

# UCSF

## UC San Francisco Previously Published Works

### Title

Virtual Management of Chronic Conditions During the COVID-19 Pandemic: Insights From Primary Care Providers and Clinical Pharmacists.

### Permalink

<https://escholarship.org/uc/item/82z7s7j0>

### Journal

Military medicine, 188(7-8)

### ISSN

0026-4075

### Authors

Gray, Caroline  
Ambady, Leena  
Chao, Shirley  
[et al.](#)

### Publication Date

2022-09-01

### DOI

10.1093/milmed/usac277

Peer reviewed

# Virtual Management of Chronic Conditions During the COVID-19 Pandemic: Insights From Primary Care Providers and Clinical Pharmacists

Caroline Gray, PhD<sup>1</sup>, Leena Ambady\*, Shirley Chao, PharmD<sup>†,‡,§</sup>, William Smith, MPH<sup>†,||</sup>, Jean Yoon, PhD\*,<sup>||,¶</sup>

---

## ABSTRACT

### Introduction:

The abrupt change in care delivery caused by the coronavirus disease 2019 pandemic may have left some patients, particularly those with chronic conditions, unable to receive timely and appropriate routine care. Understanding the effect of the pandemic and the switch to virtual care for patients with chronic conditions requires in-depth qualitative feedback from providers who care for these patients.

### Materials and Methods:

We interviewed 13 primary care providers and clinical pharmacists from the Veterans Health Administration. Interviews elicited experiences managing patients with chronic conditions, specifically diabetes and hypertension, during the coronavirus disease 2019 pandemic. We employed a rapid analytic approach for data analysis.

### Results:

In general, interview participants maintained that most patients' chronic conditions could be managed remotely without significant disruption. However, patients who lack familiarity with technology and/or reliable broadband access, patients not compliant with recommended self-assessments, and older patients with hearing loss or cognitive disorders may be more difficult to manage virtually. Although providers reported minimal disruptions to care because of the pandemic, they did note that the closure of labs and experiences of social isolation may have negatively impacted patients. Providers suggested optimizing virtual management through more robust patient instruction on virtual care technology, increased use of Veterans Affairs home health services, and removing institutional barriers that may de-incentivize virtual care modalities.

### Conclusions:

For many patients with chronic conditions, virtual care is a promising approach to provide ongoing management in primary care. However, more tailored strategies may be needed to care for sicker, more vulnerable patients.

---

## INTRODUCTION

The coronavirus disease 2019 (COVID-19) pandemic introduced extraordinary changes to health care delivery, with in-person care largely shifted to virtual modalities, including video and telephone.<sup>1,2</sup> This abrupt change in care delivery,

coupled with the fact that health care systems often had to reallocate resources to more acutely ill patients, may have left some patients, particularly those with chronic conditions, unable to receive timely and appropriate routine care.<sup>3-5</sup> A majority of patients treated in the Veterans Affairs (VA) health care system have chronic conditions and require regular primary care visits and medication management.<sup>6</sup> Although the VA initiated policies to ensure that care for patients at the highest risk for poor outcomes was continued during the pandemic, some patients may have nevertheless experienced barriers to obtaining routine care and delays receiving nonemergency care.

Potential disruptions to chronic condition care, including virtual rather than face-to-face medication management and irregular monitoring of clinical measures, may increase morbidity and mortality. Some quantitative studies have estimated the impact of the pandemic on reduced clinic visits and hospitalizations.<sup>7,8</sup> However, few studies to date have summarized qualitative findings on such issues. The purpose of this evaluation study was to capture experiences from the perspective of Veterans Administration chronic care providers. That information has potential to identify possible care gaps from the first 9 months of the COVID-19 pandemic, and possibly, to

---

\*Center for Innovation to Implementation, VA Palo Alto Healthcare System, Palo Alto, CA 94063, USA

<sup>†</sup>Department of Internal Medicine, San Francisco VA Health Care System, San Francisco, CA 94133, USA

