Telemedicine Impact on the Patient–Provider Relationship in Primary Care During the COVID-19 Pandemic

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Background: The COVID-19 pandemic has necessitated a rapid uptake of telemedicine in primary care requiring both patients and providers to learn how to navigate care remotely. This change can impact the patient–provider relationship that often defines care, especially in primary care.

Objective: This study aims to provide insight into the experiences of patients and providers with telemedicine during the pandemic, and the impact it had on their relationship.

Research Design: A qualitative study using thematic analysis of semistructured interviews.

Subjects: Primary care providers (n = 21) and adult patients (n = 65) with chronic disease across primary care practices in 3 National Patient-centered Clinical Research Network sites in New York City, North Carolina, and Florida.

Measures: Experiences with telemedicine during the COVID-19 pandemic in primary care. Codes related to the patient–provider relationship were analyzed for this study.

Results: A recurrent theme was the challenge telemedicine posed on rapport building and alliance. Patients felt that telemedicine affected provider's attentiveness in varying ways, whereas providers appreciated that telemedicine provided unique insight into patients' lives and living situations. Finally, both patients and providers described communication challenges.

Conclusions: Telemedicine has altered structure and process aspects of primary health care such as the physical spaces of encounters, creating a new setting to which both patients and providers must adjust. It is important to recognize the opportunities and limits that this new technology has to help providers maintain the type of one-on-one attention that patients expect and that contributes to relationship building.

Key Words: communication, patient-centered care, telemedicine, qualitative research, patient–provider relationship

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The unique relationship between patients and providers is critical in health care. Stronger patient–provider relationships are correlated with improved patient outcomes, whereas poor outcomes can be linked to an impaired relationship.[1–3] Ridd and colleagues describes the patient–provider relationship as comprised of 4 elements: trust, knowledge, regard, and loyalty, all of which impact patient satisfaction.[4–8] Given the impact of the patient–provider relationship on patient satisfaction and clinical outcomes, it is essential to understand how external factors may influence this relationship.

The COVID-19 pandemic has necessitated a rapid uptake of telemedicine in primary care, causing a 63-fold increase in telemedicine visits among Medicare Part B users, many of whom used telemedicine for the first time.[9] A year after the onset of the pandemic, almost a quarter of US adults reported having used telemedicine in the previous 4 weeks. A McKinsey report indicated that within primary care, 17% of annual visits and 24% of nonannual/routine visits were conducted via telemedicine in June 2021.[10] The changed landscape of health delivery has forced both patients and providers to learn how to navigate care remotely. This transition can impact the patient–provider relationship that often defines care, especially in primary care.

Although literature has extensively examined the patient–provider relationship in primary care, limited work has examined this process in the context of telemedicine. An earlier study examining communication styles between patients and providers during virtual visits reported an increased ratio of physician to patient talk, indicating physician verbal dominance, and more requests for repetitions, indicating perceptual difficulties during telemedicine visits.[11] In another study, primary care providers (PCPs)

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expressed that video visits did not capture changes in facial expressions rapidly enough and attributed most challenges to technology.[12] Several theoretical frameworks for patient–provider communication in telemedicine have been proposed, but the changing landscape of technology, pandemic-driven needs, and system changes mean that these theories may not reflect today's environment.[13]

Therefore, it is essential to describe how telemedicine may have transformed the patient–provider relationship. Recent survey studies have evaluated elements of the patient-provider relationship in telemedicine through ratings of trust, communication, and satisfaction with providers.[14–16] However, these instruments lack the nuance to effectively capture the complex relationship between patients and providers or the ways it has changed. Limited qualitative studies evaluating recent pandemic experiences provide partial perspectives of either patients or providers. However, many were conducted in settings that are not representative of primary care in the United States.[17,18]

This qualitative study aims to contribute to a growing literature that seeks to understand the effects of telemedicine on the patient–provider relationship, by providing insight into and comparing the experiences of a diverse group of patients and PCPs with telemedicine during the pandemic and describing the impact telemedicine has had on their relationships and medical care.

