

Timely Access to Mental Health Services for Patients with Pain

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Abstract

Introduction: Efficient access to pediatric mental health services is a growing concern as the number of patients increases and outpaces efforts to expand services. This study outlines interventions implemented using quality improvement (QI) science and methodology to demonstrate how a clinic embedded in a large children's hospital can improve access to the first appointment for a population seeking pain management services. **Methods:** A process improvement project started with a QI team, whose members designed interventions to change scheduling practices. Initial changes involved decreased time between calls to families, and efforts to streamline notifications among clinicians. Additional interventions included a close examination of waitlist assignment based on appropriateness and assessing patient interest in treatment. **Results:** Within 3 months of implementation, a significant decline in wait time occurred for patients seeking services for pain management, from 106 to 48 days. This change remained stable for 6 months. In light of a sharp increase in referrals and wait time during the study period, efforts to engage additional clinicians in managing referrals resulted in wait time to stabilize at an average of 63 days to the first appointment. This change remained for 10 months. Scheduling changes did not negatively affect other providers. **Conclusions:** This study demonstrates the application of QI science to improve patient access to mental health care. Future directions will focus on enhancing the use of the electronic health record, along with revisiting family engagement. (*Pediatr Qual Saf* 2019;4:e240; doi: 10.1097/pq9.000000000000240; Published online December 6, 2019.)

INTRODUCTION

The number of young people seeking outpatient mental health services has increased significantly over the past 20 years.¹ The National Council for Behavioral Health predicts that a substantial increase in demand for mental health services will occur by 2019, posing new challenges for providers, with 15 million people eligible for Medicaid and an additional 16 million more covered by private insurance.² An increase in wait time length seems to be a growing concern among mental health systems of care.³ Wait time following intake poses a serious complication to patient



access for several treatment settings. In 2012, the Children's Hospital Association indicated an average wait time of 7.5 weeks for child and adolescent psychiatry appointments, with similar wait times observed in 5 US cities.⁴ In serious psychiatric cases, waiting for an appointment may increase hospitalization rate, a chance for relapse, and even suicide risk.⁵

Researchers have attempted to identify a link between wait times and overall patient care. Osadchiy and Diwas developed a "willingness to wait" variable and found that long wait times appeared to dissuade many potential patients from seeking help, evidenced by a decrease in booked appointments and an increase in no-shows for those already booked but with lower willingness to wait.⁶ Similarly, Westin et al reported an increase in refusal rates for the first appointment when informed of long waits. Those patients who scheduled an appointment after a long wait time terminated early.⁷ Schraeder and Reid suggested patients are more likely to contact other providers as wait time grows, suggesting a tendency to "shop around," possibly inflating other provider waitlists.⁸ Corso and Greenspan found that delayed access to care was the largest obstacle to patient satisfaction.⁹ Unfortunately, wait time seems to affect each phase of treatment: patient scheduling, engagement during treatment, and satisfaction following treatment.

Strategies to remedy the waitlist problem include reorganizing the scheduling process and creating more immediate options for families. Williams et al recommend offering same-day appointments to address waitlist

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inflation.⁵ When that capacity was not available, others advised implementing a mid-level assessment team that was able to quickly assess patients, address pressing concerns, and provide further recommendations.^{10,11}

Some solutions seem to favor restructuring the intake process itself. Weaver et al recommend a direct intake process that involves scheduling patients' first appointment within the first call, thereby eliminating waitlists.¹² However, this strategy does not guarantee patient show rate, especially if the family scheduled several weeks or months in the future. Clow et al suggest a reduction in process error by improving waitlist management.¹³ By reviewing waiting lists, the authors found that time to the first appointment decreased, identifying an appointment type with a shorter wait or perhaps to a different referral source altogether.

Trends in waitlist management seem to use a combination of process improvements, including various functions during the first point of contact, streamlining steps, and assuring waitlist accuracy. All of these interventions are attempts to reduce time to the first appointment and improve access to treatment. The following study combines several of these processes in a quality improvement (QI) initiative to improve access to care.

According to the authors of *The Improvement Guide*, basic tenets to making a successful process improvement include: innovation that is measurable, launching the project on a small scale, securing feedback during the process to minimize disruption, and an end result that will benefit all customers.¹⁴ This study utilized these principles to determine whether changes in scheduling procedures improve wait times and show rate, and increase satisfaction.

