"I'm Not Feeling Like I'm Part of the Conversation" Patients' Perspectives on Communicating in Clinical Video Telehealth Visits

Howard S. Gordon, MD[1,2,3], Pooja Solanki, MPH[1], Barbara G. Bokhour, PhD[4,5], and Ravi K. Gopal, MD[6,7]

[1]Jesse Brown Veterans Affairs Medical Center and VA Center of Innovation for Complex Chronic Healthcare, Chicago, IL, USA; [2]Section of Academic Internal Medicine, Department of Medicine, University of Illinois at Chicago, Chicago, IL, USA; [3]Institute for Health Research and Policy, University of Illinois at Chicago, Chicago, IL, USA; [4]Center for Healthcare Organization and Implementation Research, Edith Nourse Rogers Memorial Veterans Affairs Medical Center, Bedford, MA, USA; [5]Department of Health Law, Policy & Management, Boston University School of Public Health, Bedford, MA, USA; [6]Center of Innovation for Veteran-Centered & Value-Driven Care, Rocky Mountain Regional Veterans Affairs Medical Center, Aurora, CO, USA; [7]Department of Medicine, University of Colorado School of Medicine, Aurora, CO, USA.

BACKGROUND: Clinical video telehealth (CVT) offers the opportunity to improve access to healthcare providers in medically underserved areas. However, because CVT encounters are mediated through technology, they may result in unintended consequences related to the patient-provider interaction.

METHODS: Twenty-seven patients with type 2 diabetes mellitus enrolled in Veteran Affairs Health Care and at least one previous telehealth visit experience were interviewed regarding their perspectives on facilitators and barriers to communication with their provider during their CVT visit. The semi-structured telephone interviews were approximately 30 min and were audio-recorded and transcribed. We conducted a thematic content analysis of the interview transcripts. Codes from the transcripts were grouped into thematic categories using the constant comparison method and each theme is represented with illustrative quotes.

RESULTS: We identified several themes related to patients' perspectives on CVT. In general, patients expressed satisfaction with CVT visits including better access to appointments, shorter travel time, and less time in the waiting room. Yet, patients also identified several challenges and concerns about CVT visits compared with in-person visits, including concerns about errors in their care because of perceived difficulty completing the physical exam, perceptions that providers paid less attention to them, barriers to speaking up and asking questions, and difficulty establishing a provider-patient relationship. Patients reported feeling less involved during the visit, difficulty finding opportunities to speak, and feeling rushed by the provider.

CONCLUSIONS: Patients believed that CVT can improve their access to care, but could hinder communication with their provider, and some were concerned about the completeness and accuracy of the physical exam.

This work was presented in part at the Society of General Internal Medicine Annual Meeting (2018).

Electronic supplementary material *The online version of this article (https://doi.org/10.1007/s11606-020-05673-w) contains supplementary material, which is available to authorized users.*

Received August 16, 2019
Accepted January 14, 2020
Published online February 3, 2020

KEY WORDS: video telehealth; patient-centered care; qualitative research.

J Gen Intern Med 35(6):1751–8
DOI: 10.1007/s11606-020-05673-w

INTRODUCTION

Clinical video telehealth (CVT) is a communication technology that provides real-time video and audio assessment of the patient when the patient and provider are in separate locations.[1, 2] CVT is one means to offer appointments to patients who might otherwise have lower access to care or who have to travel a long distance for their visit. CVT use is increasing, in part because it offers an opportunity to improve access to healthcare in underserved rural areas.[2, 3] The supply of primary care physicians (PCPs) is lower in rural areas with the number of PCPs ranging from 39.3 physicians per 100,000 in rural areas compared with 53.3 physicians per 100,000 in metropolitan areas.[4, 5] Furthermore, 36% of patients in Health Professional Shortage Areas (HPSA) have to drive more than 20 miles to see a primary care provider compared with 11% in non-HPSA.[6] Thus, it can be more challenging for people who live in rural areas to obtain and get to appointments with a primary care provider.

Although CVT may improve patients' access to healthcare, physician-patient communication over CVT may be more difficult because of the technology.[7] Communication in CVT visits may be less patient-centered than communication in face-to-face encounters.[8] Communication is important because better communication is associated with improved patient satisfaction, improved treatment adherence, and improved health outcomes.[9] Understanding the patient perspective on communication in CVT is an important step to understanding the difference between communication in CVT visits and in-person visits.