METHODS

Participants

This work was part of a large study of telemedicine for primary care patients with chronic medical conditions across 3 National Patient-Centered Clinical Research Network sites in New York City, North Carolina, and Florida. Using a definition adapted from the Medicare specialty designation, we defined adult primary care as practices in the fields of general practice, family practice, ambulatory internal medicine, preventive, and geriatric medicine. For the purposes of this study, hospice, palliative care, and holistic medicine were excluded because of emphasis on symptom, instead of disease management of the chronic conditions of interest. On the basis of a sampling frame of 250 primary care practices and with the help of clinician champions, we recruited participants through several methods, including emails, patient registries, flyers, clinician referrals, and snowball referrals from participants. Eligible participants included PCPs who worked at one of the primary care practices, and adult patients with at least 1 chronic disease whose primary language was English or Spanish. To ensure representation from different ages, races, ethnicities, practice settings, and levels of technology experience, the study team developed a screening checklist to ensure eligibility assessments were being conducted uniformly across sites, and quotas to avoid oversampling certain groups. The study protocol was approved by the Biomedical Research Alliance of New York.

Measures

A 16-member stakeholder advisory board, including patients with chronic disease, PCPs, practice leaders and technology leadership, patient advocates, and payers, was formed for the larger project. In collaboration with stakeholder members, semistructured interview guides for patients and PCPs were developed (Supplement 1 and 2, Supplemental Digital Content 1, http://links.lww.com/MLR/C572) between December 2020 and March 2021. The main interview domains were about participant experience with telemedicine during the COVID-19 pandemic, as well as challenges and facilitators of telemedicine use.

Data Collection

Both patients and providers could participate via phone or videoconferencing; patients could complete the interview in English or Spanish. Spanish interviews were conducted by a member of the research team who spoke Spanish fluently. Interviews were audio recorded, transcribed verbatim, and when necessary, professionally translated.

Analysis

Data were analyzed using interpretive description.[19] Three coders developed the code key and coded transcripts independently. Codes were compared and discrepancies resolved in team meetings. We iteratively conducted interviews and analyzed data until the team concurred that thematic saturation was reached. Stakeholder members then reviewed the preliminary themes, serving as member checkers for interpretation of participant perspectives, and provided suggestions for eliciting additional experiences and representation from the interviews to prevent gaps in the data. Data were analyzed through an iterative process of thematic content analysis.[20] Recruitment and analysis were conducted in parallel, and recruitment was concluded when thematic saturation was achieved.[21,22] Final codes were entered and analyzed using Dedoose Version 9.0.46 (2021). For this study, we focused on themes relevant to the patient–provider relationship.

RESULTS

We interviewed 21 PCPs and 65 patients between March and October 2021 (Table 1). Of the patients, 60% were female and 42% self-identified as White, 25% as Black, 23% as Hispanic, 9% as Other, and 1% as Asian. Half were between the ages of 41 to 65 years, 26% were <40, and 22% were >65. Two of the interviews were conducted in Spanish. Of the PCPs, 62% were female and 48% self-identified as White, 24% as Asian, 14% as Hispanic, 9% as Black, and 5% as Other. The majority were between 41 and 60 years, with 29% <40 and 14% >65. Patients and PCPs were recruited uniformly from each of the 3 sites: New York City, Florida, and North Carolina. On average, patient interviews lasted 20 to 25 minutes, whereas provider interviews ranged from 30 to 40 minutes.

We found that patients' and providers' perspectives on their relationships focused on 4 main themes: (1) rapport building and alliance, (2) provider attentiveness during video visits, (3) insights into patient lives and living situations, and (4) communication challenges (Table 2, Supplemental Digital Content 3-6, http://links.lww.com/MLR/C572).

TABLE 1. Demographics of Participants

Characteristics [n (%)]	Patient participants (n = 65)	Provider participants (n = 21)
Age		
19-24	2 (3.1)	—
25-40	17 (26.2)	6 (28.6)
41-65 | 41-60	32 (49.2)	12 (57.1)
> 65 | > 60	14 (21.5)	3 (14.3)
Sex		
Female	39 (60)	13 (61.9)
Male	26 (40)	8 (38.1)
Race		
Asian	1 (1.5)	5 (23.8)
Black/African American	16 (24.6)	2 (9.5)
White	27 (41.5)	10 (47.6)
Other	21 (32.3)	4 (19.0)
Ethnicity		
Hispanic	15 (23.1)	3 (14.3)
Non-Hispanic	50 (76.9)	19 (85.7)
Location		
Florida	21 (32.3)	8 (38.1)
New York	24 (36.9)	7 (33.3)
North Carolina	20 (30.8)	6 (28.6)
Primary language		
English	57 (87.7)	—
Spanish	6 (9.2)	NA
Other	2 (3.1)	—
Type of practice		
Academic practice	—	1 (4.8)
Federally Qualified Health Center/community	NA	4 (19.0)
Teaching/training	—	16 (76.2)

Only patient participants were asked about their primary language, and only provider participants were asked about the type of practice they are working in. Patient participants were asked about their primary language and whether they preferred to take the interview in English or Spanish. Four participants with a "Spanish" primary language selected to do the interview in English, whereas 2 selected to do the interview in Spanish. Two participants selected "Other" as their primary language, but felt comfortable conducting the interview in English.

