IDENTIFICATION OF PLAN/PROJECT			
MHP Name:	**Sacramento County DHHS – Division of Behavioral Health Services**		
Project Title:	**Implementing a Streamlined E-Scheduling Tool to Increase Timeliness to 1st Offered Appointment**	Clinical: ☐ Non-Clinical: ☒	
Project Leader:	**Rolanda Reed**	Title: **Program Coordinator**	Role: **Facilitator**
Initiation Date:	**2/24/2016**		
Completion Date:	**6/30/17**	Projected Study Period (# of months): **7/1/2016-6/30/2017**	

SECTION 1: SELECT & DESCRIBE THE STUDY TOPIC

1. The PIP Study Topic selection narrative should include a description of stakeholders involved in developing and implementing the PIP. MHPs are encouraged to seek input from consumers and all stakeholders who are users of, or are concerned with specific areas of service.

   - Assemble a multi-functional team.
   - Describe the stakeholders who are involved in developing and implementation of this PIP, and how they were selected to participate.

The Sacramento County Mental Health Plan (MHP) involved many stakeholders in the development and organization of this PIP. Members of the committee were selected based upon their experience and knowledge of the MHP system. The committee was comprised of MHP administrative staff from Quality Management (QM), Research, Evaluation, and Performance Outcomes (REPO), Avatar (Electronic Health Record), Access, Behavioral Health Services (BHS) Program, and Cultural Competence. It also involved direct care providers from the Adult and Child systems, Family Advocates, and Community members. The committee meetings were held monthly and additional sub-committee meetings were held to delineate specific tasks and to ensure that various tasks were completed on schedule.

The non-clinical PIP Committee membership is as follows:

County Participants:
Lisa Sabillo - Division Manager, Support Services – QM, REPO, Avatar
Alex Rechs – Program Manager, QM
Rolanda Reed, Beneficiary Protection Program Coordinator, QM
Dawn Williams – Program Manager, REPO
Alba Garcia, Program Planner, REPO
Melissa Jacobs, Division Manager, BHS Program
Sherri Green, Program Manager, BHS Program
Ann Mitchell, Administrative Services Officer III, Avatar
Kacey Vencill, Business Analyst, Avatar
Christy Veneroni, Trainer, Avatar

Marcia Marsh, Trainer, Avatar
Justin Miller, Trainer, Avatar
Kathleen Harris, Administrative Services Officer I, Avatar
Kathy Burlingame, Program Coordinator, BHS Access
Erin McClure, Program Coordinator, Access
JoAnn Johnson, Program Manager, Cultural Competence, Ethnic Services, Workforce, Education and Training
Mary Nakamura, Program Planner, Cultural Competence

Provider and Advocate and Community Member Participation:
Carter Haynes, Department Manager, Dignity Health
Grainger Brown, Clinic Manager, Dignity Health
Nicole Hill, Administrative Associate III, Dignity Health
Mariah Plassmeyer, Administrative Services Representative Lead II, Dignity Health
Tina Traxler, Division Director, River Oak Center for Children
Roland Udy, Chief Operating Officer, River Oak Center for Children
Mary Bush, Family Advocate, River Oak Center for Children
Marlyn Sepulveda, Program Director, TCORE
Eva Avila, Billing and Scheduling, TCORE

2. Define the problem.
   - The problem to be addressed should be clearly stated with narrative explanation including what brought the problem to the attention of the MHP.
     - What is the problem?
     - How did it come to your attention?
     - What data have you reviewed that suggests the issue is indeed a problem for the MHP? Describe any relevant benchmarks.
     - What literature and/or research have been reviewed that explain the issue's relevance to the MHP's consumers?
   - The study topic narrative will address:.
     - What is the overarching goal of the PIP?
     - How will the PIP be used to improve processes and outcomes of care provided by the MHP?
     - How any proposed interventions are grounded in proven methods and critical to the study topic.
   - The study topic narrative will clearly demonstrate:
     - How the identified study topic is relevant to the consumer population
     - How addressing the problem will impact a significant portion of MHP consumer population

   How the interventions have the potential to impact the mental health, functional status, or satisfaction of consumers served.

What is the problem?

For much of the last decade, prolonged wait times by patients to access care have been a problem and concern across all health care environments. Sacramento County's MHP is no exception to facing the challenge of prolonged wait times.[1] Consumers often reach out for help when motivated to change.[2] Lengthy wait times to access care can negatively impact consumer motivation, lead to a deterioration of mental health symptoms that may require more rigorous treatment later, result in consumer dissatisfaction, and increase use of other health care systems, such as urgent care and emergency rooms.[3] Reducing lengthy wait times for mental health services is essential to improve treatment outcomes for consumers and to better utilize health care resources within the community.[4]

The problem that is being addressed in this PIP is twofold:

1. One aspect to determining appropriate interventions and strategies to address timeliness to service is the ability of the MHP to offer appointments that fall within the timeliness standards. While the MHP is able to measure and report on the time from initial request for service to the first completed face-to-face appointment, it does not have a mechanism in place to record and track the date of first offered appointment. This hinders the MHP's ability to fully analyze timeliness to determine where there may be gaps that need to be addressed.

2. The second aspect of the problem is the MHPs current business process for authorizing and setting up first offered appointments. Currently, the initial request for mental health services goes through the Access Team to be evaluated for medical necessity, and when determined to qualify for services, Access refers the consumer to the provider and the provider contacts the consumer to schedule an intake appointment. As mentioned previously, not only is the MHP unable to record and track the first offered appointment by the provider but the provider also has to reach out and contact the consumer to set up an appointment. It can be challenging for both the provider and consumer to connect simply to schedule the appointment adding additional days to the wait time for a first service. These additional days can hinder the MHPs ability to offer and/or provide the initial service to consumers within the defined timeliness standards. In the interim, unintended barriers may delay or prevent a consumer from obtaining mental health services in a timely manner.

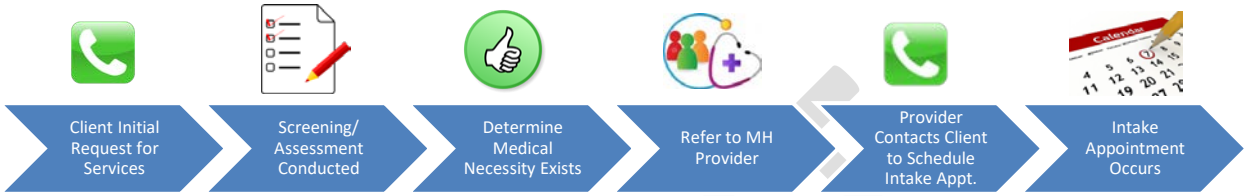
[1] Brandenburg, L., P. Gabow, G. Steele, J. Toussaint, and B. Tyson. 2015. Innovation and best practices in health care scheduling. Discussion paper. Washington, DC: Institute of Medicine. http://nam.edu/wp-content/uploads/2015/06/SchedulingBestPractices.pdf

[2] Weaver, A., Greeno, C.G, Goughler, D.H, Yarzebinski, K., Zimmerman, T., Anderson, C. The Impact of System Level Factors on Treatment Timeliness: Utilizing the Toyota Production System to Implement Direct Intake Scheduling in a Semi-Rural Community Mental Health Clinic. NIH-PA Author Manuscript, J Behav Health Res. July 2013; 40(3): 294-305 www.ncbi.nlm.gov

[3] Murray, M., Reducing Waits and Delays in the Referral Process. Family Practice Management, 2002 March, 9(3):39-42. www.aafp.org/fpm/2002/0300/p39.html.

[4] National Academy of Sciences. (2015, June 29). Wait times for health care services differ greatly throughout US. Science Daily. Retrieved March 15, 2016 from www.sciencedaily.com/releases/2015/06/150629132426.htm

The MHP is continuing its efforts to improve timeliness to first offered out-patient (OP) appointments for new consumers. The process graphic below illustrates the MHP's present flow of service.



How did this problem come to our attention?

In 2014 Senate Bill 964 (SB 964) was enacted into law. This Bill enhanced regulations required in the Knox-Keene Health Care Service Plan Act of 1975 that requires the Department of Health Care Services (DHCS) to adopt standards for timeliness of access to care and to review its contractors for compliance with those standards every three years. SB 964 amended Safety Code, Section 1367.03, to require DHCS to annually review its contractors for timely access to care and to post findings on its internet website. The MHP has measured timeliness to service since before 2010 and has used this data to inform strategies and practices aimed at improving timely access to mental health services.

During the FY 13-14 site review, the California External Quality Review Organization (EQRO) made a number of recommendations for improvement in Sacramento County MHP's programmatic and/or operational areas. One such recommendation was for the MHP to improve timely access to system-wide services, given evidence that suggested the MHP had some of the longest wait times in the state. In response, the MHP implemented a three-phase process to improve access and service engagement through the use of triage/navigator staff located at key access points and two mobile crisis service teams to improve the crisis response system. In addition, in July 2015 the MHP developed a PIP to address timeliness and capacity issues within the Adult outpatient system of care, Regional Support Teams (RSTs), through the creation of Community Care Teams to assist with consumer intake and engagement.

The MHP has responded to the timeliness challenges evident in the MHP data, as well as the EQROs recommendations, by implementing programming strategies and a Clinical PIP to address timeliness and capacity issues. But, the MHP recognizes that timeliness to service continues to be a high priority throughout the State of California as well as at the Federal level. As discussions have occurred in different venues such as the CalQIC conference, DHCS webinars on the Standards, Terms and Conditions for MHP contracts and various metric/outcome workgroups, the MHP recognized the need to re-evaluate both the calculation methodology and the initial appointment business process to determine their impact on timeliness to service. After review of the data, the PIP committee determined that additional strategies aimed at timeliness measurement and initial appointment business processes are necessary to fully understand and address this very important issue.

This PIP builds upon the MHPs previous and current efforts to address timeliness to service by implementing a mechanism within the electronic health record that will allow the MHP to measure the full spectrum of timely access to service, from the initial request for service to the time the MHP authorizes services, to the time to first offered appointment, to the time to first completed face to face appointment. The use of the electronic health record to fully track timeliness allows the MHP to test new strategies in the initial appointment business process.

What data have you reviewed that suggests the issue is indeed a problem for the MHP? Describe any relevant benchmarks?