METHODS

This study launched a process improvement project to develop a mechanism to decrease wait time by 30 days for patients referred to a hospital-based pediatric psychology clinic using QI methodology of the Institute of Healthcare Improvement (IHI).¹⁵ The IHI standards consist of executing a process improvement change that will result in lasting improvement for those most affected by the change and be able to sustain those changes indefinitely.¹⁴ Study procedures were consistent with Nationwide Children's Hospital institutional review board guidelines and considered exempt from the review process. This hospital is a large pediatric primary and tertiary hospital serving a population of more than 2 million people, including contiguous counties. The Psychology Department includes 16 providers who are integrated into 19 pediatric medical subspecialties and provide more than 23,000 visits per year.

Procedures

The first step in the IHI methodology consisted of the development of an interdisciplinary QI team. A format for suggested interventions, called a key driver diagram, created guidelines for the timing of proposed changes. Data collection took place at multiple points, gathering

baseline data before the start of the change process and then at times coinciding with the implementation of new interventions.

This process improvement project started on a small scale, targeting 1 clinician who scheduled over 130 new patients yearly and had a waitlist time above the department average. Using 1 clinician for the initial implementation helped to refine the process and ensure that the extension of these practices did not negatively interfere with scheduling practices for other clinicians. All referrals to the targeted clinician were for pain management. There was not a set number of new patient slots per month. Rather, scheduling staff filled slots when the clinician expressed availability for new patients.

Interventions

An interprofessional team consisting of the targeted psychologist (project lead), a QI coordinator, statistician, and administrative staff met to identify current challenges to scheduling and brainstorm potential changes. This team developed a process map to outline the current state of the scheduling process and identify potential points of improvement, such as delays in communication between the clinician and the scheduler, and the amount of time schedulers spent to reach families (see Fig. 1). Information from this map helped to create the key driver diagram and develop targeted interventions to standardize communication and improve scheduling efficiency. Ultimately, this process identified a way to enlist additional providers to treat patients with pain (see Fig. 2).

The team conducted serial plan-do-study-act (PDSA) cycles, a time when the QI team observes and collects data to determine whether a proposed intervention is associated with expected change. The scheduling staff suggested 2 interventions to test during the first PDSA cycle: (1) limit the amount of time between attempts to contact patients to 2 days, and (2) limit the number of scheduling attempts to 2. By using a notification feature in the electronic health record (EHR) scheduling screens, schedulers were able to initiate deferment options to remind them to contact families 48 hours after the initial call. Once schedulers made a second attempt to reach families, they closed the charts and moved on to another patient. Of note, if the family of a closed chart contacted the office, they were scheduled.

During this phase, scheduling staff used the process map tool and proposed additional modifications to improve the rate of patient contact. Before this study, it was customary for clinicians to "hand pick" specific patients for scheduling. The new method suggested designating several new patients needing appointments. This change allowed scheduling staff to move rapidly through the patient list, requiring less communication from the clinician.

Wait times were remeasured 3 months after the start of the project. During a second PDSA cycle, team members reviewed the scheduling procedures and proposed further changes. First, schedulers examined the targeted clinician's waitlist to determine the appropriateness of

