

Consumer-Centric Approach to Enhance Access to Pediatric Specialty Care

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With the emergence of the digital era of the 21st century, convenience has become a dominant force in influencing individual expectations and the global economy. Health systems are facing increasing competition from new actors who seek to disrupt traditional care delivery models by adapting to a consumer-centric experience. Despite patient-consumers expecting unparalleled ambulatory access options, hospitals and health systems continue to face challenges to meet the demand and must work to bridge the fragmented structure underlying current processes and the needs of the consumer. Solving problems with ambulatory access is essential to provide high-quality care, improve patient satisfaction, and increase volume beyond the primary market area.

Reducing variation and hardwiring best practices across an organization promotes an increase in provider access and availability. These interventions include 4-hour clinic sessions and changing blocked appointments held for a specific complexity to an open appointment if not used within 72 hours.¹ The use of open access (ie, a scheduling process in which a percentage of daily appointments is set aside for use that day) allows patient-consumers the flexibility to select when they would like to be seen.² Evening appointments also are an effective method of providing increased access.³ Additionally, a team approach allows patients to be seen by any provider, including advanced practice providers (APPs), which reduces wait times.³ No-show rates are an additional driver of poor access and serve to limit the time in which providers can actually provide care.⁴ To combat the effect of no-shows, artificial intelligence-guided no-show predictor tools have been developed to identify patients at high risk of not coming to an appointment in real time.⁴

In May 2019, our pediatric academic medical center in Western Pennsylvania was faced with significant patient access challenges, with a mean wait time of 42 days for new patients to see a pediatric specialist. Our medical center began a process to build a consumer-centric infrastructure to offer improved access to pediatric specialists and deliver an extraordinary patient experience. Using Six Sigma process-improvement DMAIC (Define, Measure,

ABSTRACT

OBJECTIVES: Health systems must adapt to an increased consumer-centric environment to remain relevant in an ever-growing competitive health care landscape in which convenience is a key driver of patient satisfaction and loyalty. To adapt to this new environment, health systems must redesign processes to transform the delivery of ambulatory care and provide near real-time access to specialty care.

STUDY DESIGN: A pediatric academic medical center in western Pennsylvania used a process-improvement approach to enhance timely access to specialty care and deliver a consumer-centric patient experience.

METHODS: Critical factors in this process included engagement of key stakeholders, implementation of scheduling best practices, development of a set of scheduling guidelines, increased use of advanced practice providers, and use of data analytics to measure and benchmark performance.

RESULTS: The time to schedule a new patient appointment decreased from 42 to 4 days and the patient satisfaction access domain increased by 57 percentile points.

CONCLUSIONS: These factors should scale to other institutions, thereby enabling generalizable results.

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Analyze, Improve, Control) methodology,⁵ the redesign of ambulatory care was physician led and administratively supported through an Executive Access Steering Committee, with the overarching goal of providing “the best care for the most kids.”

The components of the DMAIC methodology are as follows:

- **Define:** The wait time for a new patient to see a pediatric specialist was, on average, 42 calendar days. The goal was to reduce this to fewer than 7 calendar days while meeting patient-consumer preference and need.
- **Measure:** Development of a reporting package that was distributed weekly to the Executive Access Steering Committee and physician leadership to promote transparency.
- **Analyze:** Identification of 5 pediatric specialties that served as pilot groups to identify root causes of access roadblocks to develop the foundational elements of the transformation.
- **Improve:** The organization held a 2-day rapid improvement event to implement best practices within and across all 25 pediatric specialties to drive standardization.
- **Control:** Dissemination of frequent and transparent communications between the specialties, which provided rapid progress updates and established accountability with stakeholders to work through action items.

METHODS

Under the direction of the Executive Access Steering Committee, and in partnership with our health system’s Quality, Safety, and Innovation Center, we identified the following strategies to support this effort:

- Engaging key stakeholders
- Implementing scheduling best practices
- Developing a set of scheduling guidelines
- Increasing use of APPs
- Using data analytics to measure performance and establish benchmarks

Structured Team With Leadership Support

A physician-led, administratively supported, multidisciplinary team composed of executive leaders, physician leaders, practice administrators and managers, schedulers, and members of the scheduling call center team was formed to conduct this work. Improvement specialists were assigned to each pediatric specialty to support this effort and manage the project for each team. The project was structured in 2 phases: a pilot with 5 specialties, followed by a 2-day rapid-improvement event to accelerate implementation of best practices across all 25 specialties.