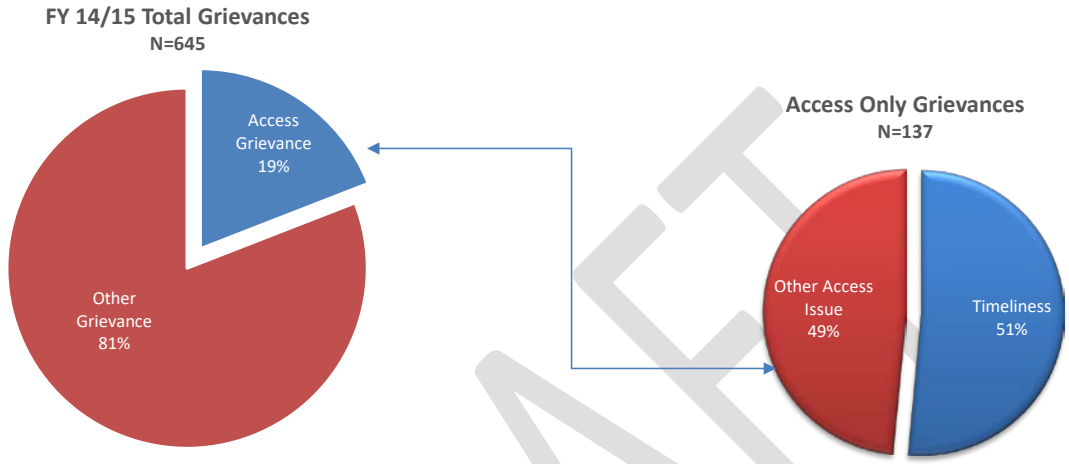
There were additional factors that compounded the timeliness issue and contributed to delays in consumers being authorized for services. Internal analysis of the data uncovered a delay in authorizations at the point of Access when consumers were initially referred for services. This delay occurred at a time when the Access team was dealing with extreme staff shortages as well as a bifurcated system, with two separate Access teams, serving adults and children. As of January 12, 2015 the Access team was restructured into one team that serves both adults and children. Along with the restructuring, the Access team was able to add additional positions and become fully staffed. These two factors alone have contributed to significant improvement in timeliness from referral to service authorization, going from an average of 24 days (August 2015) to 4 days (March 2016). Although the MHP has significantly improved from initial referral for services to authorization, there is still a significant delay in timeliness to first outpatient appointment.

There were three main areas that the MHP reviewed data which suggested that timeliness, the measure of timeliness and the first appointment business process were an issue for the MHP.

The three areas included consumer satisfaction data, timeliness data and consumer engagement (no-show data) data.

Consumer Satisfaction:
During fiscal year 14/15 the MHP received 645 grievances. 137 (21%) of grievance issues related to challenges consumer's experienced accessing mental health services. Of these access issues, 71 (52%) were due to timeliness issues such as delays receiving return phone calls from the provider agency to schedule an intake appointment, or the scheduled appointment was too far into the future.

Chart 1



Timeliness to service Benchmarks

Sacramento County has measured timeliness to service for numerous years and has been examining variations in the percent of adult and children consumers meeting timeliness to service.

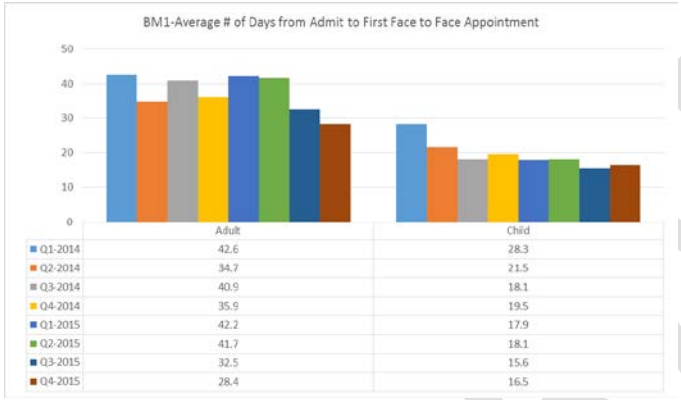
The MHP analyzes timeliness to services on a quarterly basis. Data from quarterly benchmark (timeliness) reports were used to analyze timeliness over time for the measures that are relevant to this PIP. The two timeliness benchmarks (BM1 and BM5) relevant to this PIP are:

1. **Benchmark 1 (BM1):** BM1 measures the number of days from the time a consumer is admitted to an outpatient (OP) provider to the first face-to-face OP service. **The target is 14 calendar days or less.**
2. **Benchmark 5 (BM5):** BM5 measures the number of days from acute hospital discharge to the first face-to-face OP service. **The target is 7 calendar days.**

Charts 2 and 3 show the MHP's quarterly timeliness Benchmark 1 (BM1) data for Calendar Years 2014 and 2015. Chart 2 illustrates the average number of days between the time a consumer was opened at an outpatient provider to the first face to face outpatient service.

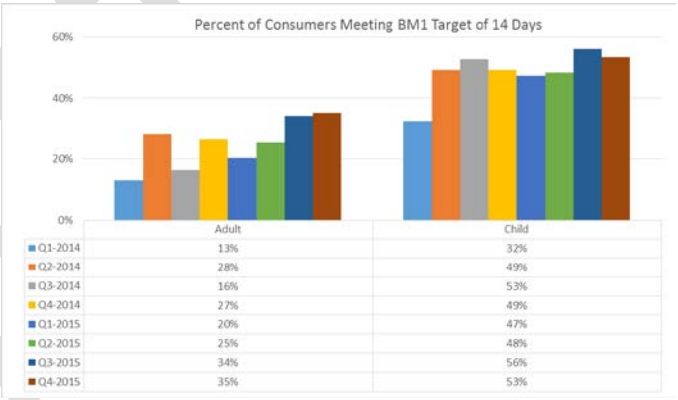
It shows that for both Adults and Children, the MHP has made improvements over time in timeliness by decreasing the average # of days to the first face to face appointment. For Adults, the MHP decreased from 42.6 days in Q1 of 2014 to 28.4 days in Q4 of 2015; for Children, the MHP decreased from 28.3 days in Q1 of 2014 to 16.5 days in Q4 of 2015. The same trend is seen in Chart 3 where the percent of consumers meeting the 14 day target for BM1, where adults increased the percent meeting target from 13% (Q1-2014) to 35% (Q4-2015) and children increased the percent meeting target from 32% (Q1-2014) to 53% (Q4-2015).
While the MHP has seen significant improvements in this area, there is still work to be done to reach the Benchmark 1 target of 14 days. Additionally the MHP would like to see a larger percent of consumers meeting the 14 day target.

Chart 2



	Adult	Child
Q1-2014	42.6	28.3
Q2-2014	34.7	21.5
Q3-2014	40.9	18.1
Q4-2014	35.9	19.5
Q1-2015	42.2	17.9
Q2-2015	41.7	18.1
Q3-2015	32.5	15.6
Q4-2015	28.4	16.5

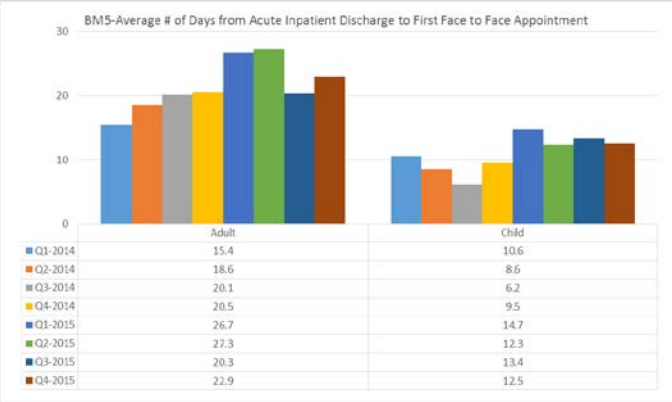
Chart 3



	Adult	Child
Q1-2014	13%	32%
Q2-2014	28%	49%
Q3-2014	16%	53%
Q4-2014	27%	49%
Q1-2015	20%	47%
Q2-2015	25%	48%
Q3-2015	34%	56%
Q4-2015	35%	53%

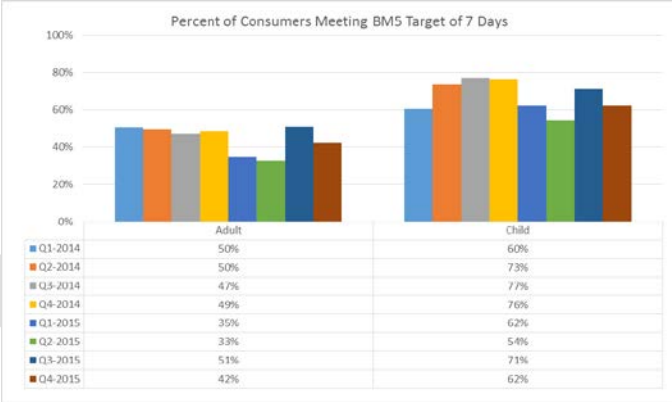
Charts 4 and 5 show the MHP's quarterly timeliness Benchmark 5 (BM5) data for Calendar Years 2014 and 2015. Chart 4 illustrates the average number of days between the time a consumer was discharged from an acute inpatient psychiatric hospital to the first face to face outpatient service. It shows that for both Adults and Children, the MHP has struggled with this timeliness measure and has seen an increase in the average # of days to the first face to face service after discharge from acute inpatient. For Adults, the MHP has increased from 15.4 days in Q1 of 2014 to 22.9 days in Q4 of 2015; for Children, the MHP has increased from 10.6 days in Q1 of 2014 to 12.5 days in Q4 of 2015. The same trend is seen in Chart 5, the percent of adult consumers meeting the 7 day target for BM5, where adults decreased the percent meeting target from 50% (Q1-2014) to 42% (Q4-2015). While the percent of children meeting the BM5 target increased from 60% (Q1-2014) to 62% (Q4-2015), there was an increase in the average number of days for this benchmark.

Chart 4



	Adult	Child
Q1-2014	15.4	10.6
Q2-2014	18.6	8.6
Q3-2014	20.1	6.2
Q4-2014	20.5	9.5
Q1-2015	26.7	14.7
Q2-2015	27.3	12.3
Q3-2015	20.3	13.4
Q4-2015	22.9	12.5

Chart 5



	Adult	Child
Q1-2014	50%	60%
Q2-2014	50%	73%
Q3-2014	47%	77%
Q4-2014	49%	76%
Q1-2015	35%	62%
Q2-2015	33%	54%
Q3-2015	51%	71%
Q4-2015	42%	62%

The MHP's timeliness benchmark data indicates that while there have been improvements made in some of the benchmark measurements, there is still significant work to be done.

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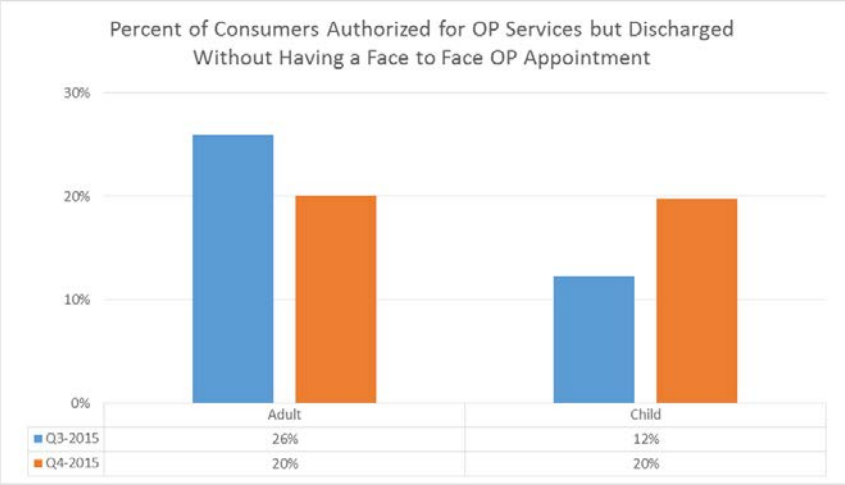
Consumer Engagement after Authorization

In July 2015, the MHP added a new Benchmark to their quarterly Benchmark report. This new benchmark was added so that the MHP could track the number and percent of consumers that were authorized and referred for outpatient services that did not receive any outpatient services. So, in other words, the MHP was interested in seeing the percent of consumers that were not engaging in mental health services. Chart 6 shows the percent of adults and children that were authorized for services through the Access Service Request process, opened to an outpatient provider and discharged by the provider without having a face to face outpatient service. Adult consumers have shown a decrease in engagement from 26% in Q3-2015 to 20% in Q4-2015 whereas child consumers have shown an increase from 12% in Q3-2015 to 20% in Q4-2015. The MHP believes there is a connection to timeliness to first appointment and engagement and aims to address engagement through the strategies implemented in this PIP.

