

Telehealth Access of Geriatric Patients During COVID-19: A Provider Team Survey

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ABSTRACT

The COVID-19 pandemic has prompted the rise in the use of virtual healthcare through Telehealth. The importance of Telehealth is multi-fold, from communicating with patients virtually to providing care when in-person services are unavailable. Although this virtual platform has significant benefits, the geriatric population is underutilizing this resource. Our initial objective was to understand the perceptions of healthcare providers and their assessment of the comfort level and the utility of telehealth software for geriatric patients. We surveyed Geriatric specialists, Social Workers, Registered Nurses, and healthcare management team members regarding their perceptions of the rise and utility of telehealth before and after the pandemic. The survey was conducted in Northeast Ohio, specifically from Summa Health Akron City Hospital and the Direction Home Akron Canton Area Agency on Aging and Disabilities. 72.7% of those invited completed the survey, specifically five (33.3%) were physicians. Additionally, we surveyed participants regarding patient capability and understanding of telehealth software. A large subset of participants using telehealth (69.2%) stated that their patients fell between “somewhat uncomfortable” to “completely uncomfortable” in utilizing telehealth. Regarding their use of blood pressure and glucose monitors, 76.9% felt their patients had a “medium comfort” level. Finally, 92.3% would find a volunteer service to help train patients and caregivers in the use of telehealth software and medical devices “extremely helpful.” These data demonstrate a perception among geriatric providers that patients have difficulties using telehealth. Our goal is to develop a student-led virtual program to better assist patients and providers in the use of telehealth modalities.

Keywords: Telehealth, COVID-19, Geriatrics, Telemedicine

INTRODUCTION

From house calls to the increased use of larger institution-based practice, the delivery of healthcare is ever-changing. A new and rising mode of delivery—especially since the onset of COVID-19—is Telehealth, which allows the doctor to gain virtual connection with patients while maintaining physical distance. Video conferences, custom applications, web-based services, and remote monitoring are all encompassed within the broad approach. Advantages of incorporating these techniques include ease of use, improved communication, low cost, decreased travel time, increased access to care, and

empowerment of patients to manage chronic conditions (1).

Despite the clear benefits of using this system, there are difficulties that plague broader use of telehealth, such as availability, cost, technology dysfunction, trust, and impersonality (2). A 2012 Health Information National Trends Survey demonstrated that older male adults with low socioeconomic status (SES) had decreased interactions with telehealth. While 30% of patients below 64 years use telehealth, less than 10% of patients above 65 use it (3). In a qualitative interview study conducted in Manchester, geriatric patients described barriers to

telehealth, including lack of technical competence. Patients expressed that they find it difficult to remember and manage technical machinery, such as keyboards and keypads. Patients also have uncertainty when using the internet and lack adequate training to use blood pressure monitors and medical devices on themselves (4,5).

Although practices can incorporate various forms of telehealth, there are concerns regarding whether the geriatric patient population has the capability to use the software. In this prospective observational survey, we surveyed geriatricians and healthcare providers working at Summa Health Akron City Hospital and the Direction Home Akron Canton Area Agency on Aging and Disabilities about their current use of telehealth in the delivery of healthcare before and after the spread of COVID-19. Further, we want to explore whether practitioners believe that patients can and have knowledge of how to use telehealth and medical devices at home or in independent living facilities. We plan to use data from this survey to develop a medical student-led virtual program to aid patients in using medical devices and telehealth modalities.

METHODS

A 23-item survey was developed with questions regarding provider background, patient population, telehealth utility among providers, and perceived level of comfort using telehealth and medical devices among patients for providers. The study was sent to healthcare providers to understand their perception of patient comfort with telehealth to better understand providers' need for software coaching. The questions were in Yes/No, multiple-choice, and single best-answer type formats, with space for a final comment at the end of the survey. The study protocol was approved by the Northeast Ohio Medical University Institutional Review Board in Rootstown, Ohio. Informed consent was implied by the subject's willingness to complete the survey. All the responses were anonymously collected to eliminate any potential bias. The 45-item, English-language, web-based survey tool (Qualtrics Survey Software, Provo, UT) was administered online from November 2020 to December 2020.

Twenty-two potential participants were identified as geriatricians from Summa Health Akron City Hospital and healthcare providers from the Direction Home Akron Canton Area Agency on Aging and Disabilities, an entity of the Ohio Department of Health. An e-mail invitation with an explanation of study protocol and consent was sent to study participants, with a subsequent e-mail invitation sent weekly to non-responders for a total of four weeks. All responses were entered into a Qualtrics Survey

Software database and imported into Microsoft Excel to compute the appropriate descriptive statistics. Data were reported as mean (standard deviation), median (interquartile ratio), and proportions (6).

