"A Qualitative Study of Primary Care Physicians' Experiences with Telemedicine"

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Word count: 3396

ABSTRACT

Background: Primary care practices rapidly adopted telemedicine visits due to the COVID-19 pandemic, but information on physician perspectives about these visits is lacking.

Methods: Fifteen semi-structured interviews with practicing primary care physicians and physicians-in-training from a Southern California academic health system and group-model HMO to assess physician perspectives regarding the benefits and challenges of telemedicine.

Results: Physicians indicated that telemedicine improved patient access to care by providing greater convenience, though some expressed concern that certain groups of vulnerable patients were unable to navigate or did not possess the technology required to participate in telemedicine visits. Physicians noted that telemedicine visits offered more time for patient counseling, opportunities for better medication reconciliations, and the ability to see and evaluate patient home environments and connect with patient families. Challenges existed when visits required a physical examination. Physicians were very concerned about the loss of personal connections and touch, which they believed diminished expected rituals that typically strengthen physician-patient relationships. Physicians also observed that careful consideration to physician workflows may be needed to avoid physician burnout.

Conclusions: Physicians reported that telemedicine visits offer new opportunities to improve the quality of patient care, but noted changes to their interactions with patients. Many of these changes are positive, but it remains to be seen whether others such as lack of physical examination and loss of physical presence and touch adversely influence provider-patient communication, patient willingness to disclose concerns that may affect their care, and ultimately, patient health outcomes.

A Qualitative Study of Primary Care Physicians' Experience with Telemedicine

Introduction

Opportunities for using telemedicine have existed for some time, but have remained limited amongst primary care providers.[1] The COVID-19 pandemic sparked regulatory changes that reduced barriers to telemedicine and resulted in large-scale expansion of telemedicine use throughout healthcare systems and primary care practices.[2,3] Despite this tremendous growth, insufficient knowledge exists about primary care physician perceptions of telemedicine visits.

Existing studies have focused primarily on patient perspectives about telemedicine visits[4-6] or on those of physician specialists and mental health professionals.[7,8] Emerging evidence has documented physician views about the challenges of rapidly implementing telemedicine visits in response to the pandemic,[9,10] and has revealed barriers to patient access such as poor technological competency.[11] The few studies that have examined views about physician-patient interactions during telemedicine visits have been primarily from the patient perspective. These studies investigated patient views of interactions with specialists, urgent care, and primary care physicians in Veterans Affairs and academic settings.[4,12-14] In-depth exploration of physician perspectives regarding their interactions with patient also is lacking.[14] The objective of this study was to identify the range of primary care physician perceptions of the benefits and challenges of telemedicine use, particularly around physician-patient interactions.

Methods

Setting, Participants, Study Design

We invited primary care physicians working in practices affiliated with <<de-identified for review>> (an academic medical center), and with a Southern California group-model HMO, to participate in semi-structured interviews. Purposive sampling was used to balance physician characteristics based on gender, age, and training (practicing physician versus physician-in-training). Three participants were identified via snowball sampling, where participants invited or recommended other potential participants. All physicians had conducted telemedicine visits, though some had newly adopted them within one to two months prior to their interview. The <<de-identified for review>> institutional review board deemed this study exempt from review.

Data Collection

Physicians participated in 30-minute interviews by video conference between April 19 and June 28, 2020. To provide context, Los Angeles was abiding by a strict stay-at-home order due to the COVID-19 pandemic from March 19 to May 31, 2020. Interviewers used a semi-structured interview guide to ask physicians about their views regarding the benefits and challenges of telemedicine visits (interview guide in **Appendix 1**). Physicians provided verbal informed consent for the interviews, which were audio recorded and transcribed verbatim for analysis. Physicians were not compensated for their participation.

Qualitative analysis

A physician-in-training (TG) moderated all semi-structured interviews and was accompanied by DMT (a physician-investigator with qualitative research expertise) for all but three interviews. The two investigators met after each interview to discuss and assess the interview content for theoretical saturation (when no new themes can be identified from the data),[15] which was

reached based on consensus. They performed a thematic analysis[16-18] in which they reviewed each transcript line-by-line and applied codes to describe obstacles to and facilitators of telemedicine visits. Discrepancies were reconciled via consensus. DMT and KJS (a sociologist) subsequently independently grouped codes into thematic categories. All investigators reviewed the thematic categories, and adjustments were made based on group discussions. EXCEL 2016 was used for data management.