Chart 6



What literature and/or research have been reviewed that explain the issue's relevance to the MHP's consumers?

Research indicates that "low-income, vulnerable populations often face housing instability and their contact information can quickly change." Additionally, the call back system can result in "phone tag" or the inability of the provider and consumer to connect with one another because providers either do not leave messages or leave vague messages due to confidentiality concerns, or there are challenges with the consumer's telephone access. These situations increase the likelihood that a consumer will fall through the cracks and fail to receive timely services or no services at all when consumers become frustrated and give up.[5]

Research also indicates that there is a strong and significant linear relationship between the initial contact a consumer has with an agency and the day that the consumer is given an appointment. One research study indicates that the number of cancellations or no-shows increased by 12 % for every day of delay between initial contact and receiving an appointment[6], and another study indicates that there is a 150% increase in absenteeism to the initial appointment for every day of wait time.[7]

[5] Gallucci, G., Swartz, W., Hackerman, F. Impact of the Wait for an Initial Appointment on the Rate of Kept Appointments at a Mental Health Center. Psychiatric Services, March 2005, vol. 56, No. 3. http://ps.psychiatryonline.org.
[6] Swift, J.K., Whipple, J.L., Sandberg, P. Time from Initial Contact to First Appointment Related to Therapy Attendance. A Goodtherapy.org News Summary, December 23, 2012. www.goodtherapy.org/blog/therapy-distress-hope-treatment-1223121.
[7] Weaver, A., Greeno, C.G, Goughler, D.H, Yarzebinski, K., Zimmerman, T., Anderson, C. The Impact of System Level Factors on Treatment Timeliness: Utilizing the Toyota Production System to Implement Direct Intake Scheduling in a Semi-Rural Community Mental Health Clinic. NIH-PA Author Manuscript, J Behav Health Res. July 2013; 40(3): 294-305 www.ncbi.nlm.gov

In a NAMI report, “Grading the States, A Report on America’s Health Care System for Serious Mental Illness, 2006”, they state that “Without treatment the consequences of mental illness for the individual and society are staggering: unnecessary disability, unemployment, substance abuse, homelessness, inappropriate incarceration, and suicide. The economic cost of untreated mental illness is more than 100 billion dollars each year in the United States.”

An article, “Consequences of Non-Treatment”, on the Mental Illness Policy Org website echoed that in the NAMI report, citing homelessness, incarceration, episodes of violence, victimization, suicide, clinical outcomes more severe-recovery uncertain and fiscal impacts as consequences of non-treatment. In this same article studies were cited that showed negative impacts to receiving delayed services: the longer a patient waited to receive treatment for a psychotic episode, the longer it took to get the illness into remission (1994, Liebeman er al), delusions and hallucinations among patients suffering from psychosis increased in severity the longer treatment was withheld from the time of the initial psychotic break (1998, Hopkins et al.).

It is evident in the literature that having the ability to offer an individual an appointment at the time they are requesting services and having timely appointments available to offer is critical to engaging the consumer in services and decreasing no-shows. The literature also suggests that longer wait times increase the likelihood that consumers will not receive timely, or for that matter, any mental health service. While the MHP is limited in its ability to measure the negative impacts of untreated mental illness, the literature supports that individuals that do not receive timely services and/or no mental health service have poorer outcomes and the consequences can be devastating.

This literature supports the MHPs decision to design a PIP that is aimed at improving timeliness and engagement to mental health services. The literature provides a strong correlation between timely access/engagement in mental health services to improved consumer outcomes and better chance of recovery. By demonstrating (via the performance indicators) increased timeliness and engagement to mental health services the MHP can rely on the plethora of literature to know that getting consumers into mental health services timely is leading to better outcomes for individuals with SMI/SED in our community.

List of Validated Causes/Barriers:

Barriers to Timeliness to First Appointment addressed in the PIP

1	Technology to streamline business process: ➢ The MHP's county and county contracted providers presently use a variety of patient appointment scheduling tools and methods. This variation produces differences in timely appointment scheduling. By standardizing processes, simplifying steps, and adhering to one model, the electronic scheduler aims to reduce appointment wait times, increase satisfaction and increase appointment scheduling efficiency by providers. ➢ The MHP does not have the ability to measure first offered appointments. It is critical for the MHP to have the ability to measure the full spectrum of timeliness measures so that analysis of the data can assist the MHP in identifying areas requiring intervention.
2	Engagement: ➢ Time spent by the provider attempting to contact the consumer after they have requested services impacts the MHPs ability to offer a timely service. ➢ Inability of the MHP to provide timely access to services decreases the MHP's ability to engage consumers in service.

Measurement Methodology

This PIP will collect instances of 1st offered appointments within 14 calendar days[8] and no-show and cancellation data using the county's existing Electronic Health Record (EHR-Avatar). Service authorization and utilization data will be used to determine timeliness to services. Other data to be collected includes demographics, provider admissions and discharges, and psychiatric hospitalization data. Data from the EHR will be collected and reviewed to determine if the scheduler is making a difference in reducing appointment wait times. Analysis will include quarterly review of baseline data and performance against that baseline data. Data will be analyzed by comparing results from the baseline (one year prior to PIP implementation) with results one year after implementation. Achievable improvement targets will be set based on results from Q1 data. Results and trends will be reviewed quarterly at the PIP Committee meeting to determine whether interventions set forth are providing the intended results. The REPO Program Manager will oversee the monthly data extraction and reporting by designated staff. Staff is comprised of Program Planners who specialize in data collection, analysis and reporting. Interventions will be adjusted and training and coaching will be made available if untoward results are found to eliminate any model implementation fidelity issues and staff turnover, etc.

SECTION 2: DEFINE & INCLUDE THE STUDY QUESTION

The study question must be stated in a clear, concise and answerable format. It should identify the focus of the PIP. The study question establishes a framework for the goals, measurement, and evaluation of the study.

Will the practice of electronically scheduling appointments for consumers during their initial contact with the MHP decrease the wait time to first offered appointment and improve the likelihood that the consumer attends the initial appointment?

SECTION 3: IDENTIFY STUDY POPULATION

[8] 14 calendar day references are equivalent to 10 business days for the purpose of this PIP.

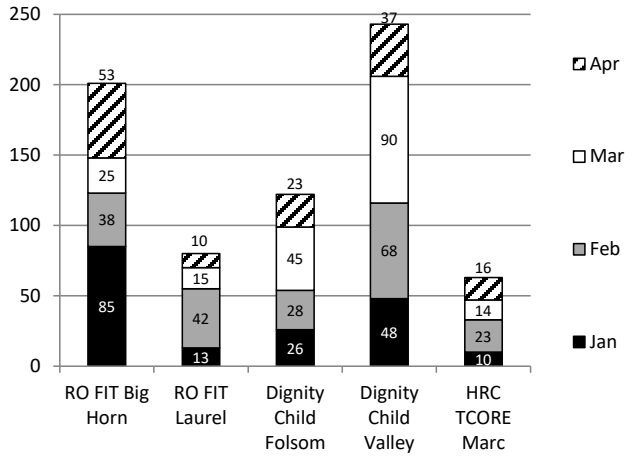
Clearly identify the consumer population included in the study. An explanation about how the study will address the entire consumer population, or a specific sample of that population. If the study pertains to an identified sector of the MHP consumer population, how inclusion of all members will occur is required. The documentation must include data on the MHPs enrolled consumers, as well as the number of consumers relevant to the study topic.

This section may include:

- Demographic information;
- Utilization and outcome data or information available; and
- Other study sources (such as pharmacy data) that may be utilized to identify all consumers who are to be included in the study.

This PIP will pilot the Avatar scheduler functionality with select providers/programs. A combination of three contracted children and adult providers/programs will be included in this pilot program. Selection of providers included both providers that utilize the County's EHR (Avatar) as well as providers that have their own EHR. The PIP includes the entire population of individuals referred and authorized for services through the Access Team to the selected providers and does not utilize a sampling method. The number of beneficiaries will vary, depending on the number of requests for services received by the Access team. It is anticipated that approximately 175 new beneficiaries per quarter will be included in the sample (based on the number of new service requests in the EHR-Avatar, Jan-April monthly average 2016).

2016	RO FIT Big Horn	RO FIT Laurel	Dignity Child Folsom	Dignity Child Valley	HRC TCORE Marc
Jan	85	13	26	48	10
Feb	38	42	28	68	23
Mar	25	15	45	90	14
Apr	53	10	23	37	16
Monthly Avg	50.25	20	30.5	60.75	15.75
Sub Total	201	80	122	243	63
Grand Total	281		365		63



SECTION 4: SELECT & EXPLAIN THE STUDY INDICATORS

"A study indicator is a measurable characteristic, quality, trait, or attribute of a particular individual, object, or situation to be studied."[9] Each PIP must include one or more measurable indicators to track performance and improvement over a specific period of time. Indicators should be:

- Objective;
- Clearly defined;
- Based on current clinical knowledge or health service research; and
- A valid indicator of consumer outcomes.

The indicators will be evaluated based on:

- Why they were selected;
- How they measure performance;
- How they measure change a mental health status, functional status, beneficiary satisfaction; and/or
- Have outcomes improved that are strongly associated with a process of care;
- Do they use data available through administrative, medical records, or another readily accessible source; and
- Relevance to the study question.

The measures can be based on current clinical practice guidelines or health services research. The MHP must document the basis for adopting the specific indicator.

In reporting on the chosen indicators include:

- A description of the indicator;
- The numerator and denominator;
- The baseline for each performance indicator; and performance goal.

Specify the performance indicators in a Table.

The performance indicators were selected based on long standing county benchmarks that include, but are not limited to, average days to first service and first Face to Face contact. In addition to these established benchmarks, the electronic scheduler will serve as an additional method to inform timeliness.
The scheduler will give the county the ability to track the first offered appointment to determine if there is a reduction in the number of days to first appointment as a result of a streamlined one-stop phone call appointment process. The scheduler will address the use of no show/cancellation codes in the system and utilize those codes to determine whether an appointment was "offered" in a timely manner and whether the consumer and/or provider no showed and/or cancelled the appointment.

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?