In this study, we explore patients' perspectives on the technical, social, and personal barriers and benefits to

communicating with their provider using CVT technology. Gaining further insight into patients' perspectives on communication with CVT may be useful to develop educational interventions to encourage patients to actively communicate and speak up and to increase patients' acceptance of video consultations in clinical care.

METHODS

Study Design

Semi-structured telephone interviews were conducted to understand the patients' experiences of communicating with CVT technology compared with in-person visits. This data was collected in the context of a larger study designed to improve doctor-patient communication in CVT settings. The study was approved by the VA Central Institutional Review Board (no. 14-22).

Study Participants

Patients were recruited from Clinical Video Telehealth Clinics in the Veteran Integrated Services Network (VISN) 19 Eastern Colorado Health Care system. VISN 19 serves a highly rural area with several community-based outpatient clinics (CBOC) and Primary Care Telehealth Outreach Clinics. We invited patients diagnosed with type 2 diabetes mellitus and hemoglobin A1C of 7.0% or higher who had a recent CVT visit ($n = 180$). We contacted 119 patients and 2 were ineligible, 54 refused, and 63 agreed to participate. Recruitment was continued until we achieved thematic saturation. Of those agreeing, 27 completed a telephone interview with trained personnel. Verbal consent was obtained from each participant. Compared with those who agreed to participate, those who refused were younger (67 vs 70 mean years; $P = 0.01$) but were not statistically significantly different by sex ($P = 0.37$). Of those who agreed, there were no statistically significant differences in age or sex in those completing compared with not completing an interview ($P > 0.60$).

Data Collection

We conducted semi-structured qualitative interviews to understand the technical, social, and personal barriers and benefits to communicating during a CVT visit. Guiding questions and prompts based on conceptual models of competent communication in medical encounters were used for the qualitative interviews.[10–12] Research staff who were trained in qualitative interviewing asked patients open-ended questions and used additional prompts to gain their perspectives on technological aspects, physical exams, satisfaction, and communication of CVT visits. Questions included the following: What do you call it when you have an appointment with your provider over the computer (CVT)?; How did you feel about talking to you provider over CVT?; What is it like having the physical exam on CVT?; What aspects of CVT did you like/dislike?; How was CVT different than an in-person visit?; How were the technological aspects (sound and connection) of the visit? Interview questions were revised after a group of physicians and scientists reviewed and discussed the first three transcripts (full interview guide is available in the Appendix). Interviews were audio-recorded and transcribed verbatim by research staff.

Data Analysis

We conducted a thematic content analysis of the interview transcripts using the constant comparison method.[13] The qualitative analysis began after the transcription of the first interview and continued through data collection. Transcripts were coded first using open coding by two coders (PS, HG), and codes were subsequently grouped into thematic categories. Themes were discussed and reviewed by four coders to maximize researcher triangulation. Interviews were conducted until thematic saturation.[13] All codes were sorted and organized using Atlas.ti (version 7.5.16). Any discrepancies in data analysis were resolved through discussions among the multidisciplinary research team.

RESULTS

Participants' mean age was 66 years (range 47–78 years) and 96% were male. Interviews were 9 to 36 min in length. We identified several themes that patients described about CVT visits compared with in-person visits. In general, patients expressed satisfaction with several aspects of CVT visits, including better access to appointments, shorter travel time, and less time in the waiting room as noted in several illustrative quotes:

> I like [that] it's available. I can usually get in to see them via telehealth pretty easily. (P09)
>
> It's a 20-mile drive instead of a 100-mile, 120-mile drive. (P25)
>
> It's not as time consuming and uh, I don't gotta wait. I mean, the minute to the clinic, and they say he's ready. He's right there. And I don't got to wait in the waiting room for an hour, for a doctor to come in. (P06)
>
> I guess one of the main things I like is that I don't have to travel out of town to get seen by a specialist. (P02)
>
> And I went in for the teleconference for the follow-up, so I wouldn't have to drive six hours for them to go, Wow, your stitches are healing nicely. (P13)

Yet, patients also identified several challenges and concerns about CVT visits compared with in-person visits: (1) concerns about errors in their care because of perceived difficulty completing the physical exam; (2) perceptions that providers paid less attention to them; (3) barriers to speaking up and asking questions; and (4) difficulty establishing a provider-patient

relationship. Each of these themes is described below along with illustrative quotes from the interviews.