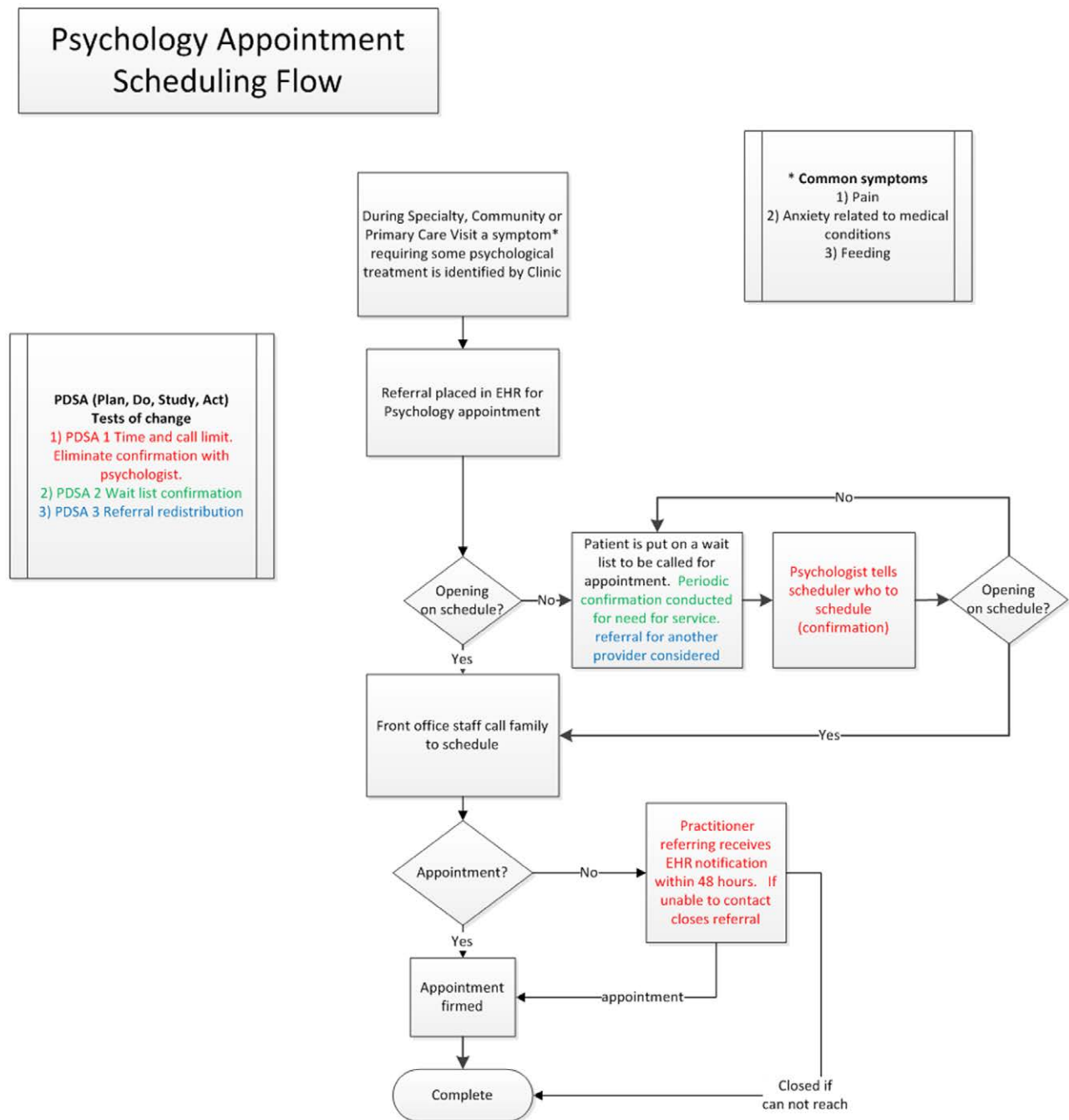


Fig. 1. Scheduling flow after implementation of 3 interventions using a short-cycle PDSA model. EHR, electronic health record.

referrals. Scheduling staff examined details of referrals to confirm the need for specialization. Also, staff contacted waiting families to inform them of approximate wait time based on their position on the list. Schedulers asked families whether they wished to continue to wait or receive another referral to an outside agency. Families not reached during this inquiry stage remained on the waitlist.

The team conducted a third PDSA cycle 9 months after the start of the project and made further changes to address a significant increase in referrals. Schedulers conducted a thorough evaluation of the waitlists across 4

additional clinicians. There were large inequities in length of waitlists, ranging from 1 to 5 months. As a result, providers with similar specialties and openings on their case-loads agreed to see additional patients waiting for pain management services. The same procedures from our first 2 PDSA cycles extended to these additional clinicians, opening more possibilities for referral assignment.

Measures

Wait time was defined as the number of days between the placement of the referral and the date of the first