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	Goal
1	Timeliness to First OP Face to Face Service at 3 distinct providers (BM1)	Number of consumers who had their 1st face-to-face service w/in 14 calendar days[10] of referral for each of the 3 providers.	Total number of referrals to each of the 3 providers where the consumer received a service.	FY 15/16 Adults: 34.3% (34/99) Children: 75% (1284/1713)	Adult 40% Child 80%
2	Timeliness from Acute Hospital Discharge to 1st OP Face to Face Service (BM7[11])	Number of acute hospital discharges with a face-to-face service at each of the 3 providers w/in 7 calendar days[12] of acute discharge.	Total number of acute discharges for consumers at each of the 3 providers.	FY 15/16 Adults: 52.1% (74/142) Children: 63.3% (140/221)	Adult 60% Child 70%
3	Timeliness from 1st contact to 1st offered appointment (scheduler data). NEW*	Number of new consumers at each of the 3 providers who were offered an appointment w/in 14 calendar days of 1st contact.	Total number of new consumers at each of the 3 providers.	Baseline established FY 2016/17, Q1. Q1 FY 16/17 Adults: 100% (4/4); Children: 95.9% (236/246)	Adult 100% Child 97%
4	1st offered appointment cancellation and no show data.	Number of new consumers at each of the 3 providers who were offered an appointment w/in 10 days of 1st contact and who cancelled or did not show to appt.	Total number of new consumers at each of the 3 providers.	Baseline established FY 2016/17, Q1. Q1 FY 16/17 Adults: 50% (2/4); Children: 12.6% (31/246)	Adult 30% Child 10%
5	Problem resolution – grievances related to timeliness issues.	Number of MHP Grievances, Appeals, and Expedited Appeals relating to Access Timeliness issues received by QM for each of the 3 providers	Total number of MHP Grievances, Appeals, and Expedited Appeals relating to Access issues received by QM for each of the 3 providers	Baseline established FY15/16 4/15 = 26.6%	20% overall
6	Engagement in Services (BM10)	Number of new consumers that were opened for services and discharged without receiving an outpatient service at the 3 providers.	Total number of new consumers that were opened for services at the 3 providers.	FY 15/16 Adults: 20.4% (20/98) Children: 19.1% (318/1663)	15% overall

Commented [AM1]: Same comment as in Clinical PIP, the indicator is "# of days to first OP ….# of days following discharge to…." And the data should be reported in raw #'s and then analyzed to % or rates to show the progress to the goal/outcome.

[10] 14 calendar day references are equivalent to 10 business days for the purpose of this PIP.
[11] BM7 was formally BM5
[12] 7 calendar day references are equivalent to 5 business days for the purpose of this PIP.

Table C – Rationale for Selection of Performance Indicators

Rationale for Selection of Study Performance Indicator #1:	The 14 calendar day timeliness rate is a standard that reflects the number of days from the time a consumer is admitted to an outpatient provider to the first face-to-face outpatient service.
Quantifiable Performance Indicator #1	The percentage of time to first outpatient face-to-face service at 3 providers (BM1)
Numerator:	Number of consumers who had their 1st face-to-face service w/in 14 calendar days of referral for each of the 3 providers.
Denominator:	Total number of referrals to each of the 3 providers where the consumer received a service.
First measurement period dates:	FY 2015/16 (July 1, 2015 to June 30, 2016)
Baseline Benchmark:	Adults: 34.3% (34/99); Children: 75.0% (1284/1713)
Source of benchmark:	FY 2015/16
Baseline goal:	Adults: 40%; Children: 80%
Rationale for Selection of Study Performance Indicator #2:	The 7 calendar day timeliness rate is a standard that reflects the number of acute hospital discharges with a face-to-face service at each of the 3 providers.
Quantifiable Performance Indicator #2	The percentage of time from acute hospital discharge to 1st outpatient face-to-face service (BM7).
Numerator	Number of acute hospital discharges with a face-to-face service at each of the 3 providers w/in 7 calendar days of acute discharge.
Denominator	Total number of acute discharges for consumers at each of the 3 providers.
First measurement period dates	FY 2015/16 (July 1, 2015 to June 30, 2016)
Benchmark	Adults: 52.1% (74/142); Children: 63.3% (140/221)
Source of benchmark	FY 2015/16
Baseline goal:	Adults: 60%; Children: 70%
Rationale for Selection of Study Performance Indicator #3:	The timeliness rate from 1st contact to first offered appointment impacts the time to first outpatient appointment. This is a new measure for the MHP. By using an electronic scheduler at the point of service for 3 provider sites we hope to obtain baseline data to compare with BM1 to aid us in getting consumer's scheduled for appointments sooner.
Quantifiable Performance Indicator #3	The percentage of time from 1st contact to first offered appointment.
Numerator:	Number of new consumers at each of the 3 providers who were offered an appointment w/in 14 calendar days of 1st contact.
Denominator:	Total number of new consumers at each of the 3 providers.
First measurement period dates:	Quarterly for FY16/17, beginning with July 1, 2016-Sept 30, 2016
Baseline Benchmark:	Q1 FY 16/17, Adults: 100% (4/4); Children: 95.9% (236/246)
Source of benchmark:	Sacramento County EHR Q1, FY 16/17
Baseline goal:	Adults: 100%; Children: 97%
Rationale for Selection of Study Performance Indicator #4:	The no show and cancellation rates for first offered appointments impacts the time to first outpatient appointment. By using an electronic scheduler at the point of service for 3 provider sites we hope to decrease the number of no shows and/or cancellations, in turn, getting consumers in sooner to their first appointment.
Quantifiable Performance Indicator #4	The percentage of cancellations and no shows at 3 provider sites.
Numerator:	Number of new consumers at each of the 3 providers who were offered an appointment w/in 10 days of 1st contact and who cancelled or did not show to appt.
Denominator:	Total number of new consumers at each of the 3 providers.
First measurement period dates:	Quarterly for FY16/17, beginning with July 1, 2016-Sept 30, 2016

Baseline Benchmark:	Q1 FY 16/17, Adults: 50% (2/4); Children: 12.6% (31/246)
Source of benchmark:	Sacramento County EHR Q1, FY 16/17
Baseline goal:	Percent change increase from Q1
Rationale for Selection of Study Performance Indicator #5:	The Grievance, Appeal and Expedited Appeal processes relating to timeliness to 1st appointment are a measure of consumer dissatisfaction with Access to services. By using the electronic scheduler at the point of service for the 3 provider sites we hope to decrease the number of timeliness grievances, appeals, and expedited appeals received by the MHP.
Quantifiable Performance Indicator #5	The percentage of grievances, appeals, and expedited appeals received by the MHP at the 3 provider sites.
Numerator:	The number of grievances, appeals, and expedited appeals received by the MHP relating to timely access to 1st appointment at the 3 provider sites.
Denominator:	The Total number of grievances, appeals and expedited appeals received by the MHP relating to all access issues at the 3 provider sites
First measurement period dates:	Quarterly (July 1, 2016 to June 30, 2017)
Baseline Benchmark:	Baseline benchmark FY 15-16
Source of benchmark:	Sacramento County MHP Grievance Access Database FY 15/16
Baseline goal:	20% overall
Rationale for Selection of Study Performance Indicator #6:	Timeliness and engagement in services is impacted by the ability of the MHP to offer a timely appointment to the consumer at the time the consumer is requesting services. Measurement of the percent of consumers that are engaging in services will assist us in analyzing the impact of the strategies that are being implemented in the PIP
Quantifiable Performance Indicator #6	The percent of consumers that are referred and opened to an outpatient provider that were discharged without receiving a service (BM10)
Numerator:	Number of new consumers that were opened for services and discharged without receiving an outpatient service at the 3 providers.
Denominator:	Total number of new consumers that were opened for services at the 3 providers.
First measurement period dates:	FY 2015/16 (July 1, 2015 to June 30, 2016)
Baseline Benchmark:	Adults: 20.4% (20/98); Children: 19.1% (318/1663)
Source of benchmark:	FY 2015/16
Baseline goal:	15% overall
C. Baseline Methodology. See “Baseline Benchmark and Source of Benchmark” in the sections above for each respective metric.	
Identified Study Population: Consumers with initial service requests from 3 MHP contracted providers.	

Section 5: Sampling Methods (if applicable)

The MHP must provide the study description and methodology. Identify the following:

- Calculate the required sample size?
- Consider and specify the true or estimated frequency of the event?
- Identify the confidence level to be used?
- Identify an acceptable margin of error?

Describe the valid sampling techniques used?

A combination of three contracted children and adult providers/programs will be included in this pilot program. Selection of providers included both providers that utilize the County's EHR (Avatar) as well as providers that have their own EHR. The sampling method section is not applicable to this PIP since no sampling method will be utilized. The PIP includes the entire population of individuals referred and authorized for services through the Access Team to these selected providers.

SECTION 6: DEVELOP STUDY DESIGN & DATA COLLECTION PROCEDURES

A study design must be developed that will show the impact of all planned interventions. Include the information describing the following:

- Describe the data to be collected.
- Describe the methods of data collection and sources of the data. How do these factors produce valid and reliable data representing the entire consumer population to which the study indicators apply?
- Describe the instruments for data collection, and how they provided for consistent and accurate data collection over time.
- Describe the prospective data analysis plan. Include contingencies for untoward results.
- Identify the staff that will be collecting data, and their qualifications. Include contractual, temporary, or consultative personnel.

DATA TO BE COLLECTED

The date of first offered appointment will be captured in the EHR along with no-show and cancellation data. Service authorization and utilization data will also be captured in the EHR and used to determine timeliness to services. Other data to be collected include provider admissions and discharges, and consumer demographic data. Data on the number of grievances submitted to beneficiary protection will also be collected and analyzed.

The EHR and Beneficiary Protection access database are the instruments used to collect the data. County and Contract staff will be responsible for entering the data into the EHR.

DATA COMPLETENESS/VALIDTY

With the exception of data entered into the Scheduler option of the EHR, all other data being used in the analysis of this PIP has been collected/reported by MHP county and contract provider staff since implementation of the EHR (2009). The data to be collected is currently part of the established business processes and guided by policy and procedure. Prior to being given access to the EHR all staff must complete training on how to utilize and enter data into the EHR. The data is captured for authorization of services, billing, clinical management and program evaluation purposes. The data is reviewed through the MHP Utilization review process, Research and Evaluation reports and fiscal processes to ensure accuracy. To ensure consistency with the newly added Scheduler module Access and provider staff will receive training on their prospective roles in data collection and how to use the scheduler so that data is entered correctly.

MHP staff will monitor data used for analysis and will provide feedback and technical assistance to the Access Team and participating providers as needed, but no less than at the quarterly PIP meetings.

INSTRUCTIONS FOR DATA ABSTRACTORS

DATA ANALYSIS PLAN

Appointment, no-show/cancellation data, service authorization, utilization data, and grievance data collected will be used to calculate baseline and repeated measures data for the performance indicators listed in Table B. Data will be analyzed by comparing results from baseline to PIP implementation with results one year after implementation, permeated with quarterly updates. Results and trends will be reviewed quarterly with the PIP Steering Committee meeting to determine whether interventions set forth are providing the intended results. Interventions will be adjusted and training/coaching may be implemented as required.

PERSONNEL AND STAFF WHO COLLECT DATA

The REPO Program Manager oversees the monthly data extraction and reporting by designated staff. Staff is comprised of Program Planners who specialize in data collection, analysis and reporting.