<sup>‡</sup>College of Pharmacy, University of California San Francisco, San Francisco, CA 94143, USA

<sup>§</sup>College of Pharmacy, University of the Pacific, Stockton, CA 95211, USA

<sup>||</sup>School of Medicine, University of California, San Francisco, San Francisco, CA 94143, USA

<sup>¶</sup>Health Economics Resource Center, VA Palo Alto Healthcare System, Palo Alto, CA 94063, USA

The views expressed in this article are those of the authors and do not necessarily reflect the position or policy of the Department of Veterans Affairs or the U.S. Government.

doi:<https://doi.org/10.1093/milmed/usac277>

Published by Oxford University Press on behalf of the Association of Military Surgeons of the United States 2022. This work is written by (a) US Government employee(s) and is in the public domain in the US.

**TABLE I.** Characteristics of Interview Participants

Characteristics	<i>N</i> = 13 (%)
Type of provider	
Nurse practitioner	3 (23)
Clinical pharmacist	5 (38.5)
Physician	5 (38.5)
Gender	
Women	10 (77)
Men	3 (23)
Clinical setting before COVID-19	
Virtual (video or telephone)	7 (53.8)
In-person	6 (46.2)

Abbreviation: COVID-19, coronavirus disease 2019.

inform strategies for managing general chronic condition care disruptions as the pandemic continues.

## METHODS

The study's retrospective qualitative evaluation design used semi-structured interviews with primary care providers and clinical pharmacists.

The Veterans Health Administration Office of Primary Care funded the study and deemed it a quality improvement project which did not require full Institutional Review Board approval, but did require the study to adhere to common principles of privacy, respect, and beneficence.

### Sample

The study sample consisted of VA primary care providers (physicians and nurse practitioners) and clinical pharmacists who were members of Veterans Administration Primary Care Patient Aligned Care Teams recruited from the Northern California and Nevada Region as well as nationally. Sample selection focused on these health care personnel because their engagement is necessary for quality outcomes. Purposive sample participant recruitment continued until thematic saturation occurred. A total of 13 participants contributed interview data between December 2020 and January 2021. [Table I](#) provides a summary of participant characteristics.

### Data Collection

A medical sociologist trained in qualitative methods conducted all interviews after participants verbally agreed to participate. A research assistant created structured notes during the interviews.

Interviews took place in individual or small-group settings on an audio- and video-enabled platform. Interviews with each participant lasted approximately 30 minutes to an hour. Interviews elicited primary care providers' and clinical pharmacists' experiences managing patients with chronic conditions during the COVID-19 pandemic. While asked to reflect more broadly on this topic, participants were also asked specifically about hypertension and diabetes, two highly prevalent chronic conditions among VA patients.

The interview guide asked participants to reflect on how the COVID-19 pandemic impacted care delivery as well as patients' medication adherence and medication management. Additional questions addressed identification of, and communication with, high-risk patients, and strategies for patient education and improved self-monitoring for these patients. See [appendix A](#) for a full list of interview questions.

### Data Analysis

Investigators employed a rapid analytic approach for data collection and analysis,<sup>9</sup> which VA researchers have used successfully to provide timely, relevant findings.<sup>10</sup> Rapid qualitative analysis involves condensing interview findings into summaries rather than relying on line-by-line coding used in more traditional qualitative analysis, which can be labor and time-intensive without necessarily providing additional benefit in some cases. Investigators compiled, then organized, detailed notes from interviews as well as post hoc notes to create a structured data analysis matrix. Matrix analysis provides a visual display of interview notes or documentation that allows analysts to look efficiently across data to identify common themes and patterns.<sup>11</sup> Examples of matrix categories determined for this study include "perceived disadvantages of virtual care management for chronic conditions" as well as "strategies for reaching out to high-risk patients." Investigators used well-established strategies for theme identification, including repetition and emphasis of specific points. Themes summarized and presented in this article reflect comments participants frequently mentioned and elaborated.

