



Evaluating the patient experience with urological video visits at an academic medical center

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Background: Telemedicine utilization, including use of video visits, is growing rapidly. While much enthusiasm surrounds telemedicine, the successful implementation of video visits within health systems requires providers to evaluate patient's experience with the implemented technology and workflow.

Methods: Twenty patients who completed a video visit in the Department of Urology at Michigan Medicine were contacted and asked if they would be willing to share their experience. Patients underwent a semi-structured telephone interview. Using an interview guide, patients were asked questions about the enrollment process, their overall impression of the visit, and feedback to improve the visit. Interview comments were categorized into three primary themes: usability, quality of the visit, and comparison to a traditional in-clinic visit.

Results: Most patients who underwent a urological video visit were highly satisfied with their experience. Most patients also reported being able to join the video visit with minimal issues. However, some patients expressed issues downloading the application and interpreting our educational materials. In regard to quality of the visit, most patients were impressed and pleased. While there was no criticism regarding the picture-quality of the video visit, a few patients reported issues with the audio. It was apparent that quality of video was dependent on quality of the patient's internet connection. When comparing the video visit to a traditional in-clinic visit, patients—especially parents with children at home—found the video visit to be more efficient.

Conclusions: Our study found that patients were pleased with their urological video visit experience, and there were details about our workflow that would not have been evident without interviews. These findings suggest that while video visits are suitable alternatives to in-clinic appointments at academic medical centers, it is important for providers to obtain direct feedback from patients to identify workflow and technical issues.

Keywords: Video visits; patient experience; telemedicine; urology

Received: 08 June 2018; Accepted: 05 November 2018; Published: 19 November 2018.

doi: 10.21037/mhealth.2018.11.02

View this article at: <http://dx.doi.org/10.21037/mhealth.2018.11.02>

Introduction

Telemedicine use is growing rapidly; telemedicine spending is projected to increase from approximately \$240 million in 2014 to \$2.2 billion in 2018 (1). This rapid increase in spending is fueled by healthcare providers' belief that telemedicine services enable clinicians to provide highly efficient and high-quality clinical encounters

without compromising patient experience. By investing in telemedicine initiatives, academic medical centers hope to improve access, convenience, and the quality of their clinical encounters.

While enthusiasm surrounds telemedicine, successful implementation of any intervention requires an evaluation of the patient's perspective. For example, there are many

intuitive reasons why patients may prefer video visits (two-way audiovisual clinical encounters) over standard in-clinic visits. First, video visits eliminate or reduce patients' time spent waiting to see their doctors (2-4). Video visits also eliminate travel time for patients (5,6). Finally, video visits may reduce caretaker burden. On the other hand, though patients may initially be excited to try a video visit, their experience may not meet their expectations. For instance, patients may consider video visits too short or feel that they were not able to have all of their questions answered due to lack of opportunity to interact with other caretakers. It is also plausible for patients to find that rapport with their physician is negatively affected by the lack of in-person interaction or because of technical issues.

Prior research exploring patient perspectives around video visits has found that patients self-report interest and satisfaction with video visits (7-10). In this study, we build on the research by performing semi-structured interviews with patients after they have experienced a urological video visit. While we ask questions regarding the overall experience, we also dig deep to learn about the enrollment process, technology issues and other topics that are related to our specific workflow. By virtue of this approach, our findings from this quality improvement project will provide hospital administrators at other academic medical centers more nuanced insight into patient experiences with video visits.

Methods

“A priori, we determined that we would conduct interviews with at least 20 patients because we expected that we would reach thematic saturation by then. Of the 35 patients who completed a video visit in the Department of Urology at Michigan Medicine over the course of our study period, 20 were randomly contacted and asked if they would be willing to share their experience. Patients underwent a semi-structured interview, which was conducted using an interview guide. The video visits are defined in this study as a synchronous two-way audiovisual face-to-face encounter between an established Michigan Medicine patient and urologist using the Epic MiChart system. The video visits in this study were conducted by a single urologist.” —C Ellimoottil

During their initial in-clinic visit, patients who had signed up to have their return visit completed via video were provided a step-by-step instruction sheet on how to download the Michigan Medicine smartphone application, which works in conjunction with Michigan Medicine's electronic medical record (EMR) system. Patients were informed that they would be contacted by a telemedicine

enrollment officer prior to their visit to provide assistance with downloading the application.

“Upon completing the video visit, the selected patients were contacted for telephone interview completed by a researcher who was not present during the video visit. To minimize bias, the urologist was not present at the time of the interview.” —S Thelen-Perry

Each patient was asked three questions, listed below, along with probes if the patient's responses were too short or not sufficiently informative:

- (I) Please describe the process of enrolling and connecting to your provider for your video visit:
 - ❖ What device did you use?
 - ❖ Were the patient education instruction sheets helpful?
 - ❖ How was your experience with our patient enrollment officer?
 - ❖ Were there any difficulties in downloading the app?
- (II) Please describe your overall experience with the video visit:
 - ❖ Were there any technical difficulties/were you able to connect?
 - ❖ Did you feel as though you had enough time to discuss your issues?
 - ❖ How did this compare to an in-clinic appointment?
 - ❖ Would you want to do a video visit again?
- (III) Do you have any feedback to improve video visits?