Concerns About Errors Because of Perceived Difficulty in Completing the Physical Exam

Patients described concerns about how the geographic separation between themselves and the provider might affect the quality of their care. The difference in how the physical exam is conducted in CVT compared with in-person consultations led more than one patient to state their concern that physical exams during the CVT visit might have been incomplete:

> They can't test, (like you have diabetes … get neuropathy in your feet) where it feels numb. And they can't check that, they can't poke it with a needle or with a feather and see if you feel it. (P17)

> How do you show a doctor if you're feeling pain somewhere or if it's hurting here and he can't reach out and feel it — you know — put his thumb or his fingers in your stomach or anything. (P23)

Patients questioned whether providers had enough information available to evaluate their complaints. Patient perception of provider uncertainty or limitations of information gathering caused patients to feel uncomfortable during CVT visits.

> She [provider] was saying well I can't see it so I don't know what it is. And you know that from a telehealth is not a good comfortable feeling. Because if she were there then she would be able to see and tell me what it is and how I can treat it. (P17)

> He can't examine me like he normally would. I mean …like my foot was hurting really bad and he'd normally would be able to take a look at it and whatnot. Alls [sic] he can do, is try to stick the camera to zoom in far enough to see …what I was talking about. (P16)

Other patients, however, appreciated that the camera and devices used to conduct the physical exam in CVT were able to bridge the distance, stating:

> I didn't realize that it would be as in-depth as it was. Because [Dr.] asked the nurse that was with me [to] take the camera and focus it on different parts of my body so [Dr.] could see it better. And I thought, well, that's really professional. (P05)
>
> I think [Dr.] was up in [city]. And [Dr.] got real close-up and it was all- you know, [Dr.] could really check it. (P11)
>
> If you got a problem like a cough- they can listen to your chest and say oh yeah you better take this medicine or you don't need to do this anymore. (P24)
>
> And the doctor did pretty good- I mean it's over the video monitors and then he checked my heart rate and everything. (P34)

Patients Perceived Providers Were Less Attentive

Several patients described feeling that the CVT provider was not paying attention to them during the encounter. For example, patients perceived lack of eye contact from their provider as the provider gazed back and forth from the computer monitors. As a result, patients stated they felt unheard and neglected.

> Well it was – you know it was almost like you know she was she was just reading through a piece of paper you know. Uh tell me about this, tell me about that. Very little eye contact. (P29)
>
> They really didn't care to hear your problems. They just wanted to get the interview over with and be done. (P25)
>
> When someone is talking to me, um I tend to pay more attention-you know I'll look them eye to eye. When you're doing them over the computer-you, for me it feels different. (P08)

The lack of eye contact attributed to the CVT visit was related to the technology. If the provider looks at the patient on the computer monitor and not at the camera, the difference in angle leads to the perception that there was a lack of eye contact. The placement of the CVT camera above the computer monitor screen made eye contact difficult and created more distance between the patient and provider.

Patients Found It Challenging to Speak Up

The interviews demonstrated that a common challenge in patients' telehealth experience was effectively communicating to the provider about their concerns and perspectives. Patients felt less involved in the CVT visit. One patient did not feel comfortable asking his provider questions during the CVT visit:

> I was a little nervous and I forgot a few things that I wanted to ask but if I was more prepared, then I might have been able to get all that in too. (P14)
>
> I just couldn't really feel the comfort level that I need to, you know, just to really express myself… I was a lot more apprehensive about asking questions. (P23)

Another patient reported difficulty speaking up during the visit, suggesting that the distance made it difficult to

participate in the conversation:

> And you can't necessarily do anything, because you can't interject and stop them because of the distance, you know?... I didn't even get an opportunity to express my opinions without having to talk over her. (P08)

Patients believed they had less control of the conversation in a CVT visit. For example, some patients did not speak up during the visit because they observed the provider was under time pressure and rushed through the visit:

> They seem too much in a hurry. When the doctor makes you feel like they're in a hurry then it's like okay then I won't say this and I won't say this. (P10)
>
> I think it's, telehealth is kind of neat in one way, if they [providers] had enough time to follow through or listen to your problems. (P24)

Patients were also hesitant to share personal details with the provider because CVT personnel were present in the room. One patient stated:

> It's kinda [sic] hard to talk something personal to a doctor when she's [the nurse] sitting in the room and that's just on me. (P16)

However, other patients perceived a benefit to having CVT personnel in the room as another set of ears. Rather than speaking up, some patients relied on staff to resolve communication problems between the patient and provider.

> I guess the most important thing was having a translator in the room that was a nurse. Because this person would – sometimes would ask me questions or tell me things I didn't understand. (P01)
>
> It was okay 'cause if she [nurse] needed to explain something that the doctor said and I didn't understand, she could explain it to me. (P34)
>
> The nurse being there can explain better in case you miss something. (P07)

Establishing Provider-Patient Relationships

Patients felt uncomfortable during the CVT visit if they had not built a prior relationship with their provider. The physical distance was often a barrier to developing a therapeutic rapport with the provider. For example, these patients described not feeling as confident after their CVT visit as compared with an in-person visit:

> We … had a doctor here … we talked a lot about my diabetes. And I felt good when I talked to him, I felt great when I left or I felt like I could conquer anything after I talked to him… when I talk to doctors on telehealth, I don't feel the same way. (P10)

> I believe he understands my concerns, and I believe he's trying to help me as best way he can but with him being 200 miles away he can't do what he would normally do if I was sitting in front on him. (P16)

It was more challenging for the patient to get to know the provider over CVT because there was less small talk.

> She did not get to know me at a personal level or anything as a normal doctor would. It reminded me very much of the military. There was just no attempt to sort of break the ice…Like I said I persevered with the system and mainly because of the staff…they get to know each patient, you know,…the staff would come out say you know, Hi [name] how are you?, you know, what are you here for? Hey [name] how are you? You know get to know people by name. (P29)

> You know I like to be able to go to the doctor and be able to sit there and talk to him and explain to him what's going on with me instead of talking to a telephone or a monitor or whatever. (P31)

However, one patient noted the provider overcame the distance and eased his concern that CVT would be impersonal.

> I thought it would be more clinical, more, more not as personable as it was. Like I say, he was almost in the room with me, and I appreciated that. (P05)

Patients' comments highlight the challenges to developing a relationship with the provider in a CVT visit and also suggest that there are techniques for communicating and establishing a relationship over CVT that can bridge the perceived and physical distance.

DISCUSSION

In this qualitative study, patients with diabetes mellitus reported both benefits and drawbacks of CVT. They appreciated the efficiency of CVT, increasing their access to appointments and decreasing their travel time. However, patients identified several drawbacks to seeing providers via CVT. Patients were concerned about errors in their care, perceived providers paid less attention to them, stated they were less comfortable speaking up and asking questions, and expressed

Table 1 Challenges to Communicating on CVT and Possible Strategies to Overcome the Challenge