## RESULTS

Thematic findings clustered around four main perspectives. First, interview participants suggested that overall, the transition from in-person care to virtual for managing patients with chronic conditions went smoothly. Second, participants found some barriers disrupted the use of virtual care at times. Third, the COVID-19 pandemic introduced unique challenges specific to its treatment and limiting its spread. Finally, participants offered several suggestions for ways to improve virtual management of patients with chronic conditions.

### Smooth Transition from In-Person to Virtual Care for Chronic Conditions

During the COVID-19 pandemic, participants reported that in-person patient visits across the VA largely shifted to remote, virtual formats using the VA's video-enabled platform Virtual Visit Connect or telephone. In general, participants believed that many patients' chronic conditions could be managed remotely without significant disruption. Participants maintained that patients with preexisting conditions and preexisting relationships with their providers, who mostly needed follow-up support from their providers, were the most suited for virtual management of chronic conditions. Among routine primary care tasks, they noted that reconciliation of medications was somewhat easier to do virtually, since

patients are able to present their prescription bottles to their providers during a video-based visit or read off the medication names if meeting by phone. Normally, providers must rely on patients to bring their medications to their clinic visits, which they found to be an unreliable method for cataloging medications. Providers indicated that patient coaching and education around chronic condition management was easy to do virtually, and patients themselves appreciated fewer trips to the clinic, particularly given the risk of COVID-19 transmission.

Some providers even speculated that chronic care provided virtually may be better than in-person care. For instance, several noted that they were more likely to engage in a more comprehensive review of patients' symptoms. One clinician explained, "You have to make sure you are looking at the patient and taking a comprehensive history because we cannot rely on the physical exam." This provider did not observe any detriment to the quality of clinical care as a result of this switch to virtual modalities. Several providers also noted that providing care virtually strengthened their listening skills.

In addition to improved patient-provider interactions, providers also noted a plethora of benefits of virtual care, such as viewing patients' home environment in video visits, which allows them to identify potential mobility obstacles or other environmental factors that may impact patients' health and overall well-being. Though a less direct impact on patient care quality, providers also speculated that virtual visits free up physical exam room space, as well as promote increased work-life balance for health care personnel who may have more opportunities to work remotely.

Nevertheless, although participants thought that chronic conditions may be amenable to virtual care management, they indicated that patients with newly diagnosed chronic conditions, particularly diabetes, may be more challenging to manage virtually. These patients require instruction on insulin management and injection, which, under normal circumstances, would be provided in-person by a nurse. Conveying this information virtually to patients, and especially over the telephone, was reportedly difficult. Providers recommended patients watch videos with detailed instructions on how to perform a self-injection as an alternative to in-person instruction, but they admitted that they preferred in-person instruction for new patients.

### **Barriers to Patient Use of Virtual Care Modalities**

Although participants expressed confidence with their ability to virtually manage patients with chronic conditions, they found certain patient populations and patient characteristics made virtual management more difficult. Barriers included lack of patients' familiarity with technology and poor broadband access, as well as lack of patient compliance with recommended self-assessments, and disabilities brought on by older age or other causes, including hearing loss and cognitive disorders.

Participants frequently noted that technology for video visits continues to be a barrier to the full use of virtual modalities. They indicated that some patients lack digital literacy skills necessary to access the technology and use it appropriately. Other patients might have these skills, but lack reliable broadband access, which frequently interferes with video quality. Underscoring this point, one physician explained, "It has been difficult to talk to patients when I don't have a good connection. It's difficult to have satisfying conversations and provide good overall care with a poor connection." First-time users of the video technology often require assistance, so participants found themselves "wasting precious visit time" to help patients troubleshoot connection problems. Providers often switched to using the telephone. However, visits must then be reclassified as a phone visit rather than a virtual visit, which required additional work for schedulers and administrative staff. For some providers, these hassles led them to opt for providing predominantly telephone visits over video visits, despite the advantages of the latter.