Theme 1: Rapport Building and Alliance

Patients and providers both agreed that telemedicine challenged the humanity in medicine and that the lack of physical shared space reduced the sense of connection. One patient expressed that a virtual visit "does not really feel as real" and is just "psychologically different than being at a doctor's office" (24Pt). Patients described virtual visits as less "personal" or "caring," making it "harder to establish empathy" (6Pt, 21Pt, 30Pt). This was exacerbated in the context of telephone visits where patients could not see their providers. "I want to see who I'm talking to. Am I talking to a machine? I hate talking to the machines," said a patient (43Pt). Providers agreed that video visits were better than telephone visits because of the "additional element of human contact" (20Pr). "We build relationships and connections by like looking at people and recognizing faces," said another provider (18Pr). Several providers spoke about the lack of physical touch, "a hug," or sitting "knee-to-knee" with their patients in the virtual environment. (5Pr) "You can't do it electronically," said a provider, whereas another also reflected on how not being "there physically for a patient, is extraordinarily difficult" (8Pr, 15Pr).

In contrast, some noted that telemedicine creates a new type of space, which allows for new connections. One provider talked about the unique opportunity afforded by telemedicine:

I had a woman who was dying and needed to have family meetings around end-of-life care, and I was able to loop in five different family members into one video, and one of them had a cell phone with another person on the cell phone holding it up. It was a really beautiful family meeting virtually. (16Pr)

Although existing relationships between patients and providers could be maintained through telemedicine, new relationships were hard to establish. Patients appreciated the continuity of care with their PCPs through the pandemic, saying "my providers made sure that they stayed in contact with me" and "they made me feel like it's going to be okay" (41Pt). Patients also said that "it helps when you already had a strong relationship with them and being remote doesn't limit that" (8Pt). Providers agreed on the benefits of an existing relationship in maintaining patient–provider communication

TABLE 2. Major Themes From Participant Interviews

Themes	Subthemes
Rapport building and alliance	- Telemedicine reduced the sense of connection for both patients and providers ○ Video visits were more personal than audio visits ○ Unique opportunities for new connections - Developing and continuing relationships through the pandemic ○ Existing relationships facilitated continuity of care for patients ○ New relationships were hard to establish for providers
Provider engagement	- Provider engagement was perceived in varying ways by patients ○ Telemedicine decreased provider engagement ○ Telemedicine increased provider engagement - Telemedicine increased physician availability ○ Patients appreciated the increased availability and interactions with providers ○ Providers felt that telemedicine eliminated the boundaries of their clinic
Insights into patient lives	- Telemedicine allowed for a unique view into patient's homes and families ○ Providers appreciated the new insight and found it personable and clinically relevant ○ Patients and providers expressed satisfaction with the inclusion of family members in virtual visits - Patients and providers identified privacy concerns in telemedicine
Communication challenges	- Information sharing and shared decision-making was challenging in virtual visits for both patients and providers - The use of interpreters created additional communication challenges

through telemedicine and expressed concerns around establishing "rapport with a brand-new patient. It's just very different than being in a room with somebody" (6Pr).

Theme 2: Provider Attentiveness During Video Visits

Telemedicine affected how patients perceived their providers' attentiveness, which we defined as patients' perceived attention of their providers, during video visits in varying ways. Some patients expressed skepticism: "you don't know if they're checking their phone [while] talking to you" (34Pt) or dissatisfaction with provider attentiveness during video visits: "I'm staring at her in her house and her cat's walking by and every once in a while, her eyes dart away" or "they're just not giving you their undivided attention" (11Pt) Other patients, however, found that telemedicine created "more of a direct connection because [providers] got no distractions. It was just me, them and the camera" (6Pt).

Some patients also reported telemedicine increased provider availability: "We were zooming every day" (27Pt). In addition to more frequent visits, patients spoke about increased interactions in between visits using electronic communication, through patient portal messaging or even texting. "They always respond to me very quickly," said a patient (22Pt). Providers, although agreeing with the convenience and accessibility afforded by telemedicine, felt that "telehealth takes down the boundaries of when…clinic is," suggesting that telemedicine prevented them from being able to compartmentalize work from nonwork life (16Pr).