RESULTS

General Participant Information (Table 1)

Of 22 potential participants, 16 (72.7%) completed the survey. Percentages are reported per number of participants that answered the question. Five (33.3%) participants were practicing geriatricians at Summa Health Akron City Hospital. Eleven (21.4%) were social workers, registered nurses, and healthcare management team members at the Direction Home Akron Canton Area Agency on Aging and Disabilities. Eleven (73.3%) of the participants reported that less than 25% of their patients resided in nursing homes. Ten (71.4%) of the participants reported that less than 25% of their patients resided in independent living facilities. Three participants (20.0%) reported that less than 25% of their patients resided at home. Most of the patients resided at home or in independent living facilities.

Telehealth Utility (Table 2)

Nine (60%) of the participants utilized telehealth to communicate with their patients, of whom five (55.6%) had utilized telehealth for less than six months. Of the nine participants, all saw less than 25% of their patients using telehealth prior to February 2020. After February 2020, three (33.3%) saw less than 25% of their patients using telehealth and two (22.2%) saw greater than 75% of their patients using telehealth. Among all participants, multiple modalities of telehealth were employed. Four people utilized FaceTime, two utilized Zoom, seven utilized Doxy, seven utilized telephone, one utilized Webex, and one utilized Skype.

Four (30.7%) participants reported that less than 25% of their patients had access to mobile devices at home. Nine (69.2%) of the participants reported that less than 25% of their patients had access to tablets at home. Thirteen participants reported that their patients used blood pressure monitors, twelve reported that their patients used blood glucose monitors, and five reported that their patients also used pulse oximetry machines, weighing scales, and INR machines at home.

	Respondents	Response
Participant role in practice:	15 (93.8)	
Social Worker		4 (26.7)
Nurse Practitioner		0
Physician		5 (33.3)
Health facility management		6 (40)
Description of administration of the practice:	15 (93.8)	
Community-based hospital		
Healthcare aging facility		5 (33.3)
		10 (67.7)
Length in practice:	14 (87.5)	
<5 years		3 (21.4)
5-15 years		5 (35.7)
>15 years		6 (42.9)
Perceived percentage of patients residing in a nursing home:	14 (87.5)	
<25%		
25-50%		11 (73.3)
50-75%		2 (13.3)
>75%		2 (13.3)
		0
Perceived percentage of patients residing in an independent living facility:	14 (87.5)	
<25%		10 (71.4)
25-50%		2 (14.3)
50-75%		2 (14.3)
>75%		0
Perceived percentage of patients residing at home:	15 (93.8)	
<25%		3 (20)
25-50%		3 (20)
50-75%		4 (26.7)
>75%		5 33.3)

Table 1: General participant information

	Respondents	Response
Participants who use TeleHealth:	15 (93.8)	
Length of TeleHealth utility:		9 (60)
<6 months		5 (55.6)
6-12 months		4 (44.4)
1-5 years		0
>5 years		0
Patients seen using TeleHealth prior to February 2020:		
<25%		9 (100)
Patients seen using TeleHealth after February 2020:		
<25%		3 (33.3)
25-50%		3 (33.3)
50-75%		1 (11.1)
>75%		2 (22.2)
Method of TeleHealth employed (check all):	14 (87.5)	
FaceTime		4
Zoom		2
Doxy.me		7
Telephone		7
Webex		1
Skype		1
Perceived percentage of patients with access to mobile devices at home:	13 (81.3)	
<25%		4 (30.8)
25-50%		4 (30.8)
50-75%		4 (30.8)
>75%		1 (7.7)
Perceived percentage of patients with access to tablets at home:	13 (81.3)	
<25%		
25-50%		9 (69.2)
50-75%		4 (30.8)
>75%		0
		0
Devices patients use to monitor health at home:	13 (81.3)	
Blood pressure monitors		13
Glucose monitors		12
Other: Pulse oximetry monitors, scales, INR machines		5

Table 2: TeleHealth Utility

Telehealth Comfort (Table 3)

Participants were also asked to assess their patients' comfort level with utilizing telehealth on a Likert scale of 1-5 (1= very uncomfortable, 5=very comfortable). Three (23.1%) perceived their patients to be at a 1 and zero perceived their patients to be at a 5. In asking how useful the participants thought a volunteer service would be in helping patients utilize telehealth on a Likert scale of 1 to 5 (1=very un-useful, 5=very useful), one (7.7%) perceived the service to be a 1 and 10 (76.9%) perceived the service to be a 5.

Participants were then asked to evaluate their patients' comfort level using devices to monitor health at home on a Likert scale of 1 to 5 (1=very uncomfortable, 5=very comfortable). Two (15.4%) perceived their patients as a 4 and zero perceived their patients as a 5. In asking how helpful a volunteer service would be to aid patients and/or caregivers in utilizing telehealth on a Likert scale of 1 to 5 (1=very unhelpful, 5= very helpful) nine (69.2%) believed their patients were at a 5.

Finally, we asked the participants which modes of telehealth they would find a student-led volunteer program useful for. Four (28.6%) reported they could use help in teaching patients how to use Zoom, eight for FaceTime, four for Facebook Messenger, seven for Doxy, eleven for telephone, six for e-mail, and four for other services such as Skype.