Providers maintained that some patient characteristics may make virtual management of chronic conditions difficult. Because providers must rely on patient-provided information, patients who are not compliant with their medication regimens or who fail to provide their providers with remote measurements of blood pressure, glucose readings, etc. were poorer candidates for virtual management. Patients who come in for in-person visits usually have their vitals assessed at that time, which participants described as fail-safe. Some participants speculated that some patients are simply not motivated to address their health issues and thought engaging such patients was more effective through face-to-face interaction. Finally, patients may also have clinical characteristics that pose challenges to communicating virtually, particularly video, but also telephone. These characteristics include older age, mobility constraints, hearing and vision problems, and cognitive disabilities such as dementia.

### **The COVID-19 Pandemic Created Several Challenges to Virtual Management of Chronic Conditions**

In general, participants indicated that the pandemic had little overall impact on patients' medication adherence and their ability to care for most patients with chronic conditions. They believed that patients were able to refill their medications in a timely manner, and they were still able to communicate with patients as needed. Nevertheless, the pandemic did introduce several challenges. The closure of local labs made it difficult for patients and, in particular, rural patients to find convenient locations for blood draws. Participants attempted to minimize time patients spent in clinics by ordering labs at the same time as scheduled clinic visits. They also relied more on patients' self-reported blood sugar readings but preferred in-person lab screening because of greater accuracy.

Participants also expressed concern about the pandemic's impact on patients' mental health, including increased risk of

depression because of isolation and loneliness, particularly for elderly patients who felt isolated before the pandemic. Some worried that poor mental health may contribute to declining physical activity and worsening diet. A physician elaborated, “The higher risk of depression during the pandemic [may] complicate management of chronic medical illness. The risk of depression is especially prominent among elderly patients who live alone and might have multiple chronic conditions. Isolation [for these patients] can be dangerous.” However, other participants thought that the pandemic encouraged more physical activity and improved diet by eating at home and, therefore, may have improved patients’ overall health. Some participants also thought patients were more compliant with regimens because of the pandemic, especially patients with diabetes, a known risk factor for serious consequences from contracting COVID-19.

### **Optimizing Virtual Management of Chronic Conditions**

Participants offered strategies for improving the quality of virtual care for patients with chronic conditions. First, participants noted that peripheral devices, such as blood pressure cuffs and glucometers, were particularly helpful for remote management of patients. When patients did not already have these devices at home, the VA adopted a more liberal policy and sent out devices with greater frequency. However, home devices required active patient engagement.

Second, participants thought increased reliance on home telehealth services offered by the VA during the pandemic made virtual management easier. With home telehealth, a monitor is placed in the patient’s home and transmits periodic data from the patient’s personal devices. These data are monitored by an Registered Nurse (RN) who calls the patient if the reading is out of range as well as notifies the patient’s clinical pharmacist and primary care provider of the change in status. Participants thought that more frequent use of these services would allow more patients to be treated and cared for by the VA.

Finally, participants mentioned needed enhancements to VA virtual care management. First, they noted a need for improved patient instruction on how to use virtual care technology and assistance with troubleshooting technological barriers, particularly before a patient’s first visit. Participants explained that once patients had one or two video visits, their comfort level increased, making it easier to carry out subsequent visits. Additionally, participants thought patients should be instructed to have a caregiver assist with virtual visits, including use of the technology as well as guiding patients through components of a physical exam. Lastly, they suggested that removing institutional barriers would encourage more widespread adoption of virtual modalities. Currently, scheduling video visits requires more administrative steps than an in-person or phone visit. They explained that the VA must convey to all staff members that video visits are a priority and to accommodate patients’ requests for them.