Challenges	Strategies*
Concerns about errors in their care because of perceived difficulty completing the physical exam	❖ Develop patient education materials to: ➢ Encourage patients to speak up and express concerns, (e.g., ask whether an in-person visit is needed); ➢ Orient patients to when CVT is appropriate and when to seek in-person medical care; ➢ Make patients aware that telehealth nurses are trained to help the doctor with the remote physical exam over the CVT. ❖ Develop guidelines for providers describing when an in-person evaluation and examination is needed clinically and when it is needed to reduce anxiety and maintain trust. ❖ Develop policies and procedures for staffing to support remote physical exams and guidelines for when to schedule in-person visits.
Perceptions that providers paid less attention to them	❖ Develop patient education materials that legitimize patients' use of active communication behaviors, such as, asking questions, expressing concerns, making requests (e.g., let the doctor know if you cannot tell if she can hear you). ❖ Provider education may be developed to teach telehealth specific behaviors such as: ➢ Make eye contact by looking into the camera (not the monitor screen); ➢ Briefly check the self-view (picture-in-picture view) and check that the patient can see the video feed and hear the audio; ➢ Provide verbal cues to explain a need to look away (e.g., "to call the nurse," "look up your test results," "order medication for you," "make some notes about what we talked about"); ➢ Be mindful of actions and avoid distracting behaviors that will be picked up by microphones and cameras (e.g., tapping on desk, drinking coffee). ❖ Develop policies to customize clinics for telehealth (e.g., design consideration to include camera placement aligned with the video feed to make eye contact more natural.
Barriers to speaking up and asking questions	❖ Develop patient education materials that: ➢ Help patients be prepared for the visit (e.g., visit reminders might be accompanied with messages such as, "make a list about what you want to accomplish in the visit, prioritize the list, and bring it to the visit"); ➢ Encourage patients to tell their story (e.g., "Do not assume all information about you is in the computer. When you see a new doctor tell them what is going on"); ➢ Dispel common myths about communication (e.g., Do not be afraid to speak up. The doctor wants to know your questions and concerns). ❖ Provider education for telehealth should reinforce common topics such as: ➢ Begin visits with agenda setting to plan how to use the time available; ➢ Avoid jargon—Provide answers in lay language or arrange education that patients understand. Medical jargon will have a negative effect on patient understanding and discourages active patient participation. ❖ Policies and procedures that provide an environment where patients are encouraged to speak up: ➢ Help patients prepare for visits by providing coaching to set goals; ➢ Have staff available who can ensure patient understanding (e.g., nurses to translate) and resolve any technical difficulties.
Difficulty establishing a provider-patient relationship	❖ Patient education material that encourages patients to communicate openly and honestly and to talk about any challenges adhering to medical recommendations (e.g., "say what is on your mind"). ❖ Provider education for telehealth should include how to: ➢ Develop "webside" manner (similar to bedside manner). ➢ Use technology to engage patients with behaviors that replace traditional features of an in-person meeting (e.g., handshake) with attention to facial expression, body positioning, and voice modulation. ➢ Communicate by responding empathically and checking patient context (exploring the impact of the disease on the patient's life). ➢ Explore patients' goals and preferences and assess patients' ability to carry out the recommended plan. ➢ Convey knowledge of patient's history by commenting on prior visits and problems. ❖ Policy and procedures that: ➢ Allow in-person visits (e.g., provider travels and conducts in-person visits at remote site at periodic intervals); ➢ Customized telehealth clinic design (professional presentation with attention to video image composition, background, lighting, and sound).

**Strategies listed are a combination of interpretations of our patient interviews and opinions of the authors and are not intended to be a comprehensive list of the strategies available to improve communication in telehealth services*

difficulties establishing a relationship with providers in CVT. Although many patients identified barriers, some patients noted how challenges communicating with CVT could be overcome. Based on these findings and the communication frameworks[10–12] used to develop our interview guiding questions, we have included Table 1 with selected strategies that may help overcome these challenges. These strategies focus on topics for patient and physician education and system policies and procedures that could influence communication in telehealth visits.

This study is unique because our qualitative interviews provided insight into patients' perspectives of barriers and facilitators to communication over clinical video telehealth—a

technology-mediated medical visit. Prior studies found that it was difficult to establish a patient-provider relationship in CVT.[7, 14] Our study adds a more nuanced understanding of the barriers that patients experienced. Patients reported less small talk before and after the CVT visit and that they felt less known as individuals by the provider. These missing parts of their interactions created a barrier to developing a provider-patient connection. Relationship building may be made more difficult in CVT than in-person visits because patients and providers use their senses differently, such as eye contact and body language.[15] Patients' concerns about impersonal CVT visits might be related to providers missing opportunities to communicate with empathy[16, 17] and our results suggest that it is more difficult to recognize such opportunities with differences in sensing in CVT. One strategy to overcome this challenge is for provider training to develop "webside manner" and to engage patients with attention to facial expression, voice modulation, and body positioning (Table 1).[18, 19] Providers could work to build relationships by using the four habits model[20] to structure visits, such as setting an agenda, and by using principles of relationship-centered care to include dimensions of personhood where providers aim not just to act as though they respect the patient but to internalize respect for the patient and to recognize the importance of affect and emotion in relationships by reaching out with empathy rather than remaining detached.[21, 22]