TAKEAWAY POINTS

Consumer centricity has reformed health care by focusing on consumer preferences around patient appointments and ease of scheduling. Health systems must redesign processes to transform the delivery of ambulatory care and provide near real-time access to specialty care.

- ▶ Providing accessible care to pediatric specialists is a necessity.
- ▶ The utilization of best-practice scheduling techniques allows for standardization of provider templates and streamlines appointment availability.
- ▶ Engaging key stakeholders is paramount to cascade this tactic through the specialty divisions.
- ▶ Optimizing resources such as advanced practice providers allows for improved access by opening more appointment slots.
- ▶ Utilizing new technologies implemented during the COVID-19 pandemic allows for increased capacity and increased patient satisfaction.

Scheduling System Best Practices

An integral part of the access improvement project included partnering with our centralized scheduling call center. The call center had one-on-one meetings with each pediatric specialty service, implementing best practices to streamline the scheduling process and open unused capacity.⁶ These strategies included:

- **Reduced visit types.** Simplified the scheduling process by reducing the number of visit types that can be used by a specialty.
- **Reduced block types.** Opened up availability for more patients by reducing the number of unique slots that were reserved for specific patients.
- **Implemented block release.** Established new capacity that might have gone unused by changing the block type of a slot if not filled within a certain number of days.
- **Ensured correct duration of visit types.** Verified that the duration of the visit type matched with the block type.
- **Standardized appointment slot durations.** Established new capacity for interchangeable slots to better match capacity to demand.
- **Updated subgroups.** Ensured that no provider schedules were missing from central scheduling.
- **Updated/revised decision trees and protocols.** Ensured that the new visit components were reflected accurately in the scripting and instructions for schedulers.

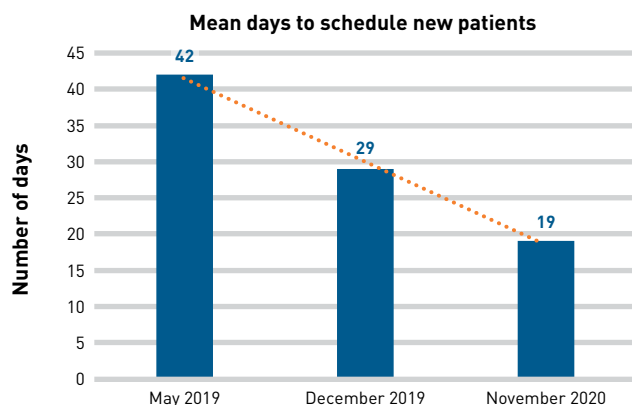
These initiatives received minimal resistance from stakeholders and yielded a 10% decrease in the number of scheduling calls that were transferred to the specialty for intervention. The block release strategy was the most successful tool for all divisions, as it ensures that an appointment slot is interchangeable for any type of appointment if the slot is not filled within a few days of the appointment date.

Set Scheduling Guidelines

Improvement specialists identified wide variations in provider templates and expectations for the number of patients or clinic sessions to complete in a defined time frame. To ensure consistency

TRENDS FROM THE FIELD

FIGURE 1. Mean Days to Schedule New Patient Appointments



within and across specialties, the following standard guidelines were established:

- **Definition of clinical full-time equivalent (cFTE).** Defined cFTE by clinical effort based on direct patient care.
- **Definition of session.** Defined an outpatient clinic session as 4 hours of appointment slot durations.
- **Clinic hours.** Established a window of start times for each session.
- **Template availability and design.** Provided parameters for control of template modifications.
- **Meeting standards.** Established acceptable clinic disruptions for meetings.
- **Cancellation process.** Established a process in which executive approval must be obtained if a provider plans to cancel clinic within 6 weeks of the clinic date.