### **DISCUSSION**

Participants believed that overall, despite the transition to virtual care, they were able to maintain care continuity and manage patients effectively during the pandemic. Our study is one of the first to report on the perspectives of VA primary care providers on chronic condition care provided during the pandemic. Similar evaluations of providers’ perspectives have likewise found that providers believed virtual care was as effective for caring for patients with chronic conditions as in-person care, particularly follow-up care.<sup>12</sup> Our study participants suggested that virtual management of chronic patients offered unanticipated benefits, including easier medication reconciliation, observation of patients’ home environments, and greater attention to patient counseling, benefits observed in other studies.<sup>13,14</sup> However, participants suggested that poorly managed patients and patients non-compliant with clinical regimens likely remained poorly managed.<sup>3</sup> Additionally, virtual care, while ideal for maintaining care for well-managed, preexisting chronic conditions, presented challenges for newly diagnosed conditions, which may require a hands-on physical exam.<sup>13,15</sup> However, as virtual modalities become more widely practiced, templates and other clinical decision-making tools will likely facilitate robust virtual physical exams that may lessen the need for in-person examination, even in acute cases.

Participants expressed concern that some Veterans were less suitable for the receipt of virtual care. Technological barriers, including broadband access and digital literacy skills, were cited as the largest potential obstacle to engaging all Veterans through virtual formats. Some found that older age had a negative impact on technology adoption, a finding that has been reported elsewhere,<sup>16,17</sup> especially because of cognitive disabilities<sup>18</sup> and hearing loss.<sup>15</sup> Ensuring that these patients do not get left behind as the technological revolution in health care delivery continues is critical. More research is needed to identify which groups of patients are less optimal for virtual care delivery as well as piloting of innovations and technological improvements that may increase access.<sup>16</sup>

Interview participants expressed uncertainty around the impact of COVID-19 on patients’ behaviors and health care status. Wolf and colleagues concluded that patients with comorbid conditions were not changing their behaviors, despite being at higher risk for complications from COVID-19.<sup>19</sup> However, their study was conducted early on during the pandemic, and as cases grew and researchers identified patients most vulnerable to severe complications from COVID-19 infections, patients’ behaviors may have changed. Several participants in our study thought that the pandemic had a positive impact on patient behaviors. Nevertheless, some expressed concern about the impact of social isolation on patients with chronic conditions and worried that declining mental health may have negatively impacted patients’ habits.<sup>5,20</sup> Research is needed to understand the impact of loneliness on health outcomes,<sup>21</sup> although understanding the full impact of the pandemic on patients with



chronic conditions may become clearer over time. Directly querying patients with chronic conditions about their experiences during the pandemic will shed light on these issues.<sup>5</sup>

### Limitations

Our study has several limitations. Our study involved a relatively small sample size, and more research is needed to assess the accuracy of participants' perceptions. Our results may not be generalizable outside the VA system. As the nation's largest integrated health care system, the VA may be uniquely poised to care for patients with chronic conditions and ensure care continuity. The VA implemented its version of the patient-centered medical home called Patient Aligned Care Teams several years ago, so most VA patients had established relationships with their primary care teams. The VA routinely filled outpatient medications by mail before the pandemic, so there was less potential for the pandemic to disrupt medications for VA patients. The VA also provided a significant amount of virtual care before the pandemic since VA providers did not face barriers related to reimbursement for virtual care unlike other health care systems, making the transition to virtual care may easier for VA patients and providers. Future research is needed to compare the experiences of VA providers with providers from other health care systems to determine whether the VA system was better able to mitigate adverse impacts of the pandemic on primary care.

Finally, although we were interested in understanding clinician perspectives on virtual management of patients with a range of chronic conditions during the pandemic, we focused some questions on the management of diabetes and hypertension. Since evaluation and treatment plans for different chronic conditions vary, our results may not be generalizable outside of these conditions. Needed next steps involve identifying optimal virtual care evaluation and treatment strategies for a wider range of chronic conditions, including heart disease, respiratory conditions, and chronic pain.

### CONCLUSION

Future studies should investigate patient perspectives to understand the impact of the COVID-19 pandemic on their ability to manage chronic conditions to complement our findings. Moreover, data are needed on vulnerable patients who were more difficult to engage virtually or who were poorly managed before the pandemic to understand whether they experienced worse outcomes during the pandemic. For many patients with chronic conditions, virtual care is a promising approach to provide ongoing management in primary care that can be expanded and enhanced after the pandemic. As providers and patients gain more familiarity in using virtual care technology, primary care teams will be able to decide how to allocate resources between providing in-person care and virtual care. However, more tailored strategies may be needed to care for sicker, more vulnerable patients, which lead to better outcomes.