In addition, patients were also asked to provide a satisfaction score between 1–10; 1 being extremely dissatisfied and 10 being extremely satisfied. These interviews were audio-recorded and transcribed for analysis. *“This study was deemed exempt from the institutional review board because it was a quality improvement study.”*

Results

“All 20 patients agreed to participate in the interview. We believed that we reached thematic saturation after 20 patients so we did not conduct any further interviews.” The patient's ages ranged from 20–78 years old and they lived anywhere from 10 miles to more than 400 miles away from Michigan Medicine. The patients interviewed had a wide range of urologic conditions including elevated prostate specific antigen, kidney stones, and lower urinary tract symptoms.

“Each patient who participated in this study stated that they were satisfied with their experience. Ten of these participants provided a quantitative score from 1 (extremely dissatisfied) to 10 (extremely satisfied) regarding their overall visit. Eight patients

reported a score of 10, 1 reported a score of 9, and 1 patient reported a score of 8.”

From the interviews, three key themes emerged: easy accessibility to the video visit, quality of the visit itself, and overall comparison to an in-clinic visit.

Ease of use

“Overall, most patients were able to access the video visit with little to no issues with two requiring additional assistance.” Several patients found the patient enrollment officer very helpful with downloading the Epic application. Others who considered themselves more tech-savvy were able to download the application without the enrollment officer’s help, but found the phone call courteous. One specific patient said that the “patient handout material was very helpful.....I liked having the materials and person calling.....it was quick and easy.”

However, there were a few complaints with the Epic application. One patient commented that he felt the instruction sheet did not match the format he was seeing on his screen; we believe this was related to the size of his device screen. Another patient noted that he initially had trouble downloading the application on an Android device because the enrollment officer was providing instructions for an iOS device.

Quality of the video visit

“Almost all patients were impressed and pleased with the quality of their video visit. There was no criticism regarding the picture-quality of the video visit; however, one patient had issues regarding the audio.” This interviewee noted that the volume of the visit was quite low despite the device being on maximum volume. The patient was unable to discern which end of the two-way audiovisual feed was responsible for the lack of sound.

As a whole, it was apparent that one’s quality of video was dependent on the Internet connection. Any drops or low-speed connections led to a slight lag between the video feed with the clinician and the audio. This lag did not appear to hinder the overall video visit, though, and patients who experienced it did not find it to negatively affect the visit itself.

Comparison to an in-clinic appointment

“All 20 patients found the video visit to be much faster than an

in-clinic visit, as they could avoid the drive and overall wait-time.” Unlike with in-clinic visits, they were able to carry on uninterrupted with their day prior to and after the video visit. Patients with children at home especially found the video visit to be more convenient.

Though these patients had an existing patient-clinician relationship, a few patients expressed that video visits would be a good option for many standard clinic visits with their physician. One patient commented, “Dr. Name Redacted has good patient rapport. He is willing to go to great gains to explain whatever needs to be explained and felt that I was dealing with the same doctor on a video conference as I was in person.” However, some patients said they would not like a video visit for new patient encounters (Table 1).

Discussion

Our study found that, overall, patients were pleased with their video visit experience and its enrollment process. In many cases, patients preferred a video visit over an in-clinic visit for their follow-up appointment. However, through these interviews, we learned details about our workflow which would not have been evident without interviews. The findings suggest that video visits can be a suitable alternative to in-clinic visits at academic medical centers, but it is important for health systems to obtain direct feedback from patients to identify issues (e.g., sound quality, workflow issues).

“Our findings are consistent with the research of other investigators who have demonstrated that patients find video visits to be both convenient and satisfactory (11-15). In addition, our interviews provided important feedback that was used to modify our existing program. For example, we now use a modern iPad with high-quality light and sound within a clinic workspace as the study demonstrated patient experience relying heavily on the perception that a telemedicine appointment be no different than one in-clinic.” Furthermore, our patient enrollment officer now has instructions that are specific to multiple models of smartphones. We would not have considered these modifications unless we had in-depth information directly from patients.

Our study has several limitations. First, the patients interviewed were limited to the Department of Urology at Michigan Medicine. While this narrows the generalizability of our study, the findings were not specific for any urological conditions. Second, all of the patients in our study were treated by a single urologist and, therefore, it is possible that their responses were biased by their relationship with the

Table 1 Quotes from semi-structured interviews

Theme 1: ease of use

- ❖ “Patient handout material was very helpful; I liked having the materials and person calling; it was quick and easy.”
- ❖ “Everything was just excellent with me.”
- ❖ “(The patient material) was very straightforward.”
- ❖ “It was pretty simple.”

