

# Improving Clinic Productivity through a Shared Medical Appointment

Kimberly L. Fischer and Matthew S. Christman\*

*From the Naval Medical Center San Diego, San Diego, California*

## Abstract

**Introduction:** Physicians are increasingly challenged to balance quality health care with fewer resources and limited time. To help achieve this balance, shared medical appointments have been described. We improved clinic-wide access to care by creating a shared medical appointment for minor penile complaints and anomalies.

**Methods:** We implemented a shared medical appointment in April 2013. We developed an intake form to efficiently gather patient history, and a standardized presentation to discuss diagnosis, treatment options, risks and benefits. Outcomes assessed included access to care time, the rate at which patients were seen within a target of 28 days, the number of appointments scheduled and patient complaints. To control for provider availability we evaluated the number of vacation days and operating room cases for the sole pediatric urologist. Data were analyzed using the Mann-Whitney U test.

**Results:** The periods of November 2012 to March 2013 and May 2013 to September 2013 were evaluated. There was a statistically significant improvement in median (IQR) access to care, with a decrease from 26.6 days (26.4, 29.4) before to 20 days (17.1, 24.3) after implementation of the shared medical appointment ( $p=0.0163$ ). The goal access to care standard was met with a median (IQR) of 81.4% (56.7, 82.8) after the shared medical appointment compared to 44.3% (25.0, 46.9) before the shared appointment ( $p=0.0283$ ). After implementation of the shared medical appointment, more appointments were scheduled per month at 161 (156, 165) vs 128 (120, 130;  $p=0.1172$ ).

**Conclusions:** We successfully implemented a shared medical appointment and significantly improved our clinic productivity. This program allowed us to improve access to care by almost 1 week and to increase the overall volume of patients seen monthly.

*Key Words:* efficiency, organizational; appointments and schedules; health services accessibility

## Abbreviations and Acronyms

ATC = access to care

SMA = shared medical appointment

The Institute for Healthcare Improvement Triple Aim Initiative was developed to improve the patient experience of care (including quality and satisfaction), improve the health of populations and reduce the per capita cost of health care.<sup>1</sup> We are encouraged to provide better and timelier care, and are often challenged to do so with fewer providers and resources. Traditionally to increase the number of patients seen, physicians would limit time with each patient and work longer

hours.<sup>2</sup> To address this demand without adding to physician burnout, the shared medical appointment was developed to provide innovative health care in a group setting.<sup>3</sup> While few reports exist in the literature, published studies suggest that SMAs are patient centered, informative and satisfying for patients and physicians, and improve provider access and efficiency.<sup>4</sup>

In light of the recent Veterans Health Administration controversy, the topic of timely access to health care has garnered much attention.<sup>5</sup> Access to care is defined as the time from initiation of a referral to the time of the actual consultation visit. We aimed to decrease (ie improve) our ATC time and increase the rate at which the standardized ATC goal was met. We saw an opportunity to do so by addressing minor penile complaints in a group format. Low complexity, low acuity,

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\* Correspondence: Department of Urology, Naval Medical Center San Diego, 34800 Bob Wilson Drive, San Diego, California 92134 (e-mail address: matthew.christman@med.navy.mil).

higher volume complaints can be ideally suited for a SMA. We hypothesized that the implementation of a SMA would significantly improve ATC in a pediatric urology clinic. To our knowledge there have been no previous reports of the use of SMAs in pediatric urology.

## Materials and Methods

As part of a process improvement project in the Department of Urology, pediatric penile complaints were identified as a relatively common, low complexity reason for referral. Therefore, we considered these referrals ideal for a SMA. The SMA was conceived and implemented for appropriate referrals including phimosis, circumcision revision, webbed penis, penile torsion and chordee (fig. 1). Up to 15 patients and their families were scheduled for a single group appointment. The group was approximately a third infants, a third preschool-age and a third school-age children. Participating families were given a disclaimer relating to waiver of privacy as well as an option to schedule a private appointment with the surgeon.