Results

Fifteen primary care physicians participated in the study, 11 practicing physicians and 4 physicians-in-training. Eight (53%) were women and 6 (40%) were aged 50 or older. Ten (67%) physicians had no telemedicine experience prior to the COVID-19 pandemic (**Table 1**). Below are major themes raised during the interviews that describe a range of physician perspectives regarding the benefits and challenges of telemedicine visits.

[Insert table 1]

Telemedicine improves patient access to care but leaves out some groups

Physicians highlighted several ways in which telemedicine increases patient access to medical care, including the convenience of not having to: "*skip work or find a ride to come to the clinic for things you could do over telemedicine*" (P6). They stated that telemedicine visits increased patient access by leading to: "*people seeking care sooner if they needed to, it's more accessible*" (P4). Physicians also observed that they felt more comfortable asking patients to follow-up more frequently if warranted, because with telemedicine visits, patients experience

fewer travel-related inconveniences such as traffic and parking. Several physicians noted that patients missed fewer appointments with telemedicine visits, because when they call patients who do not show up for a telemedicine visit, "*patients will pick up their phone....and it's a way to have adherence to their clinical appointment*" (P2). Since patients who are reached by phone can immediately enter a telemedicine visit, physicians perceived that patients were less likely to miss visits, as exemplified by one physician's comment: "*I'd say the no show rate is even less for telehealth [compared to in person visits] because you can get hold of them [patients] easier.*" (P5).

However, many physicians commented that certain groups of patients have difficulty accessing telemedicine visits. These include patients who do not own or have problems using a smartphone, and as one physician explained: "Patients who are less likely to use telehealth are older people who can barely handle their cell phone" (P3). Physicians also observed that older patients often required substantial assistance to participate in a telemedicine visit. As one physician observed:*"We have to acknowledge that [telemedicine] is not an easy process, especially for people as they get older and they're not computer savvy. Designated staff members in the office might need to spend time ahead of the visit, showing them, this is how you do it"* (P10). Another physician noted that: *"Most of my elderly patients, they don't know how to use their phone or the app or they don't really like to deal with technology. Initially, they could give some resistance [to telemedicine] but we encourage families to help them and set up for their video visit and that's worked"* (P14).

Another physician observed other obstacles to accessing telemedicine, for example: "*if there's any additional barriers like language or cognition barriers from the patient, it can be really hard to get a good history*" (P7) via telemedicine.

Physicians believe many visits are well suited for telemedicine

Physicians believed that many types of visits could be conducted successfully via telemedicine, particularly those focused on counseling and discussion that do not require a physical examination. One physician observed, "*I suddenly have six or seven or eight or nine minutes that I would have spent on physical exam to devote toward discussion*" (P3). Visits that physicians deemed well-suited for telemedicine included review and discussion of laboratory or other test results, medication initiation for chronic conditions, and as one physician stated: "*A lot of the mental health issues can certainly be done by telehealth*" (P5). Physicians also noted that medication adjustments for chronic conditions such as hypertension and diabetes could easily be done through telemedicine visits if patients have working devices at home to monitor their conditions (i.e., blood pressure cuffs, glucometers). One physician observed: "*I can even do diabetes follow up [with telemedicine] if I know that the patient has a good blood glucose monitor and is good about keeping data*" (P7), particularly since physicians feel it is easier for patients to schedule more frequent follow-up appointments. Another physician remarked, "*chronic disease management, I think can be done much more virtually. And I think we're headed in that direction*" (P12). Physicians also commented that: "*advance directive talks with*

the family members [in] this setting is actually really great" (P6), since they could involve family members who otherwise may not have accompanied patients to in-person office visits.

Seeing patient homes and families during telemedicine visits enhances patient care

Physicians noted that a big advantage of telemedicine visits was seeing patient home environments. As one physician remarked about telemedicine visits: "*I get to see what the inside of their house looks like and see where they live"* (P7), assess potential safety hazards, and home support systems, including pets. Physicians observed that they were able to interact with family members who they otherwise may have never met, and if appropriate, to involve them in the patient's care. They also commented that medication reconciliations were easier to conduct via telemedicine, since: *"patients can show you their medications, read the labels"* (P2), whereas in the office patients often are uncertain about their medication names and regimens.

Lack of physical examination can be problematic for diagnosis and treatment of certain conditions

Physicians uniformly stated that their inability to perform physical examinations is one of the main disadvantages of telemedicine visits. They noted that some complaints are particularly difficult to assess without a physical examination, such as chest pain, abdominal pain, respiratory complaints, headaches, or gynecological, musculoskeletal or neurological symptoms. Several physicians voiced that skin rashes were difficult to examine via telemedicine, generally because of physician inability to properly visualize and feel the rash. Additionally, several physicians

noted that a lack of physical examination could result in antibiotic overprescribing: *"I have been a little bit more inclined to treat people with an antibiotic, I have had to err on the side of being more cautious and treating people for things that, otherwise in person, I wouldn't have felt was indicated"* (P13).