Theme 2: quality of the video visit

- ❖ “Loved it, very good.”
- ❖ “Everything was just excellent.”
- ❖ “Speed not adequate, doctor’s lips don’t sync.”
- ❖ “No technical issues at all.”

Theme 3: comparison to an in-clinic appointment

- ❖ “Enjoyed the fact that I didn’t have to get up, get dressed, go down to doctor’s office and wait. You wait forever and it was just much easier.”
- ❖ “It’s great, wave of the future, it’s stressful missing a lot of work time and things. It was just wonderful, it’s great.”
- ❖ “I was very impressed, I didn’t know what to expect and it was fantastic, it was time saving, money saving and thorough.”
- ❖ “Effective as a personal visit for the purpose intended.”
- ❖ “Felt that I was dealing with the same doctor on a video conference as I was in person.”

urologist. Third, our study focused on established patient visits. Therefore, the results may not be generalizable to new patient video visits. Finally, we interviewed a small number of patients. However, near the end of our study, we found that we had reached thematic saturation and we did not feel the need to interview additional patients with the same questions. *“It should also be accounted for that video visits do not allow for physical examinations and that any issues warranting this should be addressed in at an in-clinic appointment.”*

These limitations notwithstanding, the findings are useful to physicians and hospital administrators who are in the process of implementing video visits for urology and other subspecialties services. Moving forward, research in this area should focus on the experience of patients who complete new patient video visits (as opposed to established patient visits). In addition, larger-scale qualitative research projects can assess the association between patient experience and factors such as age, culture, and distance to providers. While the use of video visits (and other forms of telemedicine) have the potential to transform the delivery of health care, a robust understanding of the patient perspective on the technology is essential to ensure a high-quality experience for all patients.

Acknowledgements

None.

Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

References

1. Klasko SK. Healthcare Transformation: The Future of Telemedicine. *Telemed J E Health* 2016;22:337-41.
2. Rimmer RA, Christopher V, Falck A, et al. Telemedicine in otolaryngology outpatient setting-single Center Head and Neck Surgery experience. *Laryngoscope* 2018;128:2072-5.
3. Hwa K, Wren SM. Telehealth follow-up in lieu of postoperative clinic visit for ambulatory surgery: results of a pilot program. *JAMA Surg* 2013;148:823-7.
4. Soegaard Ballester JM, Scott MF, Owei L, et al. Patient preference for time-saving telehealth postoperative visits after routine surgery in an urban setting. *Surgery* 2018;163:672-9.
5. Williams AM, Bhatti UF, Alam HB, et al. The role of telemedicine in postoperative care. *Mhealth* 2018;4:11.

6. Zheng F, Park KW, Thi WJ, et al. Financial implications of telemedicine visits in an academic endocrine surgery program. *Surgery* 2018. [Epub ahead of print].
7. Miller A, Rhee E, Gettman M, Spitz A. The Current State of Telemedicine in Urology. *Med Clin North Am* 2018;102:387-98.
8. Andino JJ, Guduguntla V, Weizer A, et al. Examining the Value of Video Visits to Patients in an Outpatient Urology Clinic. *Urology* 2017;110:31-5.
9. Viers BR, Pruthi S, Rivera ME, et al. Are Patients Willing to Engage in Telemedicine for Their Care: A Survey of Preuse Perceptions and Acceptance of Remote Video Visits in a Urological Patient Population. *Urology* 2015;85:1233-9.
10. Powell RE, Henstenburg JM, Cooper G, et al. Patient Perceptions of Telehealth Primary Care Video Visits. *Ann Fam Med* 2017;15:225-9.
11. Powell RE, Stone D, Hollander JE. Patient and Health System Experience With Implementation of an Enterprise-Wide Telehealth Scheduled Video Visit Program: Mixed-Methods Study. *JMIR Med Inform* 2018;6:e10.
12. Welch BM, Harvey J, O'Connell NS, et al. Patient preferences for direct-to-consumer telemedicine services: a nationwide survey. *BMC Health Serv Res* 2017;17:784.
13. Del Signore AG, Dang R, Yerasi A, Illoreta AM, Malkin BD. Videoconferencing for the pre-operative interaction between patient and surgeon. *J Telemed Telecare* 2014;20:267-71.
14. Bergrath S, Rörtgen D, Rossaint R, et al. Technical and organisational feasibility of a multifunctional telemedicine system in an emergency medical service - an observational study. *J Telemed Telecare* 2011;17:371-7.
15. Viers BR, Lightner DJ, Rivera ME, et al. Efficiency, satisfaction, and costs for remote video visits following radical prostatectomy: a randomized controlled trial. *Eur Urol* 2015;68:729-35.

doi: 10.21037/mhealth.2018.11.02

Cite this article as: Thelen-Perry S, Ved R, Ellimoottil C. Evaluating the patient experience with urological video visits at an academic medical center. *mHealth* 2018;4:54.