### FUNDING

This material is based on work supported by the Department of Veterans Affairs, Veterans Health Administration, Office of Primary Care.

### CONFLICT OF INTEREST STATEMENT

None to report.

### Appendix: Interview Guide

1. Please tell me a little about yourself, including your role, history with the VA, and any other relevant information.
2. How has COVID-19 changed how you deliver care?
3. How has COVID-19 affected your patients' adherence to critical medications, including those for diabetes and hypertension?
4. Has managing medications for high-risk patients been affected by the COVID-19 crisis? In what ways?
5. How are you identifying high-risk patients to prioritize for care?
6. Are you communicating with these patients through telephone, VA video connect, My HealthVet secure messaging, Annie mobile application, or other means? Are you enrolling patients in programs such as care coordination/home telehealth? Do some of these modalities work better than others and if so, why?
7. Are some high-risk patients more difficult to engage with through virtual care than others? What are the barriers to engaging with them virtually?
8. How are you performing outreach to high-risk patients? Do you think this process could be improved, and if so, how and why?
9. What types of patient education around the management of chronic conditions and medications are you performing that you find most beneficial for patients?
10. What strategies are you using to facilitate ordering and refilling patients' medications?

What types of strategies to improve patient self-monitoring have you found to be effective?

### REFERENCES

1. Ferguson JM, Jacobs J, Yefimova M, Greene L, Heyworth L, Zelman DM: Virtual care expansion in the Veterans Health Administration during the COVID-19 pandemic: clinical services and patient characteristics associated with utilization. *J Am Med Inform Assoc* 2021; 28(3): 453–62. [10.1093/jamia/ocaa284](https://doi.org/10.1093/jamia/ocaa284).
2. Hollander JE, Carr BG: Virtually perfect? Telemedicine for COVID-19. *N Engl J Med* 2020; 382(18): 1679–81. [10.1056/NEJMp2003539](https://doi.org/10.1056/NEJMp2003539).
3. Danhieux K, Buffel V, Pairen A, et al: The impact of COVID-19 on chronic care according to providers: a qualitative study among primary care practices in Belgium. *BMC Fam Pract* 2020; 21(1): 1–6. [10.1186/s12875-020-01326-3](https://doi.org/10.1186/s12875-020-01326-3).
4. Liu N, Huang R, Baldacchino T, et al: Telehealth for noncritical patients with chronic diseases during the COVID-19 pandemic. *J Med Internet Res* 2020; 22(8): e19493. [10.2196/19493](https://doi.org/10.2196/19493).
5. Beran D, Perone SA, Perolini MC, et al: Beyond the virus: ensuring continuity of care for people with diabetes during COVID-19. *Prim Care Diabetes* 2021; 15(1): 16–7. [10.1016/j.pcd.2020.05.014](https://doi.org/10.1016/j.pcd.2020.05.014).