SECTION 7: DEVELOP & DESCRIBE STUDY INTERVENTION

The MHP must develop reasonable interventions that address causes/barriers identified through data analysis and QI processes. Summarize interventions in a table that:

- Describes each intervention;
- Identifies the specific barriers/causes each intervention is designed to address;
- Identifies the corresponding indicator that measures the performance of the intervention; and
- Maintains the integrity/measurability of each intervention.

The interventions in this PIP aim at changing the current business process used to schedule first appointments through the use of the EHR- Scheduling module. As noted earlier the current business process for scheduling appointments is:

The interventions will change the business process so that the consumer is offered an appointment at the point they are requesting services from the MHP. This first offered appointment will be captured in the EHR. Providers will be responsible for following up with consumers to confirm and remind them of their scheduled appointment.

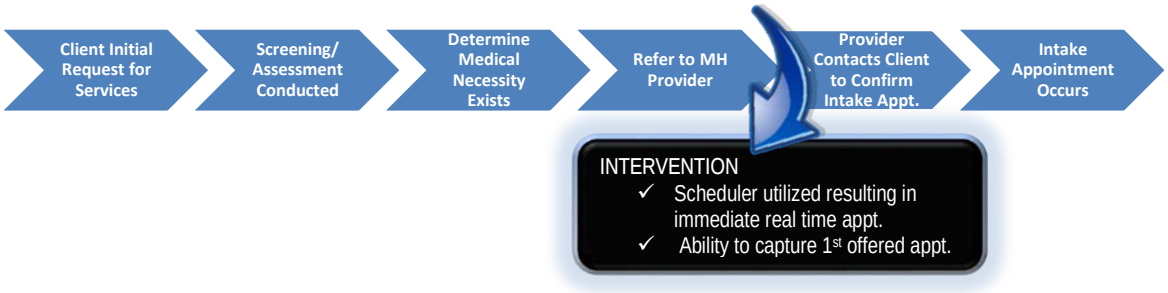


Table C – Interventions

Number of Intervention	List each Specific Intervention	Barriers/Causes Intervention Designed to Target	Corresponding Indicator	Approx. Date Applied
1	Make scheduling tool available and operational at Access and the 3 provider sites.	Technology to streamline business process	Performance Indicators 1-6	05/2016
2	Develop “Scheduling Tool” curriculum, orientation, and training to ensure model fidelity and consistency of use across all 3 sites.	Technology to streamline business process	Performance Indicators 1-6	05/2016
3	Deliver training to 3 sites.	Technology to streamline business process	Performance Indicators 1-6	06/2016
4	Access utilizes the scheduler to schedule appointment while they have the consumer on the phone.	Technology to streamline business process, engagement	Performance Indicators 1-6	07/01/2016
5	Provider utilizes the scheduler to ensure that there are appointment slots available for Access to schedule appointment for consumer	Technology to streamline business process	Performance Indicators 1-6	07/01/2016
6	Provider reviews Avatar on daily basis to learn of newly scheduled consumers	Technology to streamline business process	Performance Indicators 1-6	07/01/2016
7	Provider follows-up with consumer to confirm appointment	Engagement	Performance Indicators 1-6	07/01/2016
8	If consumer is hospitalized, provider follows-up with hospital discharge planner and consumer to confirm appointment.	Engagement	Performance Indicators 2-6	07/01/2016

SECTION 8: DATA ANALYSIS & INTERPRETATION OF STUDY RESULTS

Data analysis begins with examining the performance of each intervention, based on the defined indicators. (For detailed guidance, follow the criteria outlined in Protocol 3, Activity 1, Step 8.)

- Describe the data analysis process. Did it occur as planned?

  Data analysis occurred as planned, on a quarterly basis and during PIP stakeholder meetings. Data was extracted from the County's electronic health record system, AVATAR, several days after the quarter end to allow for delayed data entry and a more complete data set. Data was used to update the Performance Indicators and was reviewed at the quarterly PIP meetings. Data was analyzed and presented as a whole not by individual provider. However a PIP Status Report was created in the EHR to assist providers with monitoring their own data and served as a quality assurance tool.

  The analysis plan also included a pre-post (one year prior to and one year after PIP implementation) comparison of the performance indicators. The post timeframe concluded June 30, 2017 and as such the pre-post analysis is currently being completed and will be incorporated into the final version of the PIP Road Map.

  Analysis completed to date is contained in Table D.

- *Did results trigger modifications to the project or its interventions?*

  Since stakeholder meetings occurred continuously throughout the PIP development and implementation process, early identification of issues such as training and usability of the Scheduler module in AVATAR came to light quickly and correspondingly were addressed timely and completely. This coupled with ongoing data and results auditing helped to ensure the scheduler was accurately capturing intended data.

  A modification that was tested during the PIP was the addition of clinician gender, language, and clinical specialty in the EHR in Q3. The addition was made to assist Access in matching new consumers with appropriate clinicians and did not impact the MHP's ability to offer appointments timely. It was determined that the addition of these fields created more work for the provider and did not make any significant improvements in clinician and consumer matching based on feedback from the providers, this was discontinued in Q4.

- *Did analysis trigger other QI projects?*

  Yes, the success of this PIP in demonstrating that capacity to track and offer an appointment within the established 14 calendar day benchmark as well as increase the percent of clients that are receiving their first MHP service within this time frame has resulted in the

County's desire to either continue this PIP or further explore another QI project on the use of the scheduler with a larger part of the Adult system.

- Review results in adherence to the statistical analysis techniques defined in the data analysis plan.

  No statistical analysis was defined in the data analysis plan however preliminary statistical testing was performed on Performance Indicator #3: timeliness from 1st contact to 1st offered appointment. Staff utilized SPSS to perform a T-Test to determine whether there was a statistically significant improvement in the percent of timely offered appointments from the 1st quarter after PIP implementation to the 3rd quarter of PIP implementation. Results indicate that the increase in percent of timely offered appointments from the 1st quarter to the 3rd quarter are statistically significant ($p<.05$).

  It is anticipated that once the annual data is available, significance testing on pre-post data will be performed on all applicable performance indicators.

- Does the analysis identify factors that influence the comparability of initial and repeat measurements?

  The methodology for data collection and extraction was replicated every time, and consisted of SQL script to extract the data from the EHR. Repeat measurements only differed in date ranges when selecting various timeframes. Otherwise the initial and repeat measurements remained consistent throughout the PIP.

- The analysis of the study data must include an interpretation of the extent to which the PIP is successful and any follow-up activities planned.

  This PIP set out to answer "Will the practice of electronically scheduling appointments for consumers during their initial contact with the MHP decrease wait time to first offered appointment and improve the likelihood that the consumer attends the initial appointment?"

  Initial data analysis based on available data analyzed thus far suggest this PIP demonstrated success in the following areas:

  1. Setting up a business process whereby providers provided time slots that the Access team could use to book an initial appointment for MHP services during Access initial contact with the consumer gave the MHP the ability to offer an initial appointment within a 10 day period (Performance Indicator 3) at least 97% of the time. This business process also supports the capacity of the MHP to offer an initial appointment within a 10 day benchmark and lends evidence to support that poor timeliness benchmarks may not solely be a result of system capacity. The results and changes in business practice support the new practice as an effective strategy to improve timeliness across the MHP. The MHP would like to further test this business process with the Regional Support Teams that serve a high percentage of the MHP adult population.
  2. Offering a timely appointment increased the percent of consumers that showed to their first appointment within 14 days (Performance Indicator 1)The percent of missed visits to the first appointment decreased (Performance Indicator 4) from 12.6% in the 1st quarter to 7.5% in the 4th quarter.

Upon completion of an analysis of pre-post data a final interpretation of the successfulness of the PIP will be completed.

Present objective data analysis results for each performance indicator. A Table can be included (see example), and attach all supporting data, tables, charts, or graphs as appropriate. **See Table D and associated Graphs**

TABLE D – Performance Indicators Data

The data provided herein is preliminary data. As noted in the table below, data for many of the indicators is not available until 90 days after the quarter ends. The document will be updated once the data is available.

Performance Indicator (PI)	Date of Baseline Measurement	Baseline Measurement (numerator/ denominator)	Goal for % Improvement	Intervention Applied & Date	Date of Re-measurement	Results (numerator/ denominator)	% Improvement Achieved
PI 1- Timeliness to First OP Face to Face Service at 3 distinct providers (BM1) Note: 3rd and 4th quarter data for this measure is not available at the time of this iteration because providers have 90 days to capture consumer services.	Data were extracted for baseline measures on 11/10/16	FY 2015/16 data (July 1, 2015 to June 30, 2016) Adults: 34.3% (34/99); Children: 75.0% (1284/1713)	Adult 40% Child 80%	Scheduler Tool full implementation, training and coaching delivered to three providers Completed by 06/30/2016. Use of Scheduler tool and engagement practices at Access and three provider sites implemented 7/01/16.	Qtr.1: 11/10/2016 Qtr. 2: 01/10/2017 Qtr. 3: TBD Qtr. 4: TBD	Q1 Adults: 50% Children: 78% Q2 Adults: 100% 76.4%	Q1 Adults had a 29.1 percent increase in Q1 from baseline; children had a percent decrease of 3.4 in Q1 from baseline. Q2 Adults had a 158.3 percent increase in Q2 from baseline; children had a percent decrease of 5.4 in Q2 from baseline.

PI 2 - Timeliness from Acute Hospital Discharge to 1st OP Face to Face Service (BM7) Note: 3rd and 4th quarter data for this measure is not available at the time of this iteration because providers have 90 days to capture consumer services.	Data were extracted for baseline measures on 11/10/16	FY 2015/16 data (July 1, 2015 to June 30, 2016) Adults: 52.1% (74/142) Children: 63.3% (140/221)	Adult 60% Child 70%	Use of Scheduler Tool	Qtr.1: 11/10/2016 Qtr. 2: 01/10/2017 Qtr. 3: TBD Qtr. 4: TBD	Q1 Adults: 46% Children: 80% Q2 Adults: 53.2% Children: 75%	Q1 Adults had an 11.7 percent decrease in Q1 from baseline; children had a percent change increase of 26.3 in Q1 from baseline. Q2 Adults had a 2.1 percent increase in Q2 from baseline; children had a percent change increase of 18.4 in Q2 from baseline.