Theme 3: Insights Into Patient Lives and Living Situations

Telemedicine allowed providers more insight into patients' lives and living situations. Providers spoke positively about having "a view of something personal to the patient," seeing "inside of their household," or meeting "family members that [they'd] only heard of" (11Pr,16Pr). Patients also appreciated the "expanded ability to have people join… in the telemedicine" visits (36Pt). Seeing patients' living situation was also at times clinically relevant. One provider shared: "When I started to do video visits with them during the pandemic, I realized that they had hoarding. I didn't know it. Seeing the household, I was flabbergasted" (16Pr). Having a virtual visit created insight into a patient's living situation that might have otherwise never been discovered.

Both patients and providers also spoke about the value of patients being able to show their medication bottles, their remote monitoring devices, and sometimes even "go for a walk" together during telemedicine visits (5Pr). In some ways, telemedicine created opportunities for new shared experiences between patients and providers that were not possible before.

However, sometimes patients' environments became distracting and raised concerns about privacy. Providers noted "unwanted intrusion" during their visits and feeling concern for not being able to "control the risk of HIPAA violations" (1Pr, 13Pr). Some patients had similar concerns when "talking about sensitive information" and not wanting their roommates or partners to overhear their conversations with their providers (20Pt).

Theme 4: Communication Challenges

Both patients and providers described communication challenges using telemedicine. Providers felt they had to work harder to extract information: "I'm doing a lot more history taking in terms of pulling the information out of the patient" (13Pr). Some patients, on the other hand, worried that providers asked them fewer questions, leaving them with a stronger need to advocate for their own care. One patient shared:

It goes back to you being your own advocate, and having to say, hey, wait a minute, that's not right. That's incorrect. You got this wrong. This needs to be changed here. I haven't taken that in six months…things where you have to speak up and say wait a minute (4Pt).

Both patients and providers also expressed challenges with remote shared decision-making. Providers expressed that "it is hard to convince someone when you are not face-to-face," whereas patients felt frustrated if providers referred them for procedures without a discussion, taking away their opportunity to "defend" their decisions (8Pr, 24Pt). One patient shared:

I'm laughing because she asked me to book a procedure. I'm like, she didn't ask me this face-to-face so I don't have to defend it…she had someone from the office make the referral appointment, and then I waited like two days and I canceled (24Pt).

Communication became even more challenging for those in need of interpreters. Providers reported challenges incorporating interpreters into telemedicine visits. One provider noted:

I feel like the biggest challenge was knowing the steps of the order of who do you contact first and who contacts who. Honestly, even though I did it quite a few times, I feel like every time I was like I don't remember what I need to do. It was an additional barrier (16Pr).

In addition to the technical challenges of adding an interpreter to the virtual visit, there were also challenges using the interpreters. One example was using interpreters in sensitive situations with the added complication of a video visit. A provider recounted:

I had a patient that was suicidal on a video visit, and it was with—an interpreter was being used, and it was just really hard to be in that moment with that patient. So I think there's a little bit sometimes loss of intimacy, and that patient-physician relationship factor (17Pr).

Another challenging situation was using a deaf interpreter, with a provider sharing, "That was really confusing, because the interpreter had to be able to see both of us at once and I think she might have been on her phone. And sometimes on Zoom, it's harder to see more than one person" (5Pr).

DISCUSSION

We describe the perspectives of both patients and providers regarding their experiences with telemedicine. Participants emphasized the constraints a virtual environment

places on the quality of interpersonal relationships between patients and providers, limiting feelings of connectedness. Patients also noted differences in provider attentiveness, with some finding that telemedicine increased distraction, while others reported that the virtual space eliminated interruptions that exist in person. Both patients and providers shared concerns about the way telemedicine affected communication and raised privacy issues. Despite some of the challenges of telemedicine, participants also spoke to the unique opportunities the virtual space presents. Insight into patients' lives and inclusion of family members may mitigate some of the gaps telemedicine creates in the patient–provider relationship, and may even create a new intimacy.

This project does not offer a comprehensive model of patient–provider relationship building in the setting of telemedicine, but does suggest policy and training alterations that might support this critical process. Communication is one of the main competencies in delivering patient-centered care. The Agency for Healthcare Research and Quality provides guidelines for communicating with patients including actionable steps like making eye contact, having conversations at eye level, and using shared-space objects like a white board.[23] These steps become difficult in virtual visits. Both patients and providers in our study talked about the challenges of the lost shared physical space and opportunity to build rapport, which used to include face-to-face-contact and physical touch. Our participants also spoke to the challenges regarding information exchange and shared decision-making in virtual visits, raising new issues that need to be addressed in telemedicine. During the beginning of the pandemic, clear communication guidelines were developed by expert consensus for health care providers in a virtual environment.[24] Best practices included asking patients to gather and share data from their remote patient monitoring devices, present their prescription medications, communicate electronically between visits, and have family and caregivers present during visits, all of which are elements that patients and providers spoke positively about in our study.