Worth nothing however, is that as a result of physician inability to perform physical examinations during telemedicine visits, some physicians observed that these visits may result in better history taking, as they have to: *"become a better detective, diagnostician in terms of asking more relevant questions, because you don't have a physical exam, you have more detailed questions and review of systems"* (P1) than during in-person office visits.

Physicians lament the lack of "personal connections" and touch during telemedicine visits

All physicians spoke at length about the loss of personal connections during telemedicine visits. While some believed that telemedicine and in-person interactions were similar, others noted the challenge of establishing personal connections and rapport via telemedicine, particularly with new patients. Physicians also worried about losing social cues in the virtual space. As one physician noted about the loss of seeing a patient's body language: *"It's hard to replace the in person [visit], even if you didn't need to examine the patient, because you appreciate a lot of the nuances, how the patient's acting in the office and stuff that you cannot appreciate over telehealth"* (P5).

The loss of touch during telemedicine visits bothered physicians, who felt that it detracted from their ability to perform expected rituals of care that form the backbone of physician-patient

relationships. Several noted that even though a physical examination is not necessarily required during all visits, both patients and physicians have come to see the examination as being central to physician-patient interactions. As one physician stated, *"I think you lose the contact [with telemedicine]. Healing and having people feel like they're being taken care of, a lot [of] that is the physical touching part of it"* (P6). Similarly, another commented: "*It's an expectation within an interaction with a doctor, to listen to heart to listen to lungs, it improves patient satisfaction…it's kind of the ritual of the patient physician relationship* (P2).

Many physicians felt that the loss of personal connection inhibited patients from sharing personal issues during telemedicine visits. As one physician summarized: *"you lose that personal connection where I think if someone was in front of you, they would feel a little more comfortable expressing some of their concerns with you"* (P13). However, this sentiment was not universal. One physician noted that some patients were more comfortable sharing personal information during telemedicine visits: "*I think people seem to be more frank and more likely to make statements than when it's face to face... it feels a little bit less intimidating to have a separation of video...particularly for topics considered taboo, like sexual questions"* (P10).

Physicians feel more comfortable refusing patient requests during telemedicine visits

Several physicians indicated that virtual encounters sometimes made it easier for them to refuse patient requests that they deemed unwarranted. As one physician mentioned: *"With telehealth I feel more comfortable telling a patient I'm not going to give them their*

benzodiazepines or their pain medications. They have a video in front of them, instead of the person's right there yelling at me" (P10).

Telemedicine visits tend to be shorter than in-person visits

Most physicians noted that telemedicine visits tended to be shorter than in-person visits. As one provider pointed out: *"I typically limit the small talk on the telehealth a bit more…I've been doing a lot more shorter visits"* (P8), while another mentioned that *"with video visits [patients are] quicker to get off the video. I think patients are wanting to take less time"* (P4). On the flip side, a few physicians mentioned that some patients did not realize that telemedicine visits were time-limited. One physician observed: *"It's kind of easy to lose sight of how much time you have with your provider on the telephone or the video if you're not actively paying attention to it"* (P13), though physicians commented that it was easier for them to end telemedicine visits, as opposed to in-person visits.

Physicians mostly voiced satisfaction with these shorter visits, though one physician noted that they may not be conducive for building relationships with patients: *"The conversation[s] seemed a little bit shorter. A patient in clinic…there are moments where there's space for more conversation about not necessarily medical [problems], but just to get to know the patient a little better"* (P15).

Careful consideration of physician workflows is needed to avoid burnout

Some physicians worried that telemedicine could promote physicians' provision of on-demand care, and lead to potential burnout. *"I kind of dread for the future of medicine because what's going to stop us from booking appointments at 9pm right? If doctors don't have discipline to control our passion for taking care of people then we might be doing appointments at odd hours... it could be difficult to maintain work-life balance "*(P3).

A major stress-inducing new element in workflow that physicians identified was having to balance schedules that mixed in-person and telemedicine visits, as the combination often resulted in physicians running late for visits. As one physician observed: "*Schedules are all over the place. And then when someone doesn't…check in on time, then you get backed up on both ends*" (P6). Physicians also expressed that it was difficult for them to switch back and forth from one type of visit to another.

