Patient Perceptions of Telehealth Primary Care Video Visits

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ABSTRACT

PURPOSE Telehealth is a care delivery model that promises to increase the flexibility and reach of health services. Our objective is to describe patient experiences with video visits performed with their established primary care clinicians.

METHODS We constructed semistructured, in-depth qualitative interviews with adult patients following video visits with their primary care clinicians at a single academic medical center. Data were analyzed with a content analysis approach.

RESULTS: Of 32 eligible patients, 19 were successfully interviewed. All patients reported overall satisfaction with video visits, with the majority interested in continuing to use video visits as an alternative to in-person visits. The primary benefits cited were convenience and decreased costs. Some patients felt more comfortable with video visits than office visits and expressed a preference for receiving future serious news via video visit, because they could be in their own supportive environment. Primary concerns with video visits were privacy, including the potential for work colleagues to overhear conversations, and questions about the ability of the clinician to perform an adequate physical examination.

CONCLUSIONS Primary care video visits are acceptable in a variety of situations. Patients identified convenience, efficiency, communication, privacy, and comfort as domains that are potentially important to consider when assessing video visits vs in-person encounters. Future studies should explore which patients and conditions are best suited for video visits.

INTRODUCTION

Telemedicine, or telehealth, includes telecommunication via a variety of platforms designed to enhance patient-centered health care.[1-3] Telehealth in its many forms offers conveniences including increased care accessibility, decreased transportation barriers, and patient empowerment.[4-8] Studies of video visits have demonstrated these benefits in specialty settings including wound care, prenatal genetic screening, family planning, cardiovascular care, and home care.[9-15] One study of patient experiences with video visits in rural areas found that they were associated with decreased travel costs and lost time/wages, increased access to social support, and better ability to tailor care delivery to patient and family needs.[16]

Because of these benefits, video visits are being adopted in a variety of settings. Uptake in the United States has occurred most rapidly where reimbursement is favorable. Medicare reimburses for video visits in health professional shortage areas and for specific approved services.[17] As a result, much knowledge about patient experiences with video visits is limited to specific disease-related applications and to use in rural settings.[18-20]

Video visits are increasingly used in other settings, including primary care, but there are limited data on patient experiences with primary care video visits. One study tested video visits with patients communicating via webcam with their primary care physician while sitting in an adjacent room, followed immediately by an in-person visit. Patients reported video visits acceptable, but less satisfactory, than in-person visits.[21] While such test scenarios provide useful information about the feasibility and accept-

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ability of video visits for primary care, understanding optimal use requires exploring real-world patient experiences.

We report results of a qualitative study of patient experiences with video visits with their established primary care clinicians and their preferences for future use of video visits.

METHODS

Intervention

JeffConnect, an initiative launched at Thomas Jefferson University in 2015, was used to make primary care video visits available. During the initial implementation period, primary care clinicians identified patients to pilot video visits. The video visits were offered without cost to encourage participation. No specific patient eligibility criteria were suggested; rather providers were asked to offer the service to anyone for whom there was no definitive need for in-person visit.

A member of the care team or a telehealth coordinator approached patients to assess interest in participating in a video visit. A telehealth coordinator trained in the use of the video-conferencing platform facilitated the scheduling and provided patient education, including instruction on downloading the application to a smartphone or tablet or accessing the JeffConnect platform (http://www.jeffconnect.org) on the computer.

Study Design and Setting

We conducted individual semistructured interviews with patients who had completed a video visit with their primary care physician at either the family medicine or the internal medicine practice at Thomas Jefferson University.

Sample

All patients 18 years old or older who had a video visit with their existing primary care physician were eligible for inclusion. The study was approved by the Thomas Jefferson University institutional review board.

Data Collection and Management

At the end of each video visit, the clinician alerted his or her patient that a research assistant might call to ask about the experience. The research team was notified weekly of all completed video visits, and a team member attempted to contact each patient within 1 week of the visit. Two members of the research team (J.M.H. and G.C.), both trained in qualitative interview techniques before the study began, conducted the interviews. They obtained verbal consent from interested patients and interviewed them by phone. The study principal investigator (K.R.), who has masters-level

training in qualitative methodology, was responsible for training and monitoring research team activity.

The interview guide included open-ended questions to elicit patients' experience with their video visits and impressions of the technology's potential to address health care needs. Questions covered personal experience with video calls, technical issues with the visit, emotional experience during the visit, and future uses for video visits. (The interview guide is available in a Supplemental Appendix at http://www.annfammed.org/content/15/3/225/suppl/DC1). Questions were piloted on the patients enrolled earliest, and we revised or eliminated unclear questions. Interviews were audio-recorded to allow accurate transcription.

Patients completed a demographic survey that asked for date of birth, race, gender, physical location during the video visit (ie, work or home), insurance status, education level, employment status, yearly household income, medical conditions, access to pertinent technology, and prior use of video calling technology.

