

Telehealth Care in a Pediatric and Adolescent Gynecology Clinic During the COVID-19 Pandemic

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ABSTRACT

Background: Since the onset of the COVID-19 pandemic, health care systems have increased their telehealth services to meet the changing public health needs. Before the pandemic, telehealth was used primarily in surgical specialties for postoperative visits and rural medicine. However, out of necessity, nearly all medical and surgical subspecialties incorporated this virtual technology to improve patient health care access in a short time. Few studies have addressed telehealth in pediatric and adolescent gynecology (PAG) to date.

Study Objective: To describe the large-scale utilization of telehealth visits, assess patient experience, and improve access to care in a large academic ambulatory gynecology PAG clinic

Methods: This retrospective, cross-sectional quality improvement study was performed by administering patient surveys and compiling aggregate data from the EPIC electronic health record in the Division of Pediatric and Adolescent Gynecology clinics at a single children's hospital between March 2020 and March 2021. Patient demographic characteristics, payer characteristics, visit type and purpose, and patient experience were reviewed.

Interventions: Wider expansion of telehealth in PAG clinics at a single institution

Results: A total of 6159 telehealth appointments were performed, involving 6 clinic sites and 9 providers. Telehealth visits constituted 50% of the total ambulatory volume (12,527). Most patients were located within the institution's state (99.5%), and the remaining called into their telehealth visits from a neighboring state. Most patients were 18 years of age or younger (73%). Video visits lasted 15-30 minutes and included routine follow-up (66.3%), new/consult visits (28.4%), postoperative visits (1.6%), and urgent follow-up (0.2%). The patient population was ethnically diverse by self-identification: 61.4% White, 38.4% Hispanic, 16% Black, 4.4% Asian, and 0.4% Native Hawaiian/American Indian/Alaska Native. Payer mix included self-pay (45.5%), private payer (32.2%), and Medicaid/CHIP (22.3%). Conditions seen ranged from menstrual management (71%) and routine preventive or acute gynecologic concerns (21%) to surgical evaluation for congenital anomalies, endometriosis, fertility preservation, and genital concerns or pelvic masses (8%). Telehealth visits met patient expectations for 87.3% of respondents. Patient-reported opportunities for improvement included improving set-up instructions and more consistent audio/video connections. Challenges identified by providers included difficulty utilizing interpreters, technology limitations, and privacy constraints during HEADSS examination.

Conclusions: This study demonstrates how a large, diverse volume of patients with PAG needs received appropriate care through a telehealth format during the COVID-19 pandemic. Patients were satisfied with the services, but opportunities for improvement were elicited to allow for continued refining of this health care delivery tool in the future.

Key Words: Pediatric, Adolescent, Gynecology, Telehealth, Pandemic, Telemedicine

Introduction

Since the onset of the COVID-19 pandemic, health care systems have increased their telehealth services to meet the changing public health needs.¹ Before the pandemic, telehealth was used in mostly surgical specialties for postoperative visits and rural medicine.² However, out of necessity, nearly all medical and surgical subspecialties are now incorporating this virtual platform into their practice.

The rapid expansion of telehealth includes care for pediatric and adolescent patient populations, who benefit from video visits that can address their health concerns while mitigating COVID-19 risks.³ For reproductive health in par-

ticular, recommendations for best practices generally promote the use of telehealth services where possible during the pandemic, such as for contraception and follow-up visits for certain nonemergent conditions, including discussion of sensitive topics.⁴

Confidentiality and privacy for adolescent patients is a priority for pediatric and adolescent gynecology (PAG) providers to facilitate effective communication and to obtain complete information.^{5,6} One previous study found that 10.8% of PAG providers cited privacy concerns as a barrier to conducting sexual health counseling via telehealth.⁷ For adolescents accessing telehealth, having an opportunity to discuss sensitive issues with a provider away from their parents has also been shown to improve overall comfort, yet only 31% of patients in one study received that one-on-one time during their visit.⁸

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Guidelines for offering contraception counseling to pediatric and adolescent populations via telehealth modalities suggest taking a stepwise approach toward these conversations, first with an assessment of patient privacy before engaging in a patient-centered approach to counseling that systematically rules out any medical contraindications.^{9,10} Along the same thought process, additional studies indicate that visits relying primarily on history-taking and counseling, particularly for postoperative care or the provision of contraception, can be performed via telephone and video visits without compromising outcomes.¹¹

In addition to upholding privacy for patients, providers must navigate new coverage changes and funding gaps that have emerged with the expansion of telehealth during the pandemic.¹² Some studies have found that the increased reliance on telehealth services during the pandemic has widened measures of health inequity.⁴ Lessening disparities have also been seen, as highlighted by one study comparing clinics in medically underserved areas and non-underserved areas in Texas, where researchers found that relative differences in telehealth usage and challenges due to computer or Internet limitations were decreasing with the concurrent improvements in telehealth implementation.¹³ Moreover, Franciosi et al found that telehealth services across adult and pediatric surgical and nonsurgical specialties were able to preserve the proportion of minority, Medicaid, and Medicare patients seen in clinic visits while at the same time noting a significant decrease in the proportion of non-English-speaking patients served via telehealth across all specialties, except for the pediatric nonsurgical group.¹⁴

Within this context, it is important to understand the characteristics of patient populations seeking and receiving telehealth care, to better characterize their patient experience with these services, and to tailor these services to fit the needs of this unique, diverse patient population. The goal of this quality improvement review was to describe the large-scale utilization of telehealth visits and assess patient experience in a large academic ambulatory PAG clinic.

