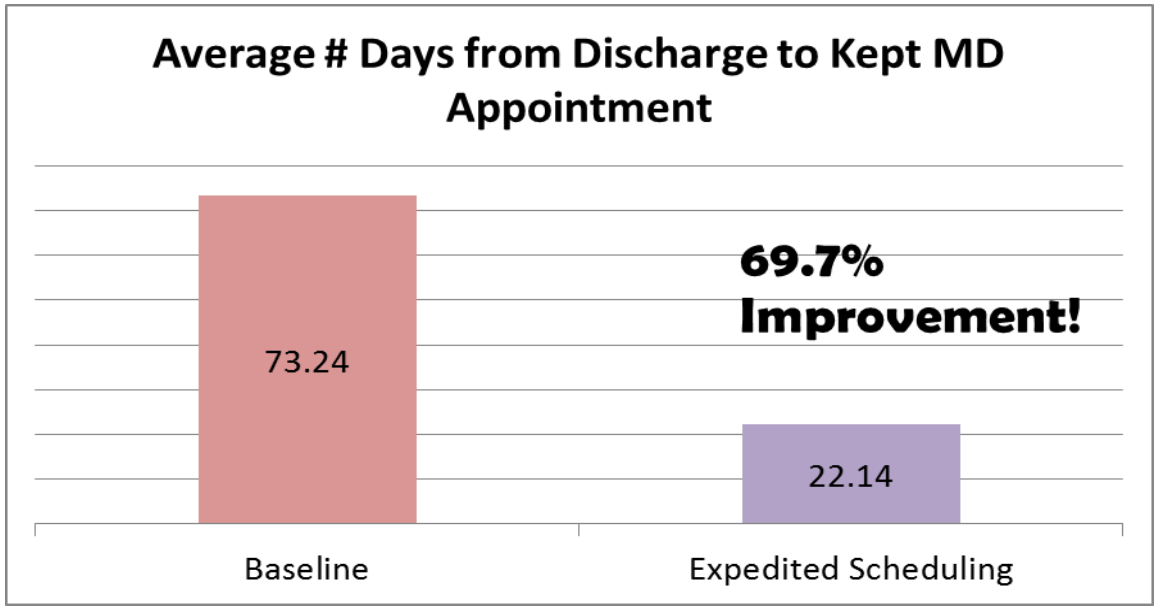
- Sample size is relatively small for both the baseline and the intervention groups
- Groups were of unequal size
- Subjects were not randomly selected

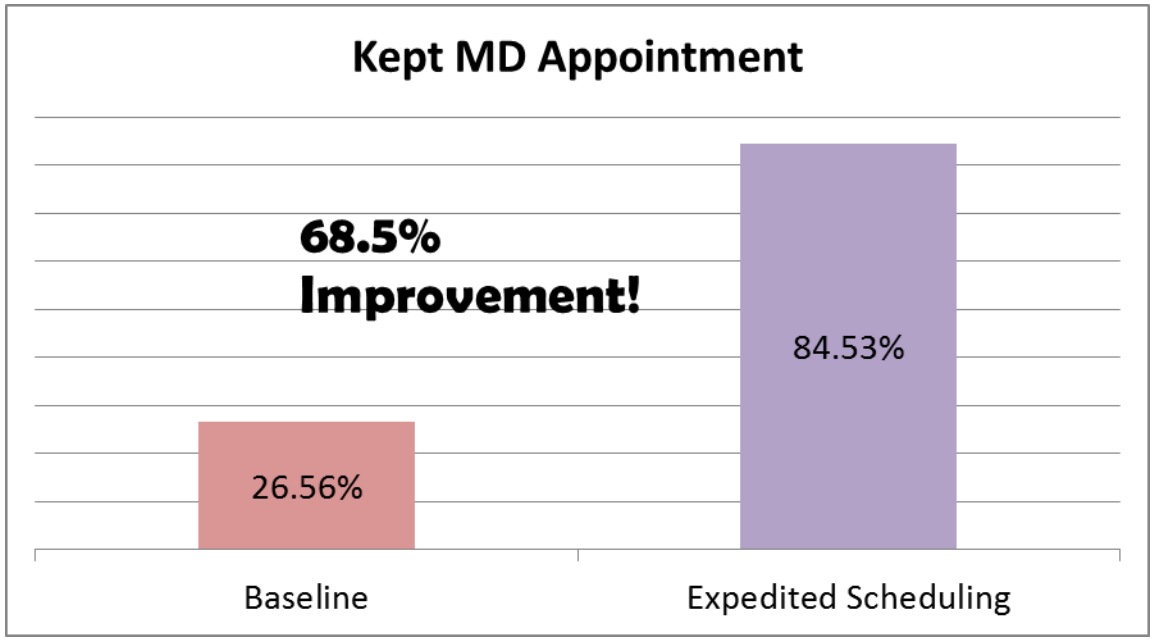
d. Are there any factors that threaten the internal or the external validity?