Analysis

Interviews were transcribed, stripped of identifying information, and imported into NVivo 10[22] for coding and analysis. Two members of the research team (K.R., R.P.) coded the data using a conventional content analysis approach, with the purpose of classifying interview text into distinct categories representing similar meanings.[23] This approach allowed categories to emerge from the data instead of applying preconceived categories. Both coders read 2 transcripts to gain a general understanding of the interview content, then re-read them to identify key words that captured prominent concepts related to patient experiences. The coders met to discuss the identified concepts and create an initial code structure. The codes were applied to subsequent interviews and refined to include new themes as they appeared. This process was repeated until the coders agreed upon a final coding structure, with discrepancies resolved through consensus. The final structure was applied to all the transcripts, with double coding of 25% of them. The coders maintained a decision tree throughout analysis to document key decisions made. Descriptive statistics were used to characterize the study population.

RESULTS

Thirty-two patients were eligible to participate. Twenty-one (66%) were successfully contacted, and all consented to be interviewed. Two interview recordings failed, leaving 19 interviews for analysis (Table 1). The median age was 43 years (range 23-94); 53% of patients were male, and 42% were black. The majority

reported having used video calls for personal use, commonly with smartphones (74%). None had experience with video calls for health care. More than two-thirds (68%) were at home during their visit. One interviewee was a family member caregiver. Visit reasons included chronic disease management, follow-up of a recent acute issue, a new acute issue, and review of lab results.

Table 1. Participant Characteristics (N=19)

Characteristic	Value
Age, mean (range), y	43 (23-94)
Female, n (%)	9 (47)
Hispanic, n (%)	1 (5)
Race, n (%)	
Black	8 (42)
White	9 (47)
Other	2 (11)
Location during visit, n (%)	
Home	13 (68)
Office	6 (32)
Insurance, n (%)	
HMO/PPO/Private	12 (63)
Medicaid	1 (5)
Medicare	3 (16)
Medicare/Other	2 (11)
Unknown	1 (5)
Education, n (%)	
High school / GED / Some college	5 (26)
College	6 (32)
Postgraduate degree	8 (42)
Employment status, n (%)	
Employed	13 (68)
Retired	1 (5)
Student	1 (5)
Disabled	1 (5)
Unemployed	3 (16)
Household income (yearly), n (%)	
<$10,000	1 (5)
$10,000-24,999	2 (11)
$25,000-49,999	4 (21)
$50,000-99,999	6 (32)
$100,000	4 (21)
Unknown	2 (11)
Available technology, n (%)	
Computer with video camera	18 (95)
Smartphone	14 (74)
Tablet	12 (63)
Devices used for past video calls, n (%)	
Computer with video camera	12 (63)
Smartphone	14 (74)
Tablet	6 (32)
Reason for video visit, n (%)	
Chronic disease management	9 (47)
Short-term follow-up of recent acute issue	7 (37)
Review of lab results	2 (11)
New acute issue	1 (5)

The mean time between telehealth visit and interview was 9 days (range 0-31 days).

Technological Aspects of the Experience

Several study participants found the connection process easy, while others reported technical challenges such as problems with visit codes or passwords. Some received help from telehealth coordinators or their physicians, and 1 reported assistance from family. Once connected, most participants reported either no issues or minor technical issues. Four participants reported a lag between video and audio, 1 reported blurry images, and another reported audio feedback. Three participants reported moderate technical issues due to Internet connection problems.

Perceptions of Video Visits

Most participants reported a positive experience with video visits, citing conveniences of not having to miss work, travel, or change attire. One patient explained, "You're sitting right in your room on your computer. How much more convenient can that be? And you don't even have to take a shower. I mean you can get on the computer, talk to the doctor, go back to bed." Participants also noted decreased wait times compared to in-office visits, though 1 would have preferred having the doctor initiate the visit to further reduce waiting. The caregiver-family member remarked on the ability to incorporate individuals who wouldn't have been present in an office visit. Most patients felt comfortable talking with their doctor via video; while a few noted loss of the "personal" feel of a face-to-face visit, they did not consider it a significant limitation.

For those who connected to video visits in the workplace, privacy was an important consideration. While they noted the advantage of not missing work, those without private offices struggled to find space where coworkers would not overhear. One person reported that the inability to achieve privacy at work impaired their ability to have a proper exam. A few participants suggested potential workplace privacy solutions including use of headphones and reserving office space for the visit.

Comparisons of Office-Based and Video Visits

Participants raised cost and transportation as the main considerations favoring video visits over office visits. Costs included gas, parking, co-pays, wait time, and work absenteeism. Other barriers that video visits minimized included dealing with traffic, being late to appointments, finding offices, scheduling a convenient appointment, childcare, and physical limitations. One participant noted, "I'm personally handicapped, and my left side is a little bit weak and almost paralyzed. Just

getting to an appointment is a task for me…. Going down my stairs to my computer, it's better."