According to Onor,[23] it is estimated that 55% of emotional communication takes place through body posture and eye contact. This poses a challenge for communication in telehealth where nonverbal cues are limited by the camera view (e.g., eye contact and upper body posture). In our study, patients perceived the provider was not paying attention to them when the provider was not making eye contact because the provider was looking away from the camera, for example, at the computer monitor, keyboard, or paper notes. A similar concern may arise during in-person visits when providers direct attention to the computer,[24] but in CVT visits, the patient is not able to see what the provider is doing. Overcoming this challenge might include education to encourage patients to use active communication behaviors (ask question, express concerns, make requests)[11] to alert the provider to what is important and provider education about how to act when on camera so they can avoid distracting behaviors and about giving verbal cues when looking away from the camera (Table 1).

Patients also noted that providers were rushed. Sensing the provider was less attentive to them, less available to interact, and less accommodative to their communication, patients in our study described that they were less engaged and less likely to interject, speak up, and be actively involved in the visit. Other studies support our finding that patients are less engaged during a CVT visit.[25, 26]

Prior studies have reported conflicting results about whether patients perceive the physical exam in video visits is adequate.[14, 27] In our study, patients expressed concerns about the lack of or the inadequacy of physical examinations. Patients described how CVT personnel help conduct the physical exam with provider guidance. Though some patients were impressed with the technology to conduct examinations (i.e., cameras), other patients were concerned about errors in their care because of the perceived difficulty of completing the hands-on portion of a physical exam in CVT, and as a result, these patients did not feel as confident in their care. Not all patients may be best suited for clinical evaluations in video visits because of challenges with conducting a physical exam remotely.[28] However, providers can communicate about their assessments to reduce anxiety and maintain patient trust and get assistance from onsite staff or make a referral for an exam when appropriate (Table 1). Further, patients' perceptions may change in the future if technological improvement in telehealth improves abilities to conduct physical exams in CVT and other video visits.[29]

Although there were challenges to communicating over CVT, many studies found high patient satisfaction for CVT.[8, 27, 30, 31] In our study, patients indicated satisfaction with the efficiency of telehealth citing better access to appointments,[3] less travel time,[8] and less time in the waiting room.[14] Patients indicated that providers were on time for their appointment, so there was less wait time for the patients. Promptness is due in part to the system structure for telehealth. One study reported shorter length of visit in telehealth compared with in-person visits.[8] An externally imposed time constraint could influence communication in the medical visit, when the provider must hurry to stay on schedule because of the scheduling of equipment, rooms, and staff at remote sites. However, patients and providers can make the most of the visit when patients who are prepared for the visit speak up and tell the provider their main questions, concerns, and requests, and when providers conduct the visit to elicit the patient perspective and demonstrate empathy (Table 1).[20, 22, 32] Telehealth may be an opportunity to improve the efficiency of care by avoiding excess time burden for the patients (e.g., travel and wait times), and may reduce barriers in seeking care, but may at the same time change the amount and kind of communication in these medical visits.

The results should be considered in the context of several limitations. Our study population consisted of US Veterans, was mostly male, and was from a single geographic area, and thus, the patient-reported perceptions in our results may not be generalizable to other population groups, women, or other areas using different telehealth equipment, workflows, and processes of care. Despite these limitations, our study was characterized by many strengths. We focused on patients with type 2 diabetes, an important medical problem which is increasing in prevalence, and our assessment of patients' experiences was enriched by our qualitative interview methodology that survey methods may have missed.

Though patients are satisfied with CVT because of the convenience such as improved access to appointments and shorter travel times,[3, 8, 14, 27, 31, 33] communication problems in CVT may be a barrier to a wider adoption of CVT by

patients and providers.[18, 19, 34] The issues that patients in our study identified may be most relevant to patients with complex chronic conditions who need routine and repeated clinical follow-up.