DISCUSSION

Our results emphasize the challenges faced by health care providers to reach geriatric patients, especially during a pandemic, when the need to maintain physical distance between the practitioner and patient is paramount. Table 2 demonstrates that healthcare practitioners are incorporating telehealth services to connect with their patients. In fact, most responding participants reported seeing less than 25% of their patients via telehealth prior to February 2020, then transitioning to over two-thirds of participants seeing more than 25% of their patients via telehealth after the beginning of the COVID-19 pandemic. The disparities in providing telehealth access may be demonstrated through the patient demographics of the geriatric providers: most patients live in private residences and have limited access to the support a nursing home or independent living facility may provide. This is underscored as most survey participants indicated that their patients' perceived comfort level using telehealth and telemonitoring devices was low. Consequently, many responders requested a student-led volunteer program, with 92% of participants estimating outcome of an intervention as beneficial to their practice.

Respondents indicated highest utility for a program providing education for services such as Facetime, Zoom, Doxy, Telephone, Email, and Skype. We identified another possible intervention through provision of Telehealth-capable devices; 61% of providers reported 50% or less of their patient base had access to mobile devices at home and 100% of the providers indicated that less than half their patient base had access to tablets.

This work extends the findings of previous literature in identifying problematic areas for geriatric patients with respect to accessing telehealth treatment, particularly in the greater Akron area. In a review by Bashshur et al. in 2014., empirical evidence was identified supporting the use of telehealth in chronic disease management for reducing hospital admissions, length of hospital stays, emergency department visits, and even mortality (7). This comes alongside acknowledgement of interventions showing that technology-based healthcare management can be implemented with notable results in older adults, especially as they often suffer from chronic disease (8, 9).

Despite successful applications of telehealth in broader populations, geriatric patients face increased barriers to adoption, such as access to appropriate devices and low technological literacy. Sivakumar et al. note that successful deployment of interventions in India had to overcome low digital literacy, sensory issues, and cognitive impairment in administering geriatric telepsychiatry (10). Parker et al. attributed low patient response via telehealth to a multitude of factors: lower intrinsic motivation, health literacy, and efforts to engage patients in newer forms of health technologies by the provider (11). Due to the varied factors that contribute to the effectiveness of telehealth, it may be difficult for a geriatrician to transition employing newer technologies to reach patients.

Major strengths of our study include the fact that participants involved with the survey were all from the local community, focusing on the needs of the nearby geriatric population. Additionally, the high response rate (73%) of potential participants stresses the importance of the content of the survey to the participants. This is further supported by ardent request for student-led volunteer programs to target health literacy across a variety of disciplines, ranging from geriatric physicians at Summa Akron City Hospital to the staff at Direction Home Akron Canton Area Agency on Aging and Disabilities, including social workers, registered nurses, and healthcare providers.

Perceived patient comfort using TeleHealth (1=very uncomfortable, 5=very comfortable):	13 (81.3)
1	3 (23.1)
2	6 (46.2)
3	3 (23.1)
4	1 (7.7)
5	0
Perceived patient aid in use of a mobile TeleHealth volunteer service (1=very un-useful, 5=very useful):	13 (81.3)
1	1 (7.7)
2	0
3	0
4	2 (15.4)
5	10 (76.9)
Perceived patient comfort using devices to monitor health at home (1=very uncomfortable, 5=very comfortable):	13 (81.3)
1	
2	0
3	1 (7.7)
4	10 (76.9)
5	2 (15.4)
	0
Perceived patient aid in use of a medical health device volunteer service (1=very un-useful, 5=very useful):	13 (81.3)
1	0
2	0
3	1 (7.7)
4	3 (23.1)
5	9 (69.2)
Methods of TeleHealth participants suggest a volunteer service for:	13 (81.3)
Zoom	
FaceTime	4
Facebook Messenger	8
Doxy.me	4
Telephone	7
E-mail	11
Other: Skype, Doximity	6
	4

Table 3: TeleHealth Comfort

There are also limitations to this study. Even though this survey was designed with the interests of pertinent stakeholders in mind, we identified potential participants from only two local institutions, resulting in a low sample size. In addition, the number of participants was limited to those interested in seeing the implementation of a program to aid their patients; this is indicative of self-selection bias. Finally, close-ended questioning can lead to loss of internal validity and objectivity. To address these limitations, we incorporated options to provide type-in-responses.

The results of the study were all estimates of patient comfort by providers. Further studies may incorporate patient feedback on utilizing telehealth at home. We are utilizing this data to develop a student-led virtual program to aid patients with using medical devices and assistance with Telehealth. Student volunteers will be trained to effectively communicate, educate, and formulate guides to aid the geriatric population in better understanding the technology necessary to use telehealth. Students will be able to answer questions related to using the software as well as home medical devices. This intervention aims to address the gaps noted by the geriatric providers. We hope to facilitate improved patient-provider communication and improve adherence to medical treatment and therapy. Further studies could determine the impact of this volunteer-led program in improving telehealth access and utilization.

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CONFLICTS OF INTEREST

All authors declare no conflicts of interest.

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Investigation: SM, SS

Visualization: SM, SS, SJ, AG, MM

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