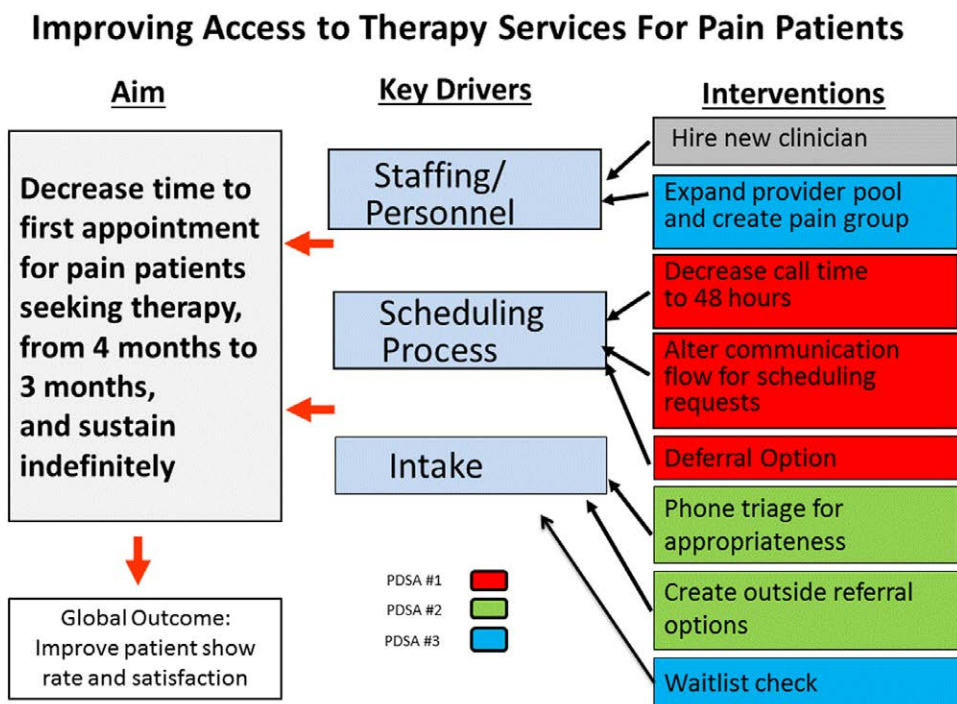


Fig. 2. Key driver diagram of QI interventions.

scheduled appointment. Because of the large size of the department, monthly tracking of this metric started with 1 targeted clinician. A balance measure examined whether the process improvement initiative resulted in any unintended negative consequences to the scheduling process for 8 other clinicians. These consequences might include delays in scheduling for other providers because of reallocation of resources or decreased work satisfaction among schedulers, potentially leading to staff turnover. Schedulers tracked time taken away from scheduling of other providers due to these recent changes in scheduling. Moreover, they discussed their work satisfaction as these changes took place.

Both outcome and balance measures were tracked using statistical process control methodology. Control charts, or x-bar charts, plotted the wait time to first scheduled appointment by the number of patients scheduled. Baseline (preintervention) data were entered into the x-bar chart with the centerline (mean) and control limits (± 3 SD) of variation for this period. Monthly data were plotted on the control chart while holding the centerline constant from the baseline period. Using IHI guidelines, the centerline needed revision when there was a significant change in values. Additionally, a 2-sample *t* test determined statistically significant changes to the mean wait time.

RESULTS

Data collection covered 24 months, capturing an additional 17 months of baseline data before the change in

procedures. The x-bar chart in Figure 3 reveals a baseline mean of 106 days that families were waiting for services for the targeted clinician. On average, the staff scheduled 5.2 patients per month during the baseline period.

After the first PDSA took place, there was a decrease to a mean of 66 days in wait time after 3 months of implementation. The mean number of days continued to drop after the second PDSA occurred, resulting in an overall low of 33 days wait time. Nine months after the start of process improvement implementation, a 2-sample *t* test revealed a significant change in the wait time from the beginning of the study ($P < 0.001$, 95% CI), resulting in a midline shift to 48.2 days. Also, the average number of patients scheduled increased gradually from 5.2 to 5.9 patients scheduled per month (see Fig. 3).

Wait time increased to a mean of 108 days midway through data collection. While undesirable, this increase reflected program growth associated with the hiring of new faculty, resulting in a 68% increase in referrals over 3 months because of program development with additional pain populations. A subsequent centerline shift occurred after the third PDSA when the wait time decreased again to a mean of 63.4 days ($P < 0.001$, 95% CI). Wait times have remained at this lower level for the last year.