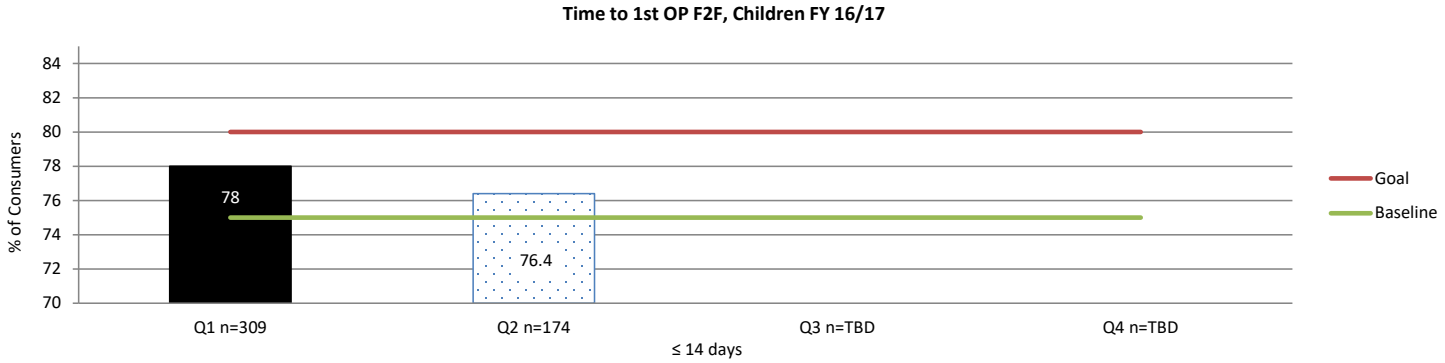
PI 3 - Timeliness from 1st contact to 1st offered appointment (scheduler data). NEW*	Data were extracted for baseline measures on 11/10/16	Q1 FY 16/17 Adults: 100% (4/4); Children: 95.9% (236/246) Measurement: Number of new consumers at each of the 3 providers who were offered an appointment w/in 14 calendar days of 1st contact divided by the total number of new consumers at each of the 3 providers. Criteria: unique referrals containing both original entry and 1st offered appointment dates. Instances not containing both variables were excluded.	Adults: 100% Children: 97%	Use of Scheduler Tool To be applied in Qtr. 3: On 01/01/2017, redefine target pop to include all new referrals not just new to MHP & add new therapist criteria (gender language of therapist for improved client to therapist match initially).	Qtr.1: 11/10/2016 Qtr. 2: 01/10/2017 Qtr. 3: 04/10/2017 Qtr. 4: 07/10/2017 FY2016/17: 07/22/2017	Q1 Adults: 100% Children: 95.9% Q2 Adults: 100% Children: 96.07% Q3 Adults: 100% Children: 96.5% Q4 Adults: 100% Children: 97.2%	1.4 percent increase between Q1 (baseline) and Q4 for children, 0 percent increase between Q1 and Q4 for adults as 100% had timely apt.

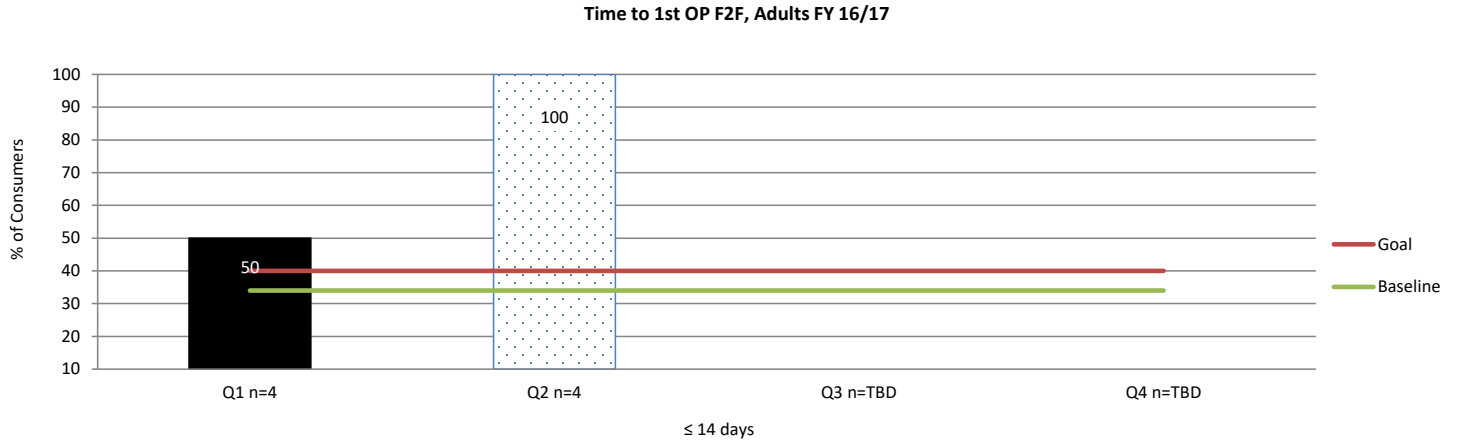
PI 4 - 1st offered appointment cancellation and no show data.	Data were extracted for baseline measures on 11/10/16	Q1 FY 16/17 Adults: 50% (2/4); Children: 12.6% (31/246) Measurement: Number of new consumers at each of the 3 providers who were offered an appointment w/in 10 days of 1st contact and who cancelled or did not show to appt. divided by the total number of new consumers at each of the 3 providers.	Adult 30% Child 10%	Use of Scheduler Tool	Qtr.1: 11/10/2016 Qtr. 2: 01/10/2017 Qtr. 3: 04/10/2017 Qtr. 4: 07/10/2017 FY16/17: 07/22/2017	Q1 Adults: 50% Children: 12.6% Q2 Adults: 0% Children: 12.2% Q3 Adults: 75% Children: 12.5% Q4 Adults: 0% Children: 7.5% FY 16/17 Adults: 13.6% Children: 11.2%	40.5 percent decrease between Q1 (baseline) and Q4 for children, 100 percent decrease between Q1 and Q4 for adults.
PI 5 - The percentage of grievances, appeals, and expedited appeals received by the MHP at the 3 provider sites.	Data were extracted for baseline measures on 11/10/16		20% overall	Tracking of grievances	Qtr.1: 11/10/2016 Qtr. 2: 01/10/2017 Qtr. 3: 04/10/2017 Qtr. 4: 07/10/2017	1st Quarter 50% 2nd Quarter 0% 3rd Quarter 0% 4th Quarter 0% FY 16/17 33.3%	Although the percent of grievances went up, the total number of grievance for the three providers went down by 80%

PI 6 - The percent of consumers that are referred and opened to an outpatient provider that were discharged without receiving a service. Note: 3rd and 4th quarter data for this measure is not available at the time of this iteration because providers have 90 days to capture consumer services.	Data were extracted for baseline measures on 11/10/16	FY 2015/16 data (July 1, 2015 to June 30, 2016) Adults: 20.4% (20/98); Children: 19.1% (318/1663)	15% overall	Use of Scheduler Tool	Qtr.1: 11/10/2016 Qtr. 2: 01/10/2017 Qtr. 3: TBD Qtr. 4: TBD	Q1 Adults: 0% Children: 20.6% (lower % desired) Q2 Adults: 33.3% Children: 19.81% (lower % desired)	Q1 Adults had a 100 percent decrease in Q1 from baseline; children had a 7.8 percent increase in Q1 from baseline (a decrease is desired). Q2 Adults had a 63.2 percent increase in Q2 from baseline (a decrease is desired); children had a 2.9 percent decrease in Q2 from baseline.

Performance Indicator 1: Time from opened to outpatient provider by Access to first outpatient face-to-face service

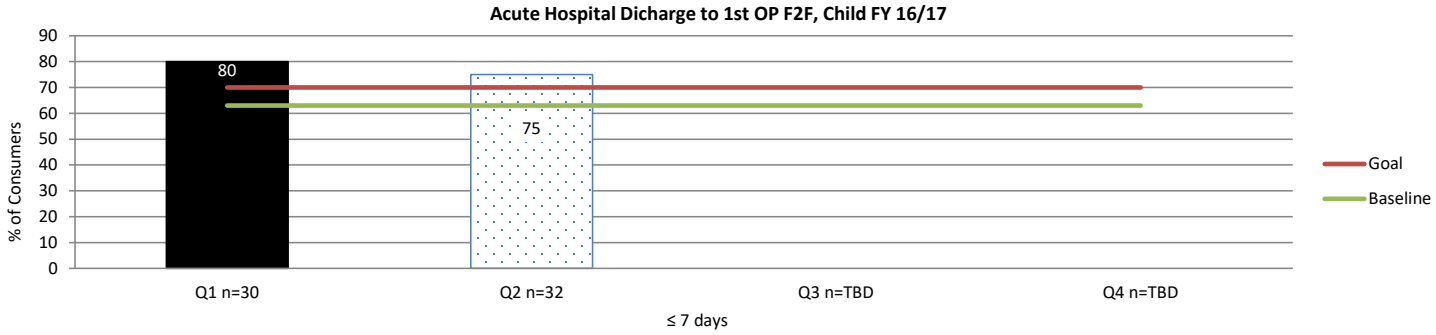
This measure tracks the number of days from referral to provider to the first outpatient face-to-face service with an outpatient provider. The graphs below shows the percent of consumers who were seen within 14 calendar days (10 business days) compared to baseline, for children and adults respectively.

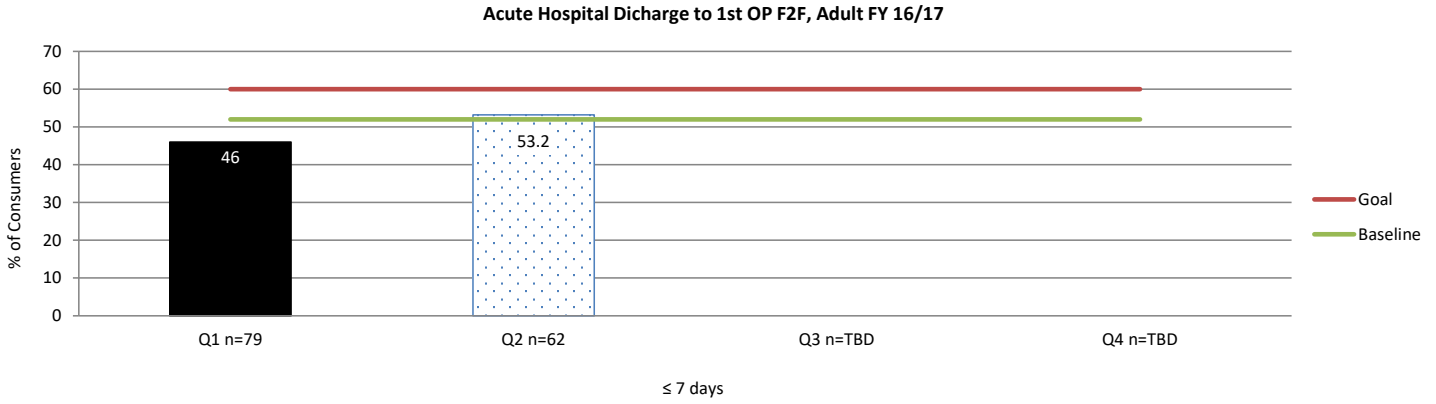




Performance Indicator 2: Time from psychiatric discharge to first outpatient appointment

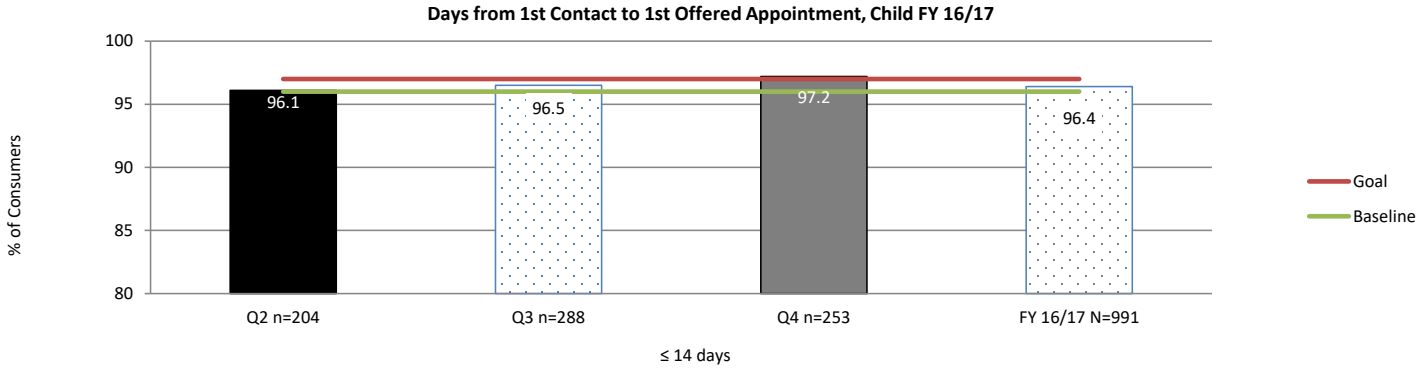
This measure tracks the amount of time it takes for a consumer to have an appointment with their outpatient provider after discharging from a psychiatric hospital. The graphs below shows the percent of consumers who were seen in 7 calendar days or less (5 business days) compared to baseline, for children and adults respectively.