Our results have implications for patients and providers who are communicating over CVT. We use these results to suggest and develop strategies for pre-visit interventions to help address barriers and to overcome the communication challenges patients perceive during CVT visits (Table 1). For example, it is important to encourage patients to speak up when they have questions or if there are any technical issues during the visit. It is also important for the provider to understand patients' concerns. Providers who partner with patients can facilitate patient engagement and accommodate patient concerns and requests. Providers who understand the added difficulties technology plays in establishing a relationship over CVT can be better prepared to overcome challenges when communicating using these technologies. Additional research should examine how to reduce patient concerns about physical exams in CVT and other barriers to CVT. Techniques to improve the acceptability of telehealth visits to both patients and providers may help increase the use of telehealth in the health system, allowing better access to healthcare in medically underserved areas.

Acknowledgments: *The authors would like to acknowledge and thank Natalia Skorohod for skillful coordinating of the research and helpful comments on drafts of the manuscript.*

Corresponding Author: *Howard S. Gordon, MD; Institute for Health Research and Policy, University of Illinois at Chicago, Chicago, IL, USA (e-mail: hsg@uic.edu).*

Funding Information *This material is based upon work supported by the Department of Veterans Affairs, Veterans Health Administration, Office of Research and Development, Health Services Research and Development grant SDR-12-282 (PI-Gordon).*

Compliance with Ethical Standards:

The study was approved by the VA Central Institutional Review Board (no. 14-22).

Conflict of Interest: *The authors declare that they do not have a conflict of interest.*

Disclaimer: *The views expressed in this article are those of the authors and do not necessarily reflect the position or policy of the US Department of Veterans Affairs or the United States Government.*