At check-in for the SMA, families were given an intake form with focused questions relating to the reason for consultation. The form included history of present illness; general questions necessary to complete a thorough review of past medical and surgical history, medications, family and social history; and review of systems. The appointment began with an educational session. The patients and their families were present for a discussion of diagnoses as well as indications, risks, benefits and alternatives of possible treatments. A standardized presentation was developed for this purpose, and was immediately followed by a question and answer period while still in the group setting. After the group session the individual patients then had an examination in private by the physician. At

this time the medical history was clarified, documentation was completed, any remaining questions from the patient and family were answered, and surgery was scheduled (if indicated/requested) with appropriate paperwork and consent completed. The individual examinations were conducted according to the order of arrival (ie patient check-in time).

The SMA was implemented in April 2013. We retrospectively compared 5 months of clinical appointment data before implementation of the SMA (November 2012 through March 2013) vs the 5-month period after implementation (May 2013 through September 2013). Data came from the Composite Health Care System ATC booking standard compliance report and the military treatment facility schedule and appointment use detail. The data were analyzed based on aggregate monthly totals. The local institutional review board assessed the project and classified it as process improvement, thus exempting it from formal board approval.

Because the pediatric urology clinic at our institution is run by a sole provider (MSC), attempts were made to assess potentially confounding variables related to surgeon availability including provider vacation days, patient disengagements and surgeon operative case volume. Patient disengagements are those who are deferred for care outside of the Military Health System. Several outcomes were assessed, including 1) access to care; 2) the number of appointments scheduled per month, including patients seen and no-shows; 3) the number of patient complaints, defined as formalized contact with representatives from patient relations; and 4) the rate at which the standard ATC goal, which the Military Health System defines as 28 days or less, was met. Data were statistically analyzed using the Mann-Whitney U test to evaluate for significant differences before and after implementation of the SMA for penile complaints and anomalies. Statistical significance was set at  $p \leq 0.05$  and Stata®12 was used for the analysis.

## Results

There were no significant differences in any of the factors related to appointment availability. Median (IQR) provider vacation days were 1 (0, 4) before and 3 (0, 6) after the SMA ( $p=0.589$ ). Monthly operative case volume was 22 (16, 24) in the earlier period vs 21 (20, 21) in the later period ( $p=0.528$ ). Similarly, patient disengagements were not significantly different, at 0 (0, 0) before and 0 (0, 1) after the SMA ( $p=0.137$ ).

A statistically significant improvement in ATC was noted at a median of 26.6 days (IQR 26.4, 29.4) before the SMA vs 20.0 (17.1, 24.3) days after SMA implementation ( $p=0.016$ ; fig. 2, A). The number of monthly appointments increased from 128 (120, 130) to 161 (156, 165) ( $p=0.117$ ; fig. 2, B). A single outlier for the monthly appointment volume was identified and corresponded to a month when the surgeon was away from the clinic for 2 weeks (fig. 2, B). The analysis of monthly appointments was also run excluding this outlier. Results then demonstrated a significant improvement in the number of appointments per month ( $p=0.014$ ), with a median (IQR) of 163 (158.5, 167.5) appointments after implementing the SMA.

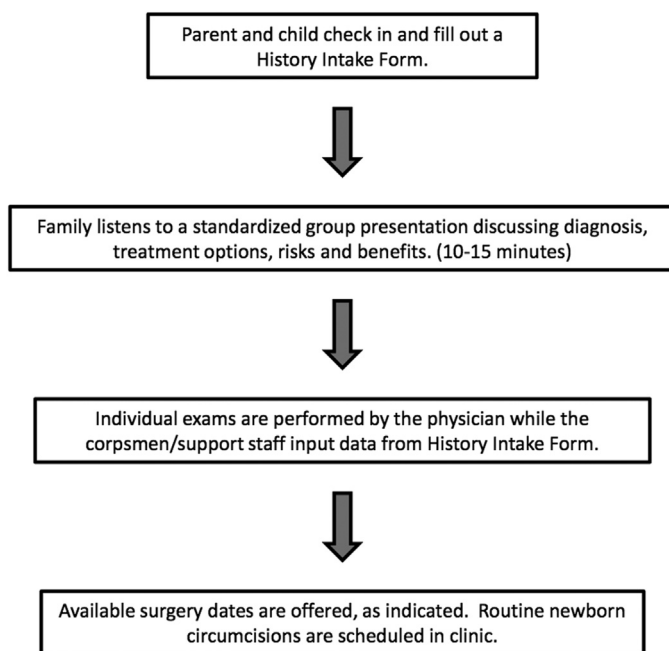


Figure 1. SMA structure for penile complaint referrals

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