Insurer reimbursement for telemedicine can reduce physician burden

Physicians expressed that a significant benefit of insurer reimbursement for telemedicine visits is that it allows physicians to be reimbursed for evaluations that they normally provide for free. As one physician noted: "*The biggest benefit [of telemedicine] is the fact that we primary care doctors already do this, we call people all the time about lab results and handle their problems over the phone. We basically give away highly valuable care for free like that, it's sort of our culture. The culture of medical conversation is changing because of [telemedicine], which is actually going to make these visits more formalized"* (P3). Other physicians emphasized the importance of continued reimbursement for primary care telemedicine visits after the COVID-19

pandic, for example: "*I hope that insurances will see the benefit of it [telemedicine]...it just saves money and time for patients and doctors... I hope that they see that this is where the future of medicine is going.*" *(P6)*

Discussion

Semi-structured interviews with primary care physicians revealed that physicians believe telemedicine offers opportunities for improving healthcare access, is well-suited for caring for many medical conditions, and enhances patient care in a variety of ways. With its focus on primary care physician experiences with telemedicine visits, this study adds to existing studies that examined perspectives of patients, physician specialists, and physicians interested in implementing telemedicine.[5-8,12,13,19] The positive physician perspectives that arose in this study are consistent with literature showing that patients are satisfied with telemedicine visits and believe they are convenient.[5,6,12,14,20] The physician perspectives elucidated in this study add to the literature by informing potential strategies for using telemedicine to augment in-person primary care visits, such as by facilitating accurate medication reconciliations and giving physicians a window into patient home lives – thus bringing new meaning to traditional home visits. Physician insight into patient home environments via "virtual home visits" can contribute unique information to patient assessments.[21] The application of telemedicine to advance care planning can be particularly fruitful, as bringing family members into the conversation results in greater patient-surrogate congruence regarding patient preferences.[22] Physician perspectives regarding the utility of telemedicine visits for mental health treatment is consistent with the

existing literature showing that telemedicine visits are comparable to face-to-face visits with regard to reliability of clinical assessments and clinical outcomes. [23-25]

However, some physicians also noted various challenges of telemedicine visits. Physicians remarked that telemedicine may improve chronic disease management, but these views are predicated on the assumption that patients are able to access virtual visits. Problems with telemedicine visit access could exacerbate known disparities in care, particularly during pandemics such as COVID-19.[26-28] Older patients (especially those 85 years or older), those with low socioeconomic status, and black and Hispanic patients may be particularly affected by this digital divide.[29-31] While physicians mostly appreciated having shorter telemedicine visits, other studies have shown that patients may feel rushed during telemedicine visits.[8,13] As a result, the brevity of these visits may in fact hinder patient communication. As more patients transition to using telemedicine visits, physicians will need to ensure that patients have adequate opportunities to raise questions and concerns.

The effect of other changes to physician-patient interactions on patient outcomes requires further investigation. Information is needed on how to optimize telemedicine interactions and overcome feelings of loss experienced by both patients and physicians due to the lack of touch during these visits.[4,32,33] Good physician-patient interactions are proven to increase patient adherence to treatment recommendations and improve clinical outcomes.[34,35] In this study, physicians noted that the lack of physical examination (even when one was not needed for diagnostic purposes) and physical closeness detracted from the patient-physician relationship. Further investigation on this finding is needed though, as a 2019 study of providers of multiple

specialties (of which 16% were primary care providers) showed that the majority perceived no difference in personal connection with patients via telemedicine.[14] Other studies have shown that patients worry about the lack of physical examinations during telemedicine visits,[13] but more information is needed about their perceptions of information disclosure during telemedicine visits. Since some physicians in this study observed greater patient willingness to disclose personal information from the comfort of their own home, our findings suggest that some patients may benefit from having a mix of in-person and telemedicine visits. **Table 2** provides suggestions for addressing some of the major challenges of telemedicine visits noted by physicians in this study.

This study has several major limitations. The interviews were conducted toward the onset of the COVID-19 pandemic, and as a result of markedly reduced numbers of primary care office visits, physicians may have been able to conduct patient follow-up visits more frequently than under normal circumstances. The study included physicians from different practices and practice settings, but the majority were affiliated with a single academic health system. We did not collect information on the number of telemedicine visits physicians completed, but all were routinely performing these in their practice. We also did not assess physician training regarding telemedicine visits, video platforms used, or duration of physician relationships with the patients with whom they had conducted telemedicine visits. Though we interviewed a limited number of physicians, we reached theoretical saturation in our analyses. The limited number of total physicians precluded our ability to draw conclusions regarding differences in perceptions among practicing physicians versus physicians-in-training, though no obvious differences were noted. In

addition, we did not ask physicians-in-training about the influence of telemedicine on their

training, since all were within 1-3 months of becoming practicing physicians.
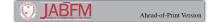
[Insert table 2]