The established guidelines were communicated to each specialty with the expectation that their teams would adhere to the new standards. Throughout the implementation of these guidelines, there was variable resistance to change. The definition of cFTE and the length of a clinic session were the most contentious, but these modifications also yielded the greatest increase in the capacity to provide timely access to care. Ultimately, these guidelines were used as a framework and tailored within each specialty to meet the needs of the division and the patients. If optimized scheduling guidelines did not yield sufficient improvements in access, additional physicians were recruited to enhance capacity.

Use of APPs

The organization in partnership with the APP Steering Committee worked diligently to orient and train APPs to provide autonomous comprehensive pediatric care. APP productivity was captured through billing in the electronic health record, demonstrating the level of care provided by APPs and identifying opportunities for APPs to

fully integrate into the care team to enhance access.⁷ This work was underway during the launch of the new patient access initiative and provided an advantage by maximizing all provider resources to achieve the goal by opening additional slots to see new patients.

RESULTS

Substantial Improvements in Access

Our interventions yielded substantial year-over-year improvements in the primary key performance indicator of mean days to schedule new patients. In 2019 when the initiative was launched, peak wait time was 42 calendar days for a new patient appointment. With the implementation of the strategies described, there was a decrease in wait time at the end of 2019 to 29 days and further improvement in 2020 to a mean of 19 days (Figure 1).

Throughout the initiative, patient and family preference strongly influenced the overall mean days to schedule new patients. Many patients did not take the first available appointment and chose to defer visits until a more suitable time, even when appointments were available as soon as the same or next day. Therefore, starting in November 2020, additional data were collected at the time of scheduling to assess whether the patient accepted the first available appointment offered. These data points helped to define the effect of patient preference or highlight barriers to care. Taking patient preference into account, new patient access improved to a mean of 4 days in 2021.

Additional information collected from patients and families during the scheduling process revealed that a cause of delays in scheduling appointments was lack of reliable transportation. Recognizing this opportunity, we implemented a rideshare program that proactively offers free rides (eg, rideshare programs or bus tickets) to patients and families, transporting them to and from the outpatient clinics.

These internal metrics assessing mean days to schedule new patient appointments demonstrated that the changes made were successful. This conclusion is further supported by analysis of patient experience surveys. During the interval of our access improvement project, there was significant 57-percentile improvement in the patient experience access domain (6th to 63rd percentile) (Figure 2).

COVID-19 Impact

The initiative to improve new patient access began in May 2019 and continues as a key strategic initiative. The COVID-19 pandemic affected all aspects of health care, especially at its onset in March 2020. Our access initiative was no exception. Prior to the onset of the pandemic, progress was being made to improve access, showing an overall improvement from our peak of 42 days to 28 days on March 15, 2020. Realizing the severity and uncertainty of the pandemic, we quickly shifted to virtual visits using various telemedicine platforms. New patients seen virtually increased from a mean of 4 per month prepandemic to a high of 2119 in April 2020. The establishment of increased capacity through telemedicine allowed for an almost immediate improvement in wait times for new patient appointments by 10 calendar days. As new patient volume returned to near

baseline levels by June 2020, the increased capacity created during the onset of the COVID-19 pandemic accelerated the improvement of new patient access, with telemedicine continuing to play an integral part in providing timely access to care for patients and families, averaging 600 televisits per month in 2021 (eAppendix Figure [available at ajmc.com]).

Digital Innovation

As health care evolves digitally, our organization continues to focus on strategies using information technology to enhance communication and provide convenient accessible care.