Contacting families twice within 2 days, and subsequently closing the chart, did not prevent families from scheduling. Based on record keeping over 1 week, only 8% of families called back to schedule an appointment after closing a chart. When scheduling staff contacted patients to assess interest in remaining on the waitlist, some families no longer needed scheduling due to linkage

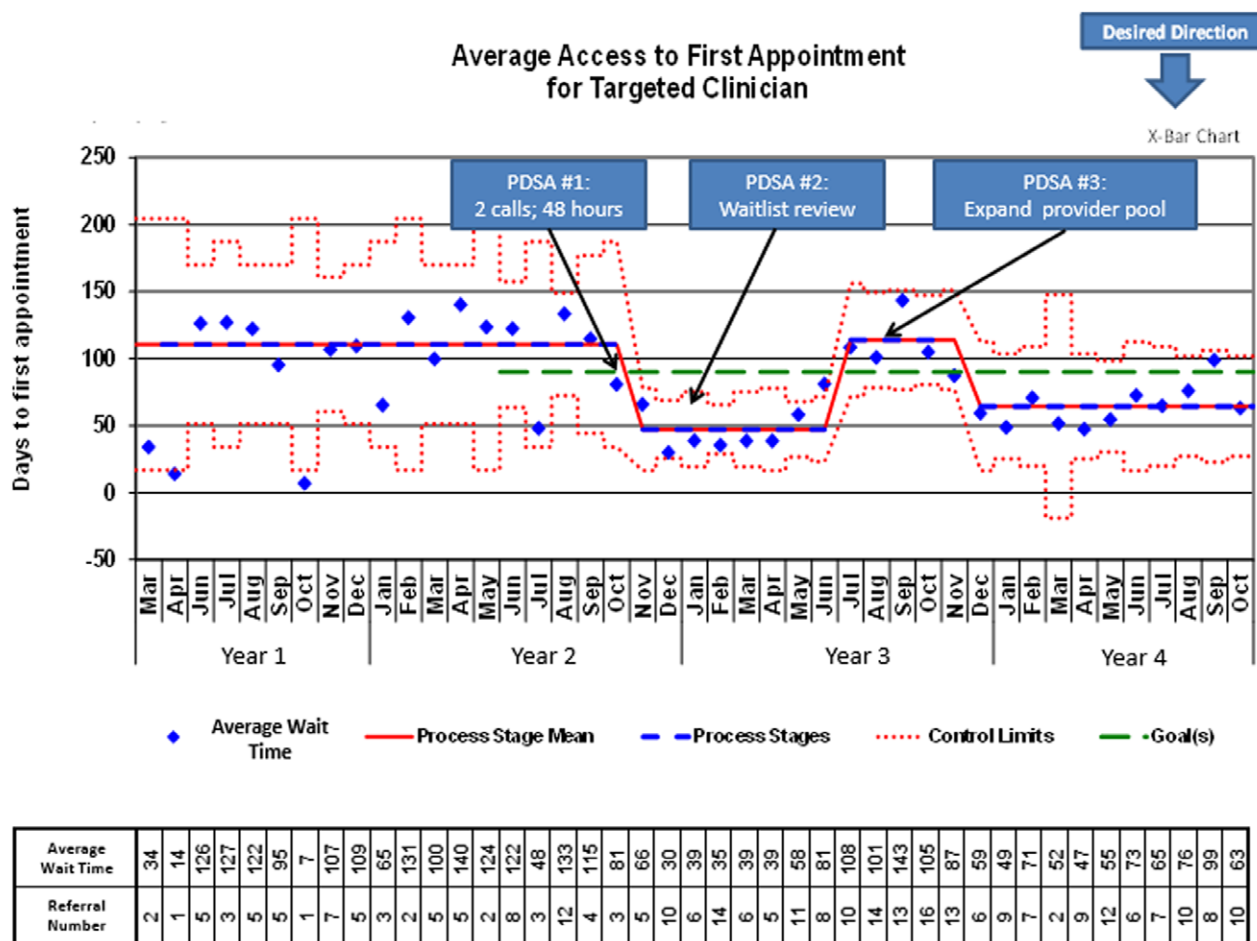


Fig. 3. SPC x-bar chart showing decreased means of days to the first appointment for the initial implementation of the QI initiative by 1 psychologist. SPC, statistical process control.

with other services (7%). Only 1 family requested other referrals.

A special cause data point appeared at 2 points before the study start, revealing a dramatic dip in wait time for patients scheduled in month 3 and month 9. This shift did not reflect any preliminary change in process improvement. Rather, requests to prioritize cases with urgent needs significantly decreased the typical wait time for patients during these months.