REFERENCES

1. **Field M, ed** Telemedicine: A Guide to Assessing Telecommunications in Health Care. Washington (DC): National Acadamies Press; 1996.
2. **Adams SV, Mader MJ, Bollinger MJ, Wong ES, Hudson TJ, Littman AJ.** Utilization of Interactive Clinical Video Telemedicine by Rural and Urban Veterans in the Veterans Health Administration Health Care System. J Rural Health. 2019.
3. **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(1):e10.
4. **Hing E, Hsiao CJ.** State variability in supply of office-based primary care providers: United States, 2012. NCHS Data Brief. 2014(151):1–8.
5. **Rosenthal MB, Zaslavsky A, Newhouse JP.** The geographic distribution of physicians revisited. Health Serv Res. 2005;40(6 Pt 1):1931–1952.
6. **Cashion M J-PS, Cummings D, Duffrin C, Jones J, Wu Q.** Access to Primary Care: Comparing driving distance from Health Professional Shortage Area (HPSA) counties versus non-HPSA counties. Front Public Health Serv Syst Res. 2013;2(4). https://pdfs.semanticscholar.org/8f51/4c68338851154e0356c5082d011d38d61edb.pdf.
7. **Miller EA.** The technical and interpersonal aspects of telemedicine: effects on doctor-patient communication. J Telemed Telecare. 2003;9(1):1–7.
8. **Agha Z, Schapira RM, Laud PW, McNutt G, Roter DL.** Patient satisfaction with physician-patient communication during telemedicine. Telemed J E Health. 2009;15(9):830–839.
9. **Rao JK, Anderson LA, Inui TS, Frankel RM.** Communication interventions make a difference in conversations between physicians and patients: a systematic review of the evidence. Med Care. 2007;45(4):340–349.
10. **Street RL, Jr.** Communication in Medical Encounters: An Ecological Perspective. In: **Thompson TL, Dorsey AM, Miller KI, Parrott R, eds.** Handbook of Medical Communication. Mahwah, New Jersey: Lawrence Erlbaum Associates; 2003:63–89.
11. **Street RL, Jr.** . Active patients as powerful communicators. In: **Robinson WP, Giles H, eds.** The New Handbook of Language and Social Psychology. West Sussex, England: John Wiley & Sons Ltd.; 2001:541–560.
12. **Feldman-Stewart D**, **Brundage MD**, **Tishelman C**. A conceptual framework for patient-professional communication: an application to the cancer context. Psychooncology. 2005;14(10):801–809.
13. **Moser A**, **Korstjens I**. Series: practical guidance to qualitative research. Part 3: Sampling, data collection and analysis. Eur J Gen Pract. 2018;24(1):9–18.
14. **Donelan K, Barreto EA, Sossong S, et al.** Patient and clinician experiences with telehealth for patient follow-up care. Am J Manag Care. 2019;25(1):40–44.
15. **Lupton D**, **Maslen S**. Telemedicine and the senses: a review. Sociol Health Illn. 2017;39(8):1557–1571.
16. **Morse DS, Edwardsen EA, Gordon HS.** Missed opportunities for interval empathy in lung cancer communication. Arch Intern Med. 2008;168(17):1853–1858.
17. **Park J, Saha S, Han D, et al.** Emotional Communication in HIV Care: An Observational Study of Patients' Expressed Emotions and Clinician Response. AIDS Behav. 2019;23(10):2816–2828.
18. **Gonzales R.** Telemedicine Is Forcing Doctors to Learn 'Webside' Manner. 2017; https://www.wired.com/story/telemedicine-is-forcing-doctors-to-learn-webside-manner/. Accessed 11-03-2019.
19. **McConnochie KM**. Webside Manner: A Key to High-Quality Primary Care Telemedicine for All. Telemed J E Health. 2019.
20. **Frankel RM**, **Stein T**. Getting the most out of the clinical encounter: the four habits model. J Med Pract Manage. 2001;16(4):184–191.
21. **Beach MC**, **Inui T**, Relationship-Centered Care Research N. Relationship-Centered Care. A constructive reframing. J Gen Intern Med. 2006;21 Suppl 1:S3–8.
22. **Roter DL**, **Hall JA**, **Kern DE**, **Barker LR**, **Cole KA**, **Roca RP.** Improving physicians' interviewing skills and reducing patients' emotional distress. A randomized clinical trial. Arch Intern Med. 1995;155(17):1877–1884.
23. **Onor ML**, **Misan S**. The clinical interview and the doctor-patient relationship in telemedicine. Telemed J E Health. 2005;11(1):102–105.
24. **Frankel R, Altschuler A, George S, et al.** Effects of exam-room computing on clinician-patient communication: a longitudinal qualitative study. J Gen Intern Med. 2005;20(8):677–682.
25. **Gibson J, Lightbody E, McLoughlin A, et al.** 'It was like he was in the room with us': patients' and carers' perspectives of telemedicine in acute stroke. Health Expect. 2016;19(1):98–111.
26. **Agha Z, Roter DL, Schapira RM.** An evaluation of patient-physician communication style during telemedicine consultations. J Med Internet Res. 2009;11(3):e36.
27. **Fatehi F**, **Martin-Khan M**, **Smith AC**, **Russell AW**, **Gray LC**. Patient satisfaction with video teleconsultation in a virtual diabetes outreach clinic. Diabetes Technol Ther. 2015;17(1):43–48.
28. **Shaw S, Wherton J, Vijayaraghavan S, et al.** Advantages and limitations of virtual online consultations in a NHS acute trust: the VOCAL mixed-methods study. Southampton (UK)2018.

29. **Weinstein RS**, **Krupinski EA**, **Doarn CR**. Clinical Examination Component of Telemedicine, Telehealth, mHealth, and Connected Health Medical Practices. Med Clin North Am. 2018;102(3):533–544.
30. **Sood A**, **Watts SA**, **Johnson JK**, **Hirth S**, **Aron DC**. Telemedicine consultation for patients with diabetes mellitus: a cluster randomised controlled trial. J Telemed Telecare. 2018;24(6):385–391.
31. **Polinski JM**, **Barker T**, **Gagliano N**, **Sussman A**, **Brennan TA**, **Shrank WH**. Patients' Satisfaction with and Preference for Telehealth Visits. J Gen Intern Med. 2016;31(3):269–275.
32. **D'Agostino TA, Atkinson TM, Latella LE, et al.** Promoting patient participation in healthcare interactions through communication skills training: A systematic review. Patient Educ Couns. 2017;100(7):1247–1257.
33. **Saifu HN, Asch SM, Goetz MB, et al.** Evaluation of human immunodeficiency virus and hepatitis C telemedicine clinics. Am J Manag Care. 2012;18(4):207–212.
34. **Zanaboni P**, **Wootton R**. Adoption of telemedicine: from pilot stage to routine delivery. BMC Med Inform Decis Mak. 2012;12:1.