Conclusions and Implications

Overall, physicians expressed positive views about telemedicine and cited opportunities

to leverage telemedicine to improve patient care. They were concerned about patients who were

unable to access telemedicine and worried about changes to physician-patient interactions

resulting from lack of physical examination and physical closeness. Nonetheless, they were

positive about continuing to incorporate telemedicine in their practice. Further studies are needed

to quantify the prevalence of these findings and to compare outcomes resulting from

telemedicine versus in-person office visits. Future studies are needed to investigate the influence

of telemedicine visits, as well as potential changes in physician-patient relationships due to lack

of personal closeness, on the quality of patient care, patient adherence to treatments, and patient

health outcomes.

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Table 1. Participant characteristics

Characteristics	No. (%)
Sex	
Female	8 (53)
Male	7 (47)
Age	
< 35 years old	5 (33)
35 – 49 years old	4 (27)
> 50 years old	6 (40)
Race/ethnicity	
Asian	6 (40)
Hispanic or Spanish origin	3 (20)
More than one race/ethnicity	1 (7)
White	5 (33)
Physician type	
Practicing primary care physician	11 (73)

Resident	4 (27)
Use of telemedicine prior to onset of COVID-19 pandemic	
Yes	5 (33)
No	10 (67)

Table 2. Major challenges, benefits and suggested strategies for telemedicine visits	**Suggested Strategies for Telemedicine Visits**
CHALLENGES	
Telemedicine leaves out some groups of patients	Practice-level • Offer technological assistance to all patients prior to their appointment • Offer telemedicine visits via whichever technology is available to the patient (smartphone, computer or tablet) • Offer easy access to telemedicine visits that does not require downloading an application or accessing a patient portal System-level

	• Partner with internet and smart-device providers to provide patients with technology required to engage in telemedicine • Provide patients with maps of free wi-fi locations • Partner with phone companies to waive charges for telemedicine related services
Lack of physical examination can be problematic	• Develop guidelines for schedulers and physicians to guide decisions about types of visits that are appropriate for telemedicine versus in-person • Establish a "virtual rooming" process immediately before physician visits, where medical assistants gather information normally obtained during in-person visits, including patient home vital signs • Teach patients to check their vital signs using home equipment (e.g., blood pressure monitor, pulse oximeter, thermometer, scale) and bring measurements to telemedicine visit • Train physicians to hone diagnostic skills when seeing patients via telemedicine
Physicians lament the lack of "personal	• Perform telemedicine visits in private spaces to minimize interruptions

connections" and touch during telemedicine visits	- Establish rapport at the beginning of visits by smiling - Ensure that patients can see the video feed and hear the physician - Show patient your face (without face mask) - Ensure eye contact by looking directly into the camera (not the monitor) - As time permits, make small talk as during in-person office visits - Promote the use of in person visits for new patients*
Telemedicine visits tend to be shorter than in person visits	- Actively solicit additional patient concerns - Give patients ample time to raise concerns - Inform patient of expected visit duration - Consider devoting "extra" time to patient counseling
Workflows incorporating telemedicine visits need careful consideration to avoid physician burnout	- Allow physicians to individualize decisions about how telemedicine and in-person visits are scheduled in order to match their desired workflow - Reserve blocks of time devoted solely to telemedicine or solely to in person visits

	• Support physician ability to set boundaries to prevent scheduling of telemedicine visits outside of normal working hours • <u>If offering primary care telemedicine visits after hours or on weekends, allow physicians to work in shifts</u>
BENEFITS	
Enhance patient access to healthcare	• Inform all patients about the availability of telemedicine, particularly those who live far or have limited physical mobility • Offer mix of video and in person visits for all patients amenable to telemedicine visits
Decrease patient "no-show" rate	• Call patients within 30 minutes before a scheduled telemedicine appointment to remind them of the appointment and to ensure that they are able to join the visit
Many conditions can be adequately managed via telemedicine	• Consider telemedicine for visits focused on counseling, such as review of laboratory results and mental health care

	• Consider telemedicine for chronic disease management follow-up visits that do not require physical examinations, such as for diabetes management • Consider telemedicine for medication reconciliations, since patients will have medication bottles available
Seeing patients' homes and families enhances patient care	• Look at patient's home environment to gain a better sense of their hobbies and living conditions • Engage and meet family members and pets when they are present

*Requires further consideration if face masks and face shields are being used for in person visits