Methods

This retrospective, cross-sectional quality improvement study assessed all PAG telehealth visits at a single children's hospital during the COVID-19 pandemic from March 2020 to March 2021. Scheduled telehealth and telephonic visits were identified through the EPIC electronic health record (EHR) for all PAG providers during the timeframe. Criteria for scheduling were patient self-referral, PAG provider request, or referring provider request as needing PAG care. Because we wanted to assess telehealth visits offered by PAG providers, in-person visits were excluded. Overall, a total of 6159 telehealth appointments were performed, involving 6 clinic sites and 9 providers. New patient visits and consult visits were allotted 30 minutes each, whereas follow-up visits and postoperative visits were scheduled for 15 minutes. Audio telehealth visits were performed for the first month of the pandemic, when infrastructure was still limited. Subsequently, a video format was utilized for the remaining telehealth visits, using the EPIC EHR.

Table 1
Demographic Characteristics of Pediatric and Adolescent Gynecology Telehealth Visits

Telemedicine visit types (N = 6159)	N (%)
New/consult	1751 (28.4%)
Routine follow-up	4086 (66.3%)
Postoperative	100 (1.6%)
Urgent follow-up	1 (0.2%)
Telemedicine telephone	216 (3.5%)
Payer mix (N = 7725)	N (%)
Medicaid/CHIP	1723 (22.3%)
Private insurance	2490 (32.2%)
Self-pay/global/no visit charge	3512 (45.5%)
Race/ethnicity (N = 7093)	N (%)
American Indian/Alaska Native	33 (0.12%)
Hispanic	2725 (38.4%)
Asian	317 (4.4%)
Black	1135 (16%)
Native Hawaiian	20 (0.28%)
White	4357 (61.4%)
Location by state	N (%)
Texas	7685 (99.5%)
Louisiana	23 (0.3%)
Other states	16 (0.2%)
City	N (%)
Houston proper	2736 (35.6%)
Houston region	3054 (39.7%)
Outside of Houston	1895 (24.7%)

This project was designed as an institutional review board-exempt quality improvement study as no patient identifiers were used for quality review of aggregate deidentified data obtained by the EPIC EHR administration team. We extracted pooled aggregate data from the EPIC EHR, collecting information on patient demographic characteristics, payer characteristics, and visit type and purpose. Patient surveys were automatically administered by our ambulatory care team following each visit at our institution, whether in person or via telehealth, to assess patient expectations and experience with care. This patient visit experience was also deidentified and reviewed from a quality perspective in aggregate. Both qualitative and quantitative measures on telehealth care were reviewed.

Results

The number of telehealth visits in this timeframe (N = 6159) constituted approximately half of the total ambulatory volume (N = 12,527) in the same timeframe. A few visits early in the pandemic were conducted telephonically (3.5%), but most visits were conducted over video (> 96%). All visits were 15-30 minutes in duration. These visits were categorized as follow-up (66.3%), new/consult (28.4%), postoperative (1.6%), and urgent follow-up (0.2%). The payer distribution for our telehealth visits comprised 22.3% Medicaid/CHIP, 32.2% private insurance, and 45.5% self-pay/global/no visit charge (Table 1).

In our sample, most patients were under 18 years of age (73%). Our patient population was ethnically diverse by self-identification: 61.4% White, 38.4% Hispanic, 16% Black, 4.4% Asian, and 0.4% Native Hawaiian/American Indian/Alaska Native (Table 1).

Emergent governmental expansion in reimbursement for telehealth during the pandemic allowed patients in our

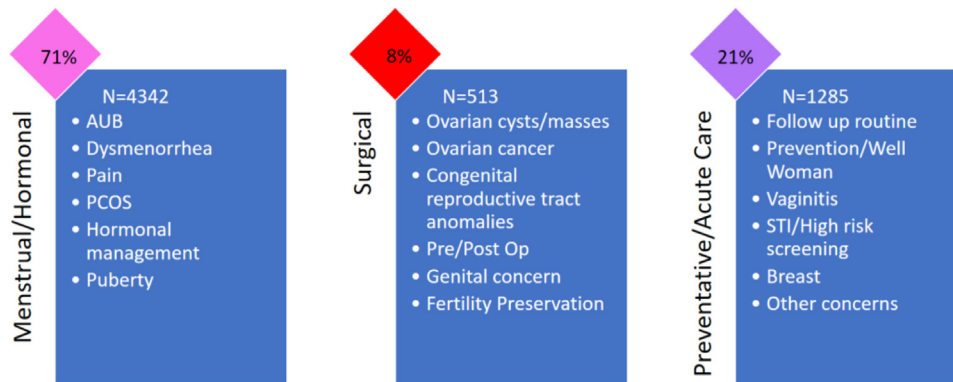


Fig. 1. Distribution of telemedicine visits by gynecologic diagnosis.

quality review the opportunity to access care with their PAG provider independent of their current location. Although patients primarily resided in Texas (99.5%), some patients with a local Texas address accessed telehealth from other states (0.2%) at the time of the visit (eg, patients attending college out of state). In addition, PAG providers were granted emergency telemedicine privileges to provide care in Louisiana, constituting 0.3% of visits (Table 1).