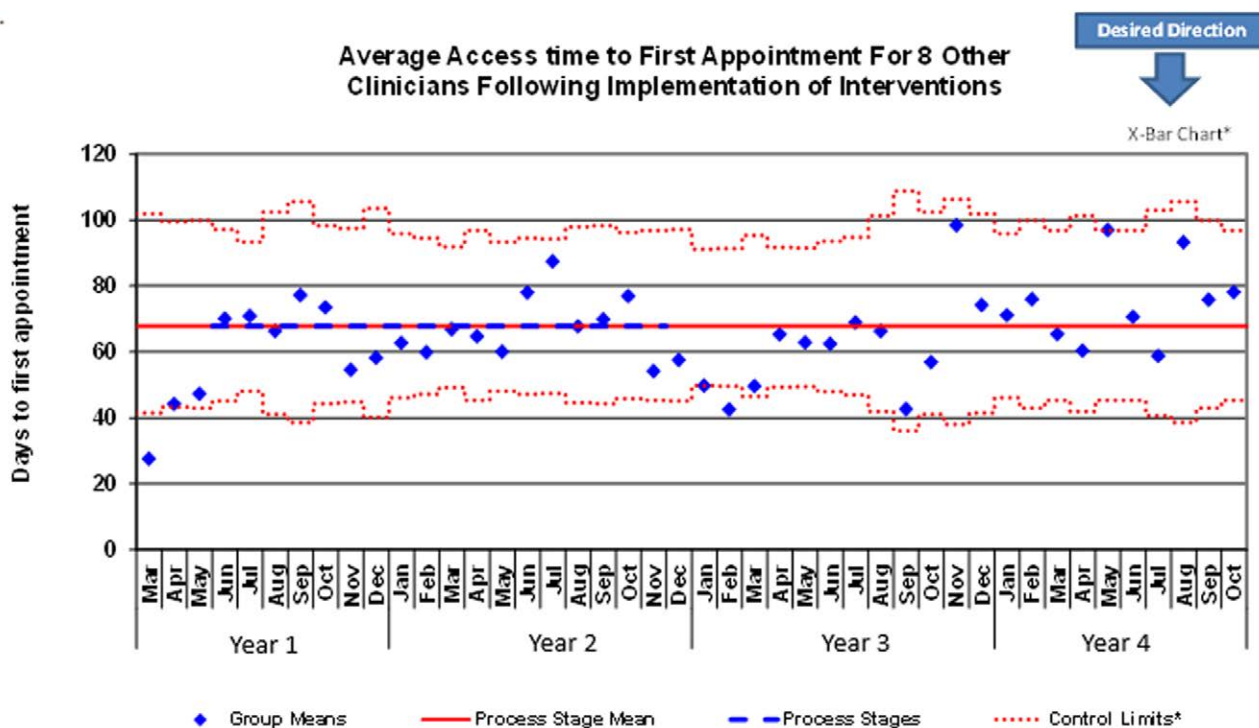
The x-bar chart of the wait time for 8 additional clinicians not associated with these interventions, the balancing measure revealed no negative impact on their scheduling procedures. Time to the first appointment for these clinicians remained the same throughout the intervention period, as shown in Figure 4. Also, schedulers expressed high satisfaction related to the process change, noting more independence and efficiency with reduced steps in the scheduling process. Ultimately, the schedulers requested the expansion of this process to other providers. There was no staff turnover during this time.

The department collects satisfaction ratings quarterly for all clinicians. During the study period, a few families did express dissatisfaction with the amount of wait time

for services. Because respondents remain anonymous, it is not clear whether these comments reflected pain patients. However, the no-show rate dropped from 18% pre intervention to 10% in the 2 years following the process improvements.

DISCUSSION

Ensuring timely access to therapeutic interventions is critically important, especially in light of the growing number of children seeking help for mental health services, and the urgency that may come with pain or chronic medical conditions. For patients not in crisis but still in need of prompt interventions, having short access time can improve treatment engagement and overall satisfaction. Our pediatric hospital organization has made an unprecedented commitment to significant financial and personnel resources and new physical infrastructure to improve access to care and promote the best outcomes for children and adolescents with behavioral health diagnoses.¹⁶ Despite this unparalleled investment and growth in resources, long wait times, and access to specialty mental health services remains a challenge. Responsible and