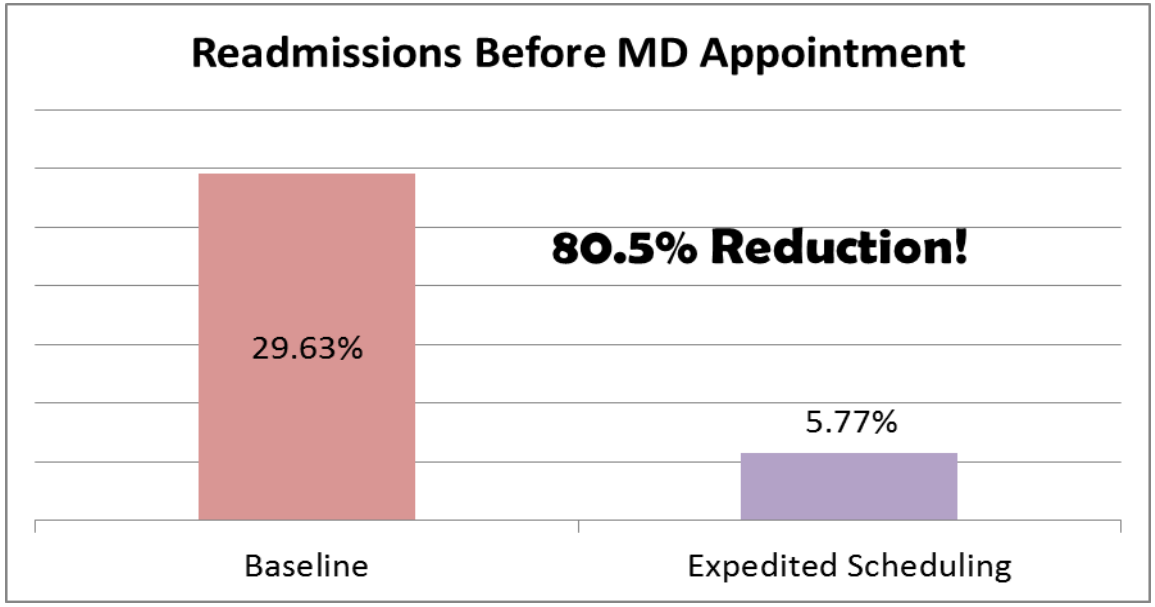
- Subjects were not randomly selected
- The sample size is small, but the intervention effects were consistent across reporting periods
- Motivational artifacts with subjects could not be studied or controlled
- We measured readmission rate before MD appointment, but not overall readmission rate. There is anecdotal evidence to suggest that some consumers in the intervention group were readmitted after the MD appointment, but it is not known whether the rate of overall readmission is significant.

18. To what extent was the PIP successful? Describe any follow-up activities and their success.

We consider the PIP to have been very successful. We looked at a very specific process and made a change that resulted in statistically significant change to several very key client outcomes. Overall wait time for and attendance at initial psychiatric evaluation was reduced, attendance at these appointments improved, and consumers were readmitted before the MD appointment at a much lower rate. We did not measure consumer satisfaction with these changes, but wish we had!


Average # Days from Discharge to Kept MD Appointment
73.24
69.7% Improvement!
22.14
Baseline
Expedited Scheduling


Kept MD Appointment
68.5% Improvement!
26.56%
84.53%
Baseline
Expedited Scheduling



19. Describe how the methodology used at baseline measurement was the same methodology used when the measurement was repeated. Were there any modifications based upon the results?
The reports, record reviews and hand counting methods were consistently applied. The Excel spreadsheets for each reporting period evolved to make the information easier to report out.

20. Does data analysis demonstrate an improvement in processes or client outcomes?
Yes, very clearly. We believe that the size of the intervention effect and the improvement in process/outcomes for clients are significant enough to outweigh any concerns related to sample size.

21. Describe the "face validity" – how the improvement appears to be the result of the PIP intervention(s).
We selected performance indicators that were reasonably objective. Study subjects were consistently identified and studied at each data collection interval. Careful record review substantiated inclusion in the study.

22. Describe statistical evidence that supports that the improvement is true improvement?
See attached spreadsheet. Variance was significant at .05. The likelihood of obtaining the calculated F scores if the null hypothesis is true is very low, even in the measure (wait time to MD appointment in days) that had the highest variability (the baseline group had a mean of 73.24 days and a SD of 28.74). In fact, the calculated P value for this performance indicator = 2.92E-14.

23. Was the improvement sustained over repeated measurements over comparable time periods? Or, what is the plan for monitoring and sustaining improvement?
The improvements were immediate and were sustained over the course of a year. In particular, performance indicators 2 and 3 demonstrated very little variation from collection period to collection period. We have a high degree of confidence that the improvements would continue to be evident if the PIP were to be continued over a longer period of time.