6. Zulman DM, Chee CP, Wagner TH, et al: Multimorbidity and healthcare utilisation among high-cost patients in the US Veterans Affairs Health Care System. *BMJ Open* 2015; 5(4): e007771. [10.1136/bmjopen-2015-007771](https://doi.org/10.1136/bmjopen-2015-007771).
7. Cai M, Bowe B, Xie Y, Al-Aly Z: Temporal trends of COVID-19 mortality and hospitalisation rates: an observational cohort study from the US Department of Veterans Affairs. *BMJ Open* 2021; 11(8): e047369. [10.1136/bmjopen-2020-047369](https://doi.org/10.1136/bmjopen-2020-047369).
8. Rose L, Tran LD, Asch SM, Vashi A: Assessment of changes in US veterans health administration care delivery methods during the COVID-19 pandemic. *JAMA Netw Open* 2021; 4(10): e2129139. [10.1001/jamanetworkopen.2021.29139](https://doi.org/10.1001/jamanetworkopen.2021.29139).
9. Neal JW, Neal ZP, VanDyke E, Kornbluh M: Expediting the analysis of qualitative data in evaluation: a procedure for the rapid identification of themes from audio recordings (RITA). *Am J Eval* 2015; 36(1): 118–32. [10.1177/1098214014536601](https://doi.org/10.1177/1098214014536601).
10. Nevedal AL, Reardon CM, Widerquist MAO, et al: Rapid versus traditional qualitative analysis using the Consolidated Framework for Implementation Research (CFIR). *Implement Sci* 2021; 16(1): 1–12. [10.1186/s13012-021-01111-5](https://doi.org/10.1186/s13012-021-01111-5).
11. Averill JB: Matrix analysis as a complementary analytic strategy in qualitative inquiry. *Qual Health Res* 2002; 12(6): 855–66. [10.1177/104973230201200611](https://doi.org/10.1177/104973230201200611).
12. 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): 40–4.
13. Gomez T, Anaya YB, Shih KJ, Tarn DM: A qualitative study of primary care physicians' experiences with telemedicine during COVID-19. *J Am Board Fam Med* 2021; 34(Suppl): S61–70. [10.3122/jabfm.2021.S1.200517](https://doi.org/10.3122/jabfm.2021.S1.200517).
14. Samples LS, Martinez J, Beru YN, Rochester MR, Geyer JR: Provider perceptions of telemedicine video visits to home in a veteran population. *Telemed J E Health* 2021; 27(4): 422–6. [10.1089/tmj.2020.0045](https://doi.org/10.1089/tmj.2020.0045).
15. Srinivasan M, Asch S, Vilendrer S, et al: Qualitative assessment of rapid system transformation to primary care video visits at an academic medical center. *Ann Intern Med* 2020; 173(7): 527–35. [10.7326/M20-1814](https://doi.org/10.7326/M20-1814).
16. Horrell LN, Hayes S, Herbert LB, et al: Telemedicine use and health-related concerns of patients with chronic conditions during COVID-19: survey of members of online health communities. *J Med Internet Res* 2021; 23(2): e23795. [10.2196/23795](https://doi.org/10.2196/23795).
17. Lam K, Lu AD, Shi Y, Covinsky KE: Assessing telemedicine unreadiness among older adults in the United States during the COVID-19 pandemic. *JAMA Intern Med* 2020; 180(10): 1389–91. [10.1001/jamainternmed.2020.2671](https://doi.org/10.1001/jamainternmed.2020.2671).
18. Weiss EF, Malik R, Santos T, et al: Telehealth for the cognitively impaired older adult and their caregivers: lessons from a coordinated approach. *Neurodegener Dis Manag* 2021; 11(1): 83–9. [10.2217/nmt-2020-0041](https://doi.org/10.2217/nmt-2020-0041).
19. Wolf MS, Serper M, Opsasnick L, et al: Awareness, attitudes, and actions related to COVID-19 among adults with chronic conditions at the onset of the US outbreak: a cross-sectional survey. *Ann Intern Med* 2020; 173(2): 100–9. [10.7326/M20-1239](https://doi.org/10.7326/M20-1239).
20. Kotwal AA, Holt-Lunstad J, Newmark RL, et al: Social isolation and loneliness among San Francisco Bay Area older adults during the COVID-19 shelter-in-place orders. *J Am Geriatr Soc* 2021; 69(1): 20–9. [10.1111/jgs.16865](https://doi.org/10.1111/jgs.16865).
21. Polenick CA, Perbix EA, Salwi SM, Maust DT, Birditt KS and Brooks JM: Loneliness during the COVID-19 pandemic among older adults with chronic conditions. *J Appl Gerontol* 2021; 40(8): 804–13. [10.1177/0733464821996527](https://doi.org/10.1177/0733464821996527).