A wide spectrum of gynecologic conditions was addressed (Fig. 1). Gynecologic diagnoses for telehealth visits included menstrual/hormonal (71%), surgical (8%), and preventative/acute care (21%), encompassing specific conditions such as abnormal uterine bleeding (37.5%), dysmenorrhea/premenstrual syndrome (14.9%), hormone management (9.5%), polycystic ovarian syndrome (9.0%), routine follow-up (6.3%), and surgical evaluation for congenital anomalies, endometriosis, fertility preservation, genital concerns, or pelvic masses (8.3%). Other chief complaints addressed via telehealth included preventive care for breast and well woman care and evaluation for vaginitis or sexually transmitted infections.

Overall, 87.3% of telehealth patients reported having their expectations met by telehealth services. Qualitative feedback was generally positive, with patients reporting that their appointment started on time and that the visit went smoothly and efficiently. Patients cited ease of use, convenience, and comfort with telehealth. Difficulties with telehealth were also noted. Patients reported some challenges with audio/video technology, needing clearer instructions for set-up, and experiencing issues with communication secondary to poor Internet connection. Notably, patients reported more comfort discussing private concerns in their own environment and were generally able to navigate the technology. Some telehealth challenges identified by providers were increased difficulty utilizing interpreters, concerns about patients with limited access to technology, and privacy constraints when asking confidential questions. Of note, to address privacy concerns, providers typically asked the guardian to go to a different room before asking confidential questions.

Discussion

With the evolution of telehealth administration over time, new challenges and opportunities in the provision

of care have emerged. This quality improvement study followed the implementation of telehealth across a large volume of patients with diverse PAG needs. Our findings compile input from providers and patients alike.

The high patient experience rating among our study sample (87.3%) indicates that patients were content with the quality and delivery of their health care despite the new limitations and challenges imposed by the COVID-19 pandemic. Our study highlights the positive characteristics of telehealth, such as its ease of use, decreased travel time, and improved communication, consistent with previous literature.¹⁵ Patients seeking PAG visits reported that their experience expectations were met across a variety of visit types and chief complaints. Moreover, the diversity of payer mix demonstrates the ability of telehealth visits to extend access to care independent of patient insurance.

Furthermore, our findings reveal opportunities for improvement in PAG telehealth, such as ensuring clear instructions for setting up technology, troubleshooting network connection issues, and streamlining the integration of interpretation services into visits. Challenges to telehealth visits and disparities in accessibility must be further explored in future studies to determine ways in which these services can be provided equitably without compromising quality of care for patients. Additional evaluation of telehealth for quality measures will aid in determining the suitability of these services in meeting the individual needs of patients even after the pandemic has subsided.

To our knowledge, only one study has examined the implementation of telehealth in the context of ambulatory PAG.¹⁶ Our study confirms previous findings that telemedicine visits were utilized primarily for return visits, new patient visits, and postoperative visits. Whereas a recent study reported that dysmenorrhea/endometriosis and abnormal uterine bleeding made up most of their PAG telehealth sample,¹⁶ our findings expand the applicability of telehealth to broader gynecologic diagnoses for a diverse patient population. In this way, our study affirms the feasibility and efficacy of such visits for the provision of care. As technology continues to improve, understanding challenges and opportunities for improvement in the provision of telehealth services is vital.

The strengths of the current study include its large sample size of telehealth appointments (N = 6159) across multiple clinic sites and providers. Our study extends the

current understanding of telehealth care for pediatric and adolescent patients by featuring its use for a variety of gynecologic concerns and visit types. The study is limited by its cross-sectional nature and focus on quality improvement measures, limiting its scope and generalizability. Further inquiry is required to better understand and characterize PAG telehealth delivery overall.

The rapid expansion in telehealth care has dramatically broadened patient access to care. However, an increased reliance on telehealth has brought with it new challenges, such as difficulty troubleshooting Internet-based technologies, integrating translation services into web-based platforms, and maintaining confidentiality and privacy remotely. Particularly for pediatric and adolescent patient populations, virtual visits can avoid health care access issues such as transportation while mitigating risks introduced by COVID-19. To better coordinate care for patients, it is important that we understand how to facilitate and improve telehealth implementation. Further studies should examine patients' relative comfort with discussions conducted via telehealth, as well as young patients' ability to navigate these technologies with ease.

Conflict of Interest Statement

The authors have no conflicts of interest to report. Findings from this manuscript were presented at the North American Society for Pediatric and Adolescent Gynecology (NASPAG) Annual Clinical and Research Meeting, April 7-9, 2022.

Funding

No funding was received for this quality improvement study.

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