Average Wait Time	27.6	44.1	47.2	70.0	70.9	66.3	77.2	73.4	54.6	58.2	62.7	59.8	66.9	64.7	60.0	78.0	87.4	67.7	69.8	76.9	54.1	57.5	49.7	42.5	49.6	65.3	62.8	62.4	68.9	66.3	42.6	56.8	98.4	74.2	71.1	75.9	65.4	60.3	97.0	70.5	58.7	93.2	75.8	78.1
Referral Number	32	37	36	43	57	31	26	40	42	29	47	52	64	44	57	52	53	41	40	46	44	43	68	67	49	65	66	56	51	33	22	31	25	32	47	36	44	33	44	44	30	26	36	44

Fig. 4. SPC x-bar chart demonstrating decreased means of days to the first appointment for 8 additional clinicians. SPC, statistical process control.

effective stewardship of the organization’s expansion in behavioral health services will assure the long-term impact of the investment.

This project demonstrated several interventions that led to a decrease in wait times despite a changing landscape of providers and an increase in referral numbers. There did not seem to be an additional treatment burden, as the average number of patients scheduled to the target clinician remained relatively stable. Executing improvements to administrative procedures to systematize communication and frequency of calls decreased days to first appointment and improved the ability to move more rapidly through a waitlist. Maintaining accurate waitlists and inquiring about patient interest also minimized inflation of wait times. Conducting regular checks on waitlists helped identify other possible referral linkages for patients while shrinking wait times when families no longer needed services.

Further, capitalizing on the general strengths of additional clinicians and minimizing the need for specialization facilitated the contribution of other providers toward a common goal of improved access.¹⁷ This finding is contrary to other studies that suggest specialization is a

way to decrease inflated wait times by limiting services to a specialized patient population.¹⁸ By expanding the pool of clinicians, patients received efficient and effective care.

There was an increase in days to first appointment midway through the data collection period. This paralleled changes in personnel and a large increase in referrals. The increased efficiency in scheduling for the primary clinician led to a decrease in no-shows and plans for the extension of this process change to all clinicians. Moreover, administrative staff reported higher satisfaction with these new procedures, and patients experienced a decrease in access time overall.

Despite improvements, inconsistencies with scheduling emerged as some clinicians left, and new clinicians were hired. The scheduling staff optimized the use of the EHR to monitor call frequency and to stay within the designated time frame. As such, information from this project has been instrumental in designing subsequent QI initiatives that further streamline the scheduling process, and explore increased functionality of the EHR (eg, creating alerts, using shared patient lists). Also, cross-training personnel will help to improve sustainability despite periodic changes in staffing and referrals. Additional efforts aimed at increasing the

number of professionals who can cross-cover with different patient populations are helping to meet the demand for referral increases among particular patient populations.

There were some limitations to this study. First, we did not collect satisfaction surveys from the targeted population. It would be important to seek input about whether patients felt the current wait time was tolerable and determine how many patients did not schedule because they identified other treatment options with shorter wait times. Given the small scope of this study, it will be interesting to see how this same methodology affects other clinicians with high wait times and long waitlists.

QI projects are currently underway in the department to increase patient and family engagement before the start of treatment. In particular, future studies will assess patient readiness and attitudes toward treatment as a predictor of engagement and completion in specialized treatment for pain management. Considering the vast numbers of patients seeking treatment for pain-related problems, information collected before treatment that can potentially be linked to the successful completion of treatment may help guide schedulers to triage cases to other types of services. Immediate and brief consultation via phone versus traditional therapy could benefit some patients.^{10,11} Providing alternatives to traditional therapy, in conjunction with a better triage process, are possible next steps to sustain short wait times into the future.

The QI team is considering additional modifications to the scheduling process for future measurement. Currently, when families do not respond to prescheduling calls to assess interest, they remain on the waitlist. One proposed change involves sending letters to assess interest in treatment and requiring a response before scheduling. If families never call to indicate interest, their referral is closed. Families who eventually call can still be scheduled; however, implementing these steps earlier in the process may be a viable way to move through waitlists more rapidly, decrease no-show rates, and help to care for children faster.

CONCLUSIONS

Patients needing mental health care should never have to wait a long time for their first appointment. Although engagement in treatment involves several factors, lengthy wait times certainly complicate the odds of a positive outcome. This QI study illustrated the effectiveness of several interventions suggested in previous studies, demonstrating the sustainability of a process improvement initiative in a busy psychology clinic.

DISCLOSURE

The authors have no financial interest to declare in relation to the content of this article.

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