Future Use

All patients voiced interest in future video visits, though for varying reasons and situations. Some preferred video visits for all needs: "It would be my go-to for anything before I actually go into the doctor's office." Others preferred video visits as a supplement to office visits, acknowledging that office visits would be needed when a physical examination might affect decision making. Participant responses were similarly varied regarding the potential impact of video visits on the use of in-person services for primary care or emergency care; some anticipated less frequent use of in-person services, and others anticipated no change.

Patients had different perspectives on whether they prefer to hear bad news in a video call. Some said they preferred it, thinking that they could get the news earlier and be in a comfortable location with supportive people. One participant explained, "If it was something earth-shattering, you could cry in your own bedroom and not have to worry, I mean driving from downtown and you're upset or what-not…" Others preferred to receive serious news in person, explaining, "If the doctor were telling me I have a fatal disease or a disease that could be fatal, and I have to go into immediate serious care, probably better in-person." Several patients stated no clear preference between the 2 options.

DISCUSSION

Our study suggests that patients may accept and even prefer video visits with established primary care clinicians. Patients feel comfortable talking with their clinicians over video call, though patient location may affect privacy. A subset of patients say they would prefer video visits for receiving serious news.

Our findings expand the knowledge base about the urban use of telehealth and support the growing consensus that incorporating telehealth into primary care will allow patients to access their usual source of care more conveniently.[24] Expansion of telehealth to address episodic and chronic conditions has been identified as a significant trend in the evolution of telehealth applications.[25] A recent survey found that patients who used MinuteClinic telehealth visits reported high satisfaction, identifying convenience and perceived high quality of care as contributors.[26] Our work adds insight into the benefits of video visits in primary care, highlighting improved convenience, efficiency, privacy, and comfort for patients. It also raises new considerations unique to telehealth that warrant discussion with patients before

use, such as using headphones or finding a private room to use during a video visit outside of the home.

Optimal approaches to delivering serious news have been explored in other disciplines, primarily in the oncology literature. Frameworks for communication of serious news encourage establishing a private setting, with family or friends nearby if desired, the implicit recommendation being that this communication occur in person.[27] Yet a survey of patient opinions on communication of serious news suggested that patients value content of communication above setting.[28] It has been suggested more recently that modes of remote communication like telehealth may be a good alternative and in some cases preferable to in-person communication.[29] Video visits may enable more timely communication of test results than in-person appointments. Our findings suggest that some patients may prefer receiving serious news remotely via video visit for reasons of comfort, social support, and privacy.

Study participants repeatedly cited reduced costs as an important benefit of video visits. As part of this pilot program, patients were not required to pay a visit co-pay. While this likely contributed to participants' opinions of the cost benefits, patients also noted that they saved transportation costs and were absent from work for less time. Further work is needed to identify the full range of patient cost considerations related to telehealth. Cost issues have important implications for practices and health systems incorporating telehealth into care models, as they are likely to impact patient satisfaction and uptake of virtual services.[30]

This study has several limitations. The sampling frame was limited to patients within 2 practices in 1 health system, both successful early adopters of this service. Most participants had experience with video conferencing, and all had successful encounters, so technical problems that might shape patients' experiences with video visits (such as being unable to set up a visit or not having access to video technology) did not arise. More, we don't know how clinicians selected potential participants, and their selection criteria may have introduced bias in the population. We were unable to contact or are missing the interview data for 41% (13/32) of the individuals approached for this study, and we cannot tell how this lack may affect transportability of findings. Additionally, while efforts were made to conduct the interviews as close to the visit as possible, interviews were conducted up to 1 month later, and patients with longer interview delays may have had difficulties remembering details of their visit. In addition, 2 of the authors were involved with developing the telehealth program at the clinic, and 1 of the physician authors is in 1 of the clinical practices implementing this service. To minimize the bias this might introduce, the

2 non-physician team members conducted all the interviews, and the group as a whole interpreted the results.

We acknowledge these limitations and recognize that this study's findings are most transferable to patients who have the technical ability and knowledge to complete these visits. Future research is needed to purposefully sample patients who have no prior experience with video technology and to solicit opinions of patients who experience challenges with connectivity.

In our study, patients accepted and in some cases even preferred telehealth primary care visits to in-office visits. Their experiences with telehealth visits for primary care were shaped by convenience, efficiency, privacy, and comfort. These findings shed light on video visit characteristics that are important to patients, and they should further the development of patient-centered outcome measures of satisfaction with telehealth encounters. Further research is needed to identify populations and visit purposes most appropriate for integrating telehealth primary care visits.

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Key words: telemedicine; primary health care; patient satisfaction

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