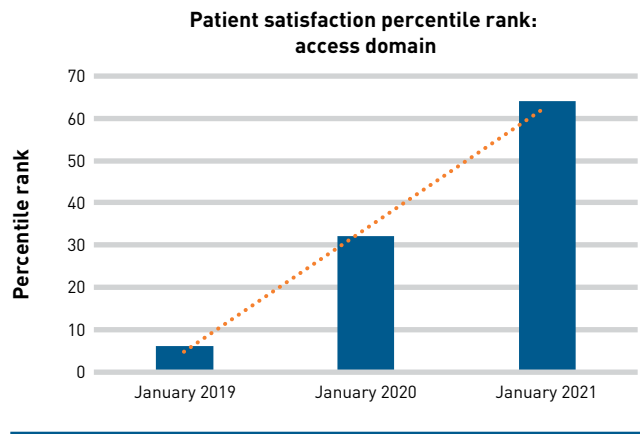
- **App for parents.** Using a cell phone or tablet, parents can find a provider, receive after-hours care, obtain advice for common pediatric conditions, schedule appointments, and arrange a virtual visit for nonemergency symptoms.
- **Online scheduling.** Parents can search for a provider and schedule an appointment online with a pediatric specialist based on the care needs of the child, at a location, date, and time of their choice.
- **Virtual care 24/7.** Parents can connect with a provider online in a secure, convenient manner using a cell phone, tablet, or computer workstation for nonemergent symptoms, such as colds or minor injuries, 24 hours a day, 365 days a year.
- **Emergency department affiliation.** Our pediatric emergency department physicians are available 24/7 via telemedicine for pediatric patients who present at participating adult hospital emergency departments. Patients requiring a follow-up specialty appointment with a pediatric provider are scheduled online prior to leaving the emergency department.

DISCUSSION

Improving access to pediatric specialty care was a strategic focus for our organization, and it significantly improved the patient experience. With physicians leading the initiative and with the strong support of administration, we were able to offer all new patients an appointment within 7 days. This improvement in access moved our organization closer to our overarching goal of “providing the best care for the most kids.” Implementing the scheduling system guidelines as a best practice allowed for a standard approach across all 25 specialties and established additional capacity for new patients.

The COVID-19 pandemic propelled our organization to accelerate the continuous pursuit to provide consumer-centric timely access to care. The rapid evolution of telemedicine has opened new avenues to provide timely care at home. Standard best practices shared by all specialties have made it possible to enable online scheduling 24/7 for pediatric specialty care. When an entire culture focuses on the same goal, empowers leaders, offers clear messaging, promotes creativity, and provides resources, results like these are possible. ■

FIGURE 2. Patient Satisfaction Percentile Ranking: Access to Care



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REFERENCES

1. Volk AS, Davis MJ, Abu-Ghname A, et al. Ambulatory access: improving scheduling increases patient satisfaction and revenue. *Plast Reconstr Surg.* 2020;146(4):913-919. doi:10.1097/PRS.000000000000195
2. Richter JP, Downs L, Beauvais B, et al. Does the proportion of same-day and 24-hour appointments impact patient satisfaction? *Qual Manag Health Care.* 2017;26(1):22-28. doi:10.1097/QMH.0000000000000121
3. Ansell D, Crispo JAG, Simard B, Bjerre LM. Interventions to reduce wait times for primary care appointments: a systematic review. *BMC Health Serv Res.* 2017;17(1):295. doi:10.1186/s12913-017-2219-y
4. AlMuhaideb S, Alswailem O, Alsubaie N, Ferwana I, Alnajem A. Prediction of hospital no-show appointments through artificial intelligence algorithms. *Ann Saudi Med.* 2019;39(6):373-382. doi:10.5144/0256-4947.2019.373
5. Six Sigma fundamentals: what is DMAIC? *Six Sigma Daily.* August 13, 2014. Accessed February 7, 2021. <https://www.sixsigmadaily.com/six-sigma-fundamentals-dmaic/>
6. Volk AS, Hollier LH Jr, Karon GN, Bank DE. The effects of session standardization and template optimization on improving access to high-demand pediatric subspecialty care. *J Ambul Care Manage.* 2020;43(1):81-88. doi:10.1097/JAC.0000000000000312
7. Comunale MJ, Lerch W, Reynolds B. Integrating advanced practice providers into value based care strategies: one organization’s journey to achieve success through interprofessional collaboration. *J Interprof Educ Pract.* 2020;22:100384. doi:10.1016/j.xjep.2020.100384

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eAppendix Figure. Volume of Completed New Patient Telemedicine Appointments