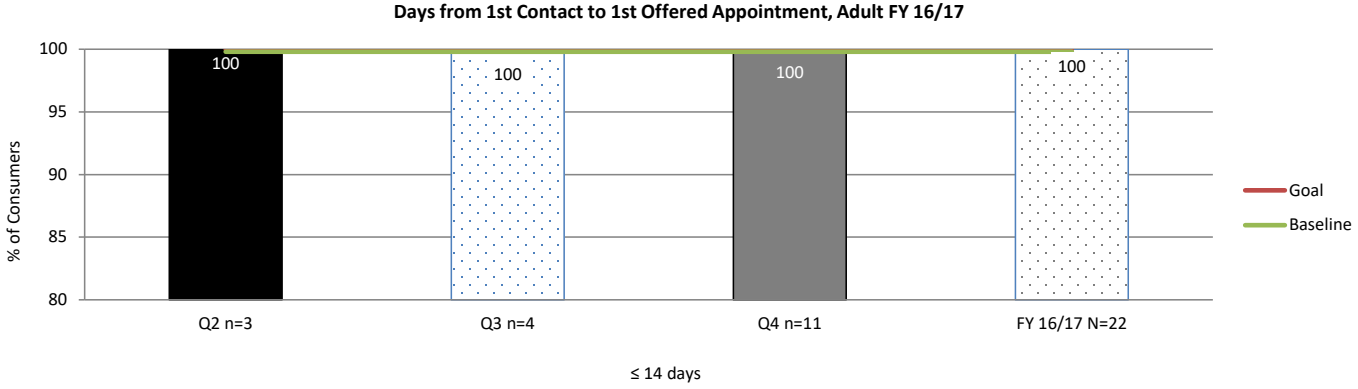




Performance Indicator 3: Timeliness from 1st contact to 1st offered appointment (1st contact date to 1st offered appointment date)

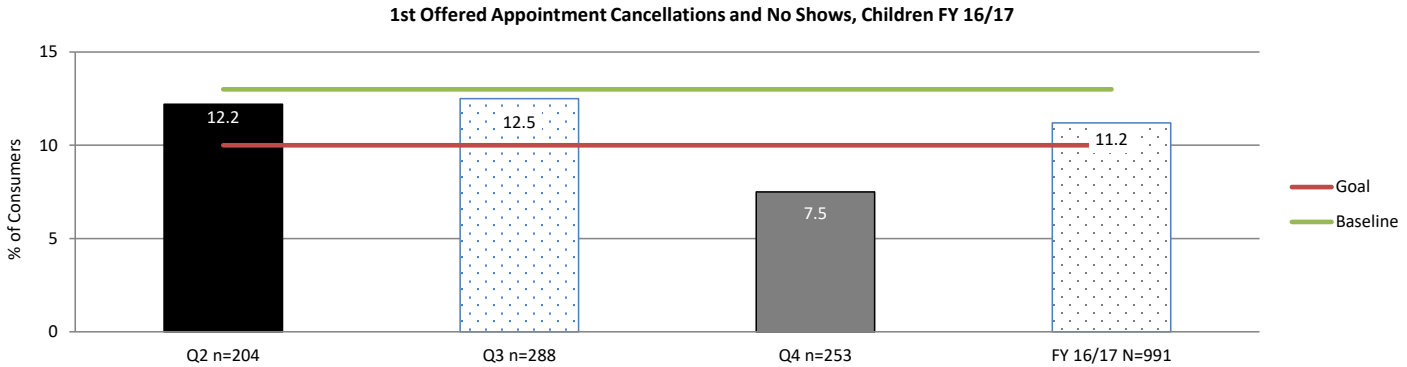
This measure tracks the amount of time it between first contact with the Access team and the date the MHP is able to offer/schedule the first appointment for the consumer. The graphs below shows the percentage meeting the 14 calendar days (10 business days) benchmark over the duration of the PIP compared to baseline, for children and adults respectively. Between Quarter 1 (baseline) and Quarter 4, steady improvements occurred through PIP completion for children. For adults, the number of consumers that made up the indicator is minute, even so, performance remained steady; all adults received timely 1st appointment scheduling.

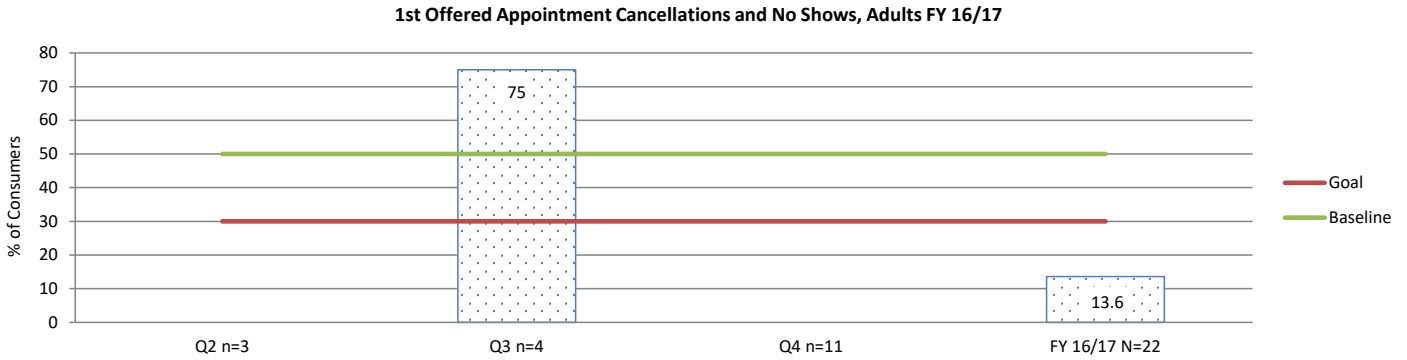




Performance Indicator 4: Cancellation and no-show data for 1st offered appointments

This measure tracks the number of cancellations and/or no shows by the consumer and/or provider prior to the first offered and scheduled appointment. The graphs below show the percent of consumers with missed visits compared to baseline, for children and adults respectively. Between Quarter 1 (baseline) and Quarter 4, steady improvements (demonstrated by decreases) occurred through PIP completion for children. For adults, the number of consumers that made up the indicator is minute, still, between Q1 and Q4 there were improvements as well.





Performance Indicator 5: Grievances, State Fair Hearings, Appeals and Expedited Appeals regarding timeliness to services

Grievances, Appeals, State Fair Hearings Fiscal Year 15-16			
	Total Access Grievances	**Timeliness Grievances**	**Percent Regarding Timeliness**
TCORE	4	0	0%
Dignity	4	1	25%
River Oak	7	3	43%
Total	**15**	**4**	**27%**

Fiscal Year 16-17			
	Total Access Grievances	**Timeliness Grievances**	**Percent Regarding Timeliness**
TCORE	1	1	100%
Dignity	0	0	0%
River Oak	2	0	0%
Total	**3**	**1**	**33%**

Grievances, state fair hearings and appeals were not a factor in this PIP. There were only a total of (3) grievances relating to Access to services the year (July 2016 to June 2017) for the 3 providers and only (1) was related to timeliness to services. Of note, despite the small numbers in this category, there was a 80% decrease in the number of grievances, appeals, and state fair hearings relating to access issues at the three provider sites during FY 16-17 (from a total of 15 in FY 15-16, down to 3in FY 16-17), with a corresponding decrease in grievances, appeals and state fair hearings relating to timeliness to first offered appointment (from a total of 4 in FY 15-16, down to 1 in FY 16-17), or a 75% decrease.

Performance Indicator 6: Consumers opened and discharged without services

This measure tracks the number of clients that showed up to their first appointment and compared to those that did discharged without showing up for any MHP service. The graph below shows the percent of clients who received a service compared to baseline, for children and adults respectively. This measure represents initial engagement of services.

SECTION 9: ASSESS OUTCOMES OF PIP

Real and sustained improvement are the result of a continuous cycle of measuring and analyzing performance, thoroughly analyzing results, and ensuring implementation of appropriate solutions. To analyze the results of the PIP the MPH must document the following steps:

Describe issues associated with data analysis?

Did data cycles clearly identify when measurements occurred? Should monitoring have occurred more frequently?

Measurements and data analysis occurred as planned (quarterly) and data extract dates are included with each respective measure in Section 8. Data was extracted from the County's electronic health record system several days after the quarter end to allow for delayed data entry by providers and for a more complete data set. The data extraction method from AVATAR consisted of SQL script with parameters needed to select the subset population data (three providers). Monitoring occurred with sufficient frequency.

Results of statistical significance testing

Statistical significance testing is not in the original plan; however it was conducted on Measure 3. T-tests demonstrated that the Scheduler Tool intervention represents a true causal relationship and not a chance occurrence (t-value of 3.0). Therefore, the probability of the results arising by chance is less than 5% ($p<0.05$), so this is a fairly significant result. The MHP is planning on performing continued data analyses to determine the ability to replicate the pilot with additional providers. Differing business processes at each of the three providers is one area that requires some further analyses.

What factors influenced comparability of the initial and repeat measures?

There were no factors of note that influenced the comparability of the initial and repeat measures. Since the methodology for data collection and extraction was replicated every time. Repeat measurements only differed in date range timeframes; otherwise initial and repeat measurements remained consistent throughout the PIP. Data was extracted from the County's EHR at a minimum ten (10) days after quarter end to allow for delayed provider data entry and to produce a more complete data set.

What, in any, factors threatened the internal or external validity of the outcomes?

Differing business processes around appointment scheduling practices for the three providers may have threatened the validity of the outcomes. Two providers used the full EHR and one provider only used the stand-alone "Scheduler" portion of the EHR. All authorizations for services occur at the point of Access. However, the business processes for one of the providers did not consistently rely upon Access to schedule the first appointment. Appointments may, or may not, have been added to the scheduler when a

consumer “dropped-in” for an initial service, or an appointment may have been made by a provider without the input of the consumer, such as in cases of hospital discharges. Consumers discharged from the hospital may, or may not have been added to the scheduler, and consumers may not have attended the initial scheduled appointment due to remaining in the hospital past the anticipated discharge date, or may have failed to attend the appointment for various other reasons affecting no-show rates.