Empathy is another essential element of the patient-provider relationship that has been transformed in the context of telemedicine. Both patients and providers in our study spoke about virtual visits feeling less personal and less accommodating for sensitive conversations. This is consistent with recent studies of patients and providers who found it difficult to use telemedicine for receiving and delivering challenging news and preferred face-to-face contact when discussing complex and sensitive health topics.[16,25] Another study with PCPs in England discussed the necessity of face-to-face contact for communicating empathy and support, which was echoed by both patients and providers in our study.[26] However, a recent study in stroke telemedicine reported that the facial expression, voice, and attentiveness of providers was adequate to capture empathy in a telemedicine encounter.[27]

Patients in our study also spoke about provider attentiveness and rapport building. A recent study reported that primary care patients felt that their providers paid less attention to them during telemedicine visits compared with in-person visits.[17] Even though some patients felt similarly in our study, a comparable number reported increased provider attentiveness, with some feeling that their providers were more attentive and present during virtual visits than they used to be in-person, which is a new finding in this literature. Although perceptions surrounding provider attentiveness in telemedicine were mixed, there was consensus that establishing a new patient–provider relationship via telemedicine was difficult. This supports prior studies reporting that patients prefer to meet new providers in-person first to create a more comfortable rapport.[28]

In addition, telemedicine offered providers a view into their patients' homes, lives, and families, which created more intimacy in the remote patient–provider relationship. A study by Gomez et al[18] highlighted the benefits of seeing patients' homes and families during the visits, which was confirmed in our study by both providers and patients, even though some also expressed concerns around privacy.

It is worth noting that telemedicine abruptly altered structure and process aspects of primary health care such as the physical spaces in which both patients and providers were conducting encounters. Structural measures that could support patient–provider relationship building might include dedicated spaces for providers to conduct virtual visits, which would prevent personal interruptions, and additional staff for onboarding remote patients. In addition, training measures such as providing individualized feedback on behaviors that the remote patient is likely to interpret as lapses of attention, as well as resources for patients on how to prepare for telemedicine visits (eg, have a list of questions ahead of visit to facilitate discussion) may help improve communication. These structure and process changes are likely to help providers maintain the type of one-on-one attention that patients expect and that contributes to relationship building.

This study has several limitations. Although we worked systematically to identify and recruit diverse patient and provider participants, it is possible that our participants' perspectives are reflective of individuals more eager and engaged with the health system, particularly among the patients. Furthermore, there might be practice-related differences, which we were not able to capture, but might be attributed to contrasting viewpoints, such as the perceived provider attentiveness. In addition, despite our efforts to recruit Spanish-speaking patient participants, we were only able to conduct 2 interviews in Spanish and did not include other languages as an option. Thus, we cannot describe the experiences of other patients whose communication might be even more affected in virtual settings. Furthermore, we conducted interviews with patients and providers in parallel, and thus may have missed an opportunity to ask 1 group about themes identified in the other group. However, we did work closely with our stakeholder advisory board to review preliminary themes and incorporate new questions based on their suggestions. Although our study findings are based on qualitative interviews and might not be generalizable to a population beyond primary care, they provide meaningful insight into ways the patient–provider relationship has been affected in the context of telemedicine. Other issues that emerged in our interviews, such as the challenges of conducting a physical exam on telemedicine, are similar to issues addressed by other researchers,[17,18] but were out of scope for the current paper and will be addressed in a forthcoming paper.

The patient–provider relationship can be affected by numerous factors, many of which have been examined in the literature.[29] Telemedicine, however, is a new systemic factor, which can transform the patient–provider relationship. Our study explored the ways patients and providers in primary care experienced telemedicine, including the additional strains the virtual environment can engender, but also the ways it can enrich the patient–provider relationship. This study contributes to the literature by providing perspectives that are reflective of today's environment, technology, and health structure. Furthermore, having both patient and provider perspectives provides a more complete view of the patient–provider relationship in telemedicine.

CONCLUSIONS

In summary, the diverse perspectives of patients and providers in primary care speak to the changing relationship between patients and providers in the context of telemedicine. It is essential that we understand how the patient-provider relationship exists in this space, and how it can be transformed given the boundaries and opportunities that telemedicine presents. Future research should continue investigating the ways we must adapt our health practices, communication efforts, and systems to deliver patient-centered care in the time of virtual care.

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