In addition, the level of appointment follow-up utilized to improve engagement varied for each provider. Engagement efforts ranged from calling the consumer on the phone to remind them of their upcoming appointment, to going out into the field to locate the consumer to encourage engagement in services, to sending appointment reminder letters through the mail.

To what extent was the PIP successful and how did the interventions applied contribute to this success?

The PIP is being successfully implemented as measured through available quarterly data that indicates the County can document and provide timeliness from 1st contact to 1st offered appointment for the majority of consumers at the test sites within the 14 calendar day timeframe goal (Measure 3). For quarters where data had been posted in the scheduler, the County’s initial performance for Measure 3, the 1st quarter was 89%. It increased in the 2nd quarter to 95%, and in the 3rd quarter to 97%. For Measure 4 a decline in percent is desired. The number of consumers with “Missed” visits equaled 26.7% in the 1st quarter, 24.4% in the 2nd quarter, and increased slightly to 25.6% in the 3rd quarter. The long wait time for appointments that was seen previously (timeliness) has improved overall and no-shows (patients who do not appear to their scheduled appointment) have been reduced. When looking at percent change, a significant increase occurred for Measure 3 (timeliness between the initial contact and first offered appointment) accounting for a 9% increase in offered appointments within 10 days from the 1st quarter (89%) to the 3rd quarter (97%). For Measure 4, missed visits, there was a 4.6 percent decrease from the 1st quarter (26.8%) to the 3rd quarter (25.6%). If these trends continue we can expect to see

positive change in future quarters until an area of stability is reached. The scheduler intervention has worked in as far as the literature has shown that appointment delays affect no-show rates (Galluci, Swartz et al. 2005).

Are there plans for follow-up activities?

The MHP will continue to promote the use of the scheduler with the three providers and explore the feasibility of replicating the "Scheduler" module with other providers. It was uncovered early on that the three providers had different business processes. The variation in business processes created model fidelity issues, as not all providers followed the same methodology for scheduling appointments. Also, the EHR utilization degree varied among the providers, with two providers utilizing it as their full EHR and one provider only using the scheduling tool portion of the EHR. Each provider's business process is detailed as follows.

River Oak Center for Children is a children's provider that does not utilize Avatar as its primary EHR. River Oak's uses a designated drop-in time method instead of set appointments. This method was a challenge for the scheduler concept because a subset of consumers was being scheduled for intake appointments by Access, but still having the option to come to drop in times. The drop in times is a positive option for consumers since it can precede the scheduled appointment which results in earlier services.

Successes: Both consumers and the provider report liking the both options (scheduled and drop-ins). River Oak states there is a better show rate since the PIP started and it's also evidenced by a decrease in no-show data. Access noted consumers' positive response to River Oaks service array with various and consistent timeslots, given the mix of mornings and afternoons on various days.

Technical Challenges: Initially time increments were a challenge for River Oak. River Oak used 30 minute increments, but this resulted in double booking by Access, subsequently leading to changed appointment availability to one minute increments, 30 minutes apart, which better met their needs. River Oak makes calls to engage the client and sends welcome letter with drop-in hours. If no contact with client after a week, they will call the client again and send a 10-day letter, also with drop-in hours.

Dignity Health is a children's provider that uses Avatar as their primary EHR. To participate in the PIP, Dignity changed its business process from assigning a client to a clinician within 3 days of the Access referral and scheduling the client an Intake appointment within 10 days, to having intake appointments on only two days each week at each site at designated times. Using the EHR, Access schedules an appointment with a "simulated" staff (a place holder person), then Dignity makes contact with the consumer within two business days to confirm appointment and accommodate any needs. Since various clinicians are available to perform intakes, Dignity assigns a clinician and moves the appointment into that designated clinician's schedule. Dignity reports that all appointment times made in the scheduler were changed to better accommodate client needs.

Successes: As staff participated in the scheduling process their technical skills improved. Dignity reports about the same no show rate. Dignity makes several attempts to engage clients in services, and when unsuccessful, the client is sent a letter notifying the client of case closure and need to contact Access for reauthorization of services.

Technical Challenges: Timeslots typically were not convenient for consumers, and most consumers required rescheduling since appointment times did not meet their desired need/availability. Access scheduled clients into available time slots and would add a note stating that the timeslot did not work for the client and for the provider to contact client to reschedule appointment. Dignity experienced in increase in billing errors due to errors made coding the appointments accurately, (in addition to confusion by staff having a different system for coding based upon PIP clients vs client transfers-per previous discussion). During the third quarter of the PIP, the Avatar scheduler was changed from using a "simulated" (place holder person) process to scheduling appointments using actual staff schedules as a method to attempt to reduce rescheduling and billing errors. Access could choose the clinician based upon classification, language and gender in an effort to better match the client with a clinician suited to meet their needs. In addition, it was believed that the use of real schedules would allow for an increase in available appointment times, giving clients more options and sooner appointments. All providers now use the scheduler for new clients and transfers to keep the coding consistent and decrease possible errors. Technically, more steps were involved using real schedules vs "simulated" schedules. Dignity preferred to return to the original method.

TCORE is an adult provider that uses Avatar as their primary EHR. TCORE is an intensive level program with a unique design. TCORE's purpose is to engage clients, who are either in, or being discharged from, acute care settings, or who demonstrate high risk for requiring acute care. As such, TCORE may be contacted directly by hospitals to link a client with services prior to the client being authorized to services by the Access Team. For at risk clients, TCORE may be contacted by lower level MHP providers for consideration. TCORE consults with the referring provider, Access and their program monitor regarding the appropriateness of referrals. Authorizations occur as a result of these consultations, as opposed to a client contacting Access directly for services, as in other MHP programs. Access authorizes the client to services and provides an Intake appointment for some clients in the scheduler, but TCORE reports that when they meet with client prior to being authorized by Access, appointment are scheduled with specific staff and the scheduler is not used. Access only provides an authorization.

Challenges: the business design of TCORE poses some challenges with consistent use of the scheduler to schedule intake appointments since consumers are not contacting Access directly for linkage to services. Authorizations occur at Access at the request of TCORE or the program monitor. When Access authorizes clients in the hospital and schedules the appointment in the EHR, clients often miss the appointment due to remaining in the hospital. Other referred clients may be difficult to find or engage due to homelessness. As a result, TCORE clinicians often default to their practice of scheduling clients in their own calendars when clients are found, as opposed to using the scheduler for appointments.

Successes: No technical issues with TCORE and plenty of availability in scheduler. It's a pass-through. TCORE sends a letter to the client when they cannot locate them. They make multiple attempts to contact clients at hospitals, going to homes, visiting the streets looking for them, etc. If unable to connect with consumer within 60 days the case is closed and the client would require reauthorization from Access.

Does the data analysis demonstrate an improvement in processes or consumer outcomes?

Yes thus far. Since this PIP just ended, we are in the preliminary stages of analyzing the data set. During the initial telephone call, Consumers are assessed by the Access Team to provisionally determine if Medical Necessity criteria are met, and when determined to qualify for services, Consumers are immediately offered an appointment with a provider for a more comprehensive assessment (Intake

Appointment) in real time. This process streamlines customer service and delivery and has demonstrated shorter wait times from initial contact to first offered appointments.

It is essential to determine if the reported change is "real" change, or the result of an environmental or unintended consequence, or random chance. The following questions should be answered in the documentation:

- **How did you validate that the same methodology was used when each measurement was repeated**?

The same methodology was used to collect and report the data throughout the PIP. Administrative data was exported out of Avatar in the same manner, by the same staff member, every quarter to ensure data validity and reliability.

- **Was there documented quantitative improvement in process or outcomes of care?**

Section 10: Plan for "Real" Improvement

Based on the findings, there was significant quantitative improvement in process and outcomes of care. Providers were able to see the consumer in a timely manner, which, in turn, improved overall retention for the consumer. Performance Indicators 3 and 4 as of July 20, 2017, document the quantitative improvement in process from baseline to Q4. Those same indicators, which document increased timely access to services, are supported by the literature that shows shorter wait times lead to better consumer outcomes and timely engagement into services, and reduces the impacts of untreated mental illness leading to better consumer outcomes.

- **Describe the "face validity," or how the improvements appear to be the results of the PIP interventions.**

In analyzing baseline data compared to data from the PIP, the interventions that were put in place, i.e. the scheduling tool, made it possible for consumers to receive an appointment at the time of request for services as opposed to waiting for the outpatient provider to call them to schedule an appointment.

The MHP had not previously tracked the date that an initial appointment was offered to the consumer nor offered consumers an appointment during the initial contact/request for service. The PIP interventions of changing the business practice to utilizing the scheduler module in the HER, having specific times set aside to schedule appointments, offering and scheduling appointments during initial contact and following up with consumers about scheduled appointment date/time subjectively appears to support the improvements seen in the PIP.

The MHP hypothesized that delays occurring at the point of Access were negatively impacting timeliness to services. Initially, clients were authorized for services, then had to wait up to several days to connect with the provider to schedule an appointment. This wait time, according to

the literature, impacts whether or not a client attends the first appointment, engages in services, or develops a positive sense of satisfaction with the services provided. The PIP interventions that allows Access to utilize the scheduler module in the EHR to schedule appointments for clients during their first contact with the MHP appears to demonstrate subjective improvement based upon reports from the Access Team that clients are happy with the ability to obtain an appointment immediately. The client is further engaged by the provider within 2 business days of the authorization to services with introductions and information about their programs and an offer to accommodate any needs or concerns.
Improvements appear to have occurred at the provider level due to the scheduler allowing them to set aside specific times to conduct intake appointments and ensuring that sufficient staff are available to accommodate the volume, and when the scheduled appointment isn't convenient for the client, this is known immediately and addressed either by rescheduling the appointment, or allowing the client to "drop-in" during specific hours.

Lastly, the interventions made it possible for the MHP to track the time from the initial request to authorization, to first offered appointment, to completed face-to-face appointment, and the level of engagement of clients in services. These measures allow the MHP to analyze trends and make any necessary improvements to timeliness to services in the future. When comparing these actions with the data which indicate an increase in timeliness to first offered appointment and a decrease in no-shows and cancellations rates, it would appear that improvements seen are a result of the PIP.

- **Describe the statistical evidence supporting that the improvement is true improvement.**

Statistical significance testing is not in the original plan; however it was conducted on Measure 3. T-tests demonstrated that the Scheduler Tool intervention represents a true causal relationship and not a chance occurrence (t-value of 3.0). Therefore, the probability of the results arising by chance is less than 5% ($p<0.05$), so this is a fairly significant result. The MHP is planning on performing continued data analyses to determine the ability to replicate the pilot with additional providers. Differing business processes at each of the three providers is one area that requires some further analyses. Since this PIP just ended, we are in the preliminary stages of analyzing the data set.

- **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?)**

The improvement was sustained throughout the repeated measures for children performance indicators 3 and 4 specifically (FY 16/17: Q2, Q3 and Q4 of the PIP). Since this PIP just ended, there is still data to be collected for performance indicators 1, 2 and 6 for the 3rd and 4th quarters as data for these measures is not available at the time of this iteration (providers have 90 days to capture consumer services).