

Perception of Telehealth Services Compared with In-Person Pharmacist Led Diabetes Education in the Community Pharmacy Setting

Hasan S, Hamper J, Albertsons Companies. Clough C, Jewel Osco Pharmacy. Hoffmann-Eubanks B, Jewel Osco Pharmacy. Cross CJ, Jewel Osco Pharmacy. Highland J, Jewel Osco Pharmacy. Pham M, Jewel Osco Pharmacy. Hanes S, Rosalind Franklin University of Medicine and Science. Email: sobia.hasan@albertsons.com. Completion Date: 5/25/2021

Abstract:

Purpose: Telehealth services are frequently being used in the medical community today due to the coronavirus disease 2019 (COVID-19) pandemic. Comparing the perception of telehealth to in-person appointments can lead to more informed patients in the management of their chronic condition and their accessibility to care. The objective of this study was to assess patient characteristics and perspective of diabetes telehealth services provided by community pharmacists and evaluate the patient perception of telehealth appointment feasibility compared to in-person appointments.

Methods: Eligible participants included adults who had enrolled into an in-person, employee-sponsored diabetes education program between November 1, 2019 and November 1, 2020 in the Chicagoland area. A survey was provided to program participants and included patient demographic characteristics, free response, and Likert scales to assess how likely patients were to utilize telehealth services. Additionally, the survey identified if patients felt they would miss in-person visits more frequently compared to virtual appointments. Survey distribution and collection will occur in March 2021. A link to the study survey will be sent electronically via email and text messages to patients, then sent again in week four, eight, and twelve, patients received a follow-up reminder message. Descriptive statistics were used to draw conclusions from the data collected. Average responses were documented and visualized with software and updated as higher volumes of responses come in.

Results: A total of 16 responses were collected (n=16). The average patient was middle aged (between the age of 46-60 years old). The majority of responses preferred in-person appointments (62.5%) but want to continue to have the option for telehealth appointments in the future. When assessing the perception of accessibility of an appointment, it was considered more unlikely for patient to perceive that they would miss a virtual appointment than an in-person appointment (87.6% vs. 81.3%).

Conclusion: The results of this research may lead to more support, extended care, and justification of new services in telehealth to address diabetes management for patients. Additionally, this information may provide higher quality and more preferred appointments to patients by community pharmacists who understand patient preferred communication methods.

Introduction:

In 2018, the U.S. Centers for Disease Control (CDC) reported 10.5% of the United States population had diabetes. The total estimated costs related to diabetes in the U.S was \$327 billion in 2017.¹ Telehealth services are poised to distribute this healthcare burden to provide balanced and cost-effective care. Several studies have shown that the use of telehealth technologies can enhance care coordination, improve clinical outcomes, and increase patient satisfaction with care. It has been observed that initial diabetes education can be delivered successfully through electronic media, with the higher adoption of electronic media being associated with improved clinical outcomes.² Over four

months, a study found that a pharmacist-led intervention decreased Glycated Hemoglobin (A1c) level by 1.3%.² In this same study, participant satisfaction surveys and qualitative responses indicated that participants were satisfied with the telehealth system.² Since telehealth services are in high demand among high-risk populations today due to coronavirus disease 2019 (COVID-19), there is a need for more research on the expansion of the service to promote access to care and elevate the patient-pharmacist relationship. Comparing the perception of telehealth and in-person appointments, can lead to more informed patients in a time when they have fewer options to leave the house and promote education. The objective of this study is to assess the patient perspective of diabetes telehealth services provided by community pharmacists and evaluate the patient perception of telehealth appointment feasibility compared to in-person appointments.

Due to the current coronavirus disease 2019 (COVID-19) pandemic, many patients have utilized telehealth visits. Telehealth consists of virtual medical consultation such as through audio and/or video communication for a health appointment. As patients with diabetes undergo chronic disease state monitoring, many have experienced telehealth visits in 2020. Data shows that telehealth technologies can enhance care coordination, can improve clinical outcomes, and can increase patient satisfaction with their care.³ Telehealth services are in high demand among high-risk populations today. By comparing the perception of telehealth services and in-person appointments there can be more options provided to patients surrounding patient-specific programs. Currently there may be a need to expand telehealth services to promote access to care and elevate the patient-pharmacist relationship but patient buy-in should be taken into consideration before creating and offering programs that use resources and time to develop. If patient interest can be assessed there may be a promotion of telehealth training for community healthcare providers. The primary objective of this study is to assess patient perception of virtual health visits compared to standard in-person health visits. Additionally the secondary objective is to assess the perception of accessibility for both in-person and virtual appointments.

Methods:

The survey and research protocol were approved by Rosalind Franklin University’s Institutional Review Board. The survey was given to patients enrolled in an in-person Associate Diabetes Management Program (ADMP) within Albertsons Companies. The survey was sent out through mass email and text message to all enrolled and active ADMP patients within the company. The patients were selected based on predetermined criteria (Figure 1). The message went out to approximately 700 patients on 3/26/2021. Then survey reminder was sent out 4/25/21. Other communication existed through the scheduling program utilized by Albertsons Companies if the patient had any questions or concerns. The survey was populated within Google Forms.

Figure 1: Inclusion and Exclusion Criteria

Inclusion	Exclusion
<ul style="list-style-type: none"> Patients 21 years old or older 	<ul style="list-style-type: none"> Enrolled patient on disability within Albertsons Companies
<ul style="list-style-type: none"> Active enrollment in the in-person associate diabetes management program (ADMP) within Albertsons companies 	<ul style="list-style-type: none"> Enrolled patients not actively participating in diabetes program for documented health reasons

Before the survey questions were presented, consent was obtained from the patient and the survey itself consisted of a mixed format. The survey included collecting demographic information with multiple choice questions, one to five-point Likert scales to assess how likely patients were to utilize telehealth services, and free response to collect perceptions patients had. Overall, the survey collected patient characteristics, preference of appointment type (in-person vs. virtual) over time, the likelihood of missed appointment frequency (in-person vs. virtual), and after survey completion the patient was directed to enter a separate link for gift card entry. The separate Google form link collected forms of patient identification and communication.

Results:

The collection period ran from 3/26/2021 to 4/25/2021. A total of sixteen responses were collected (n=16). In the data collected through the survey, most patients can be classified as middle aged with prior telehealth experience. The demographics of the patients partaking in the survey indicated that 56.3% of survey participants were female and 43.8% of survey participants were male. In the data collected, 75% of respondents were between 46-60 years old and out of the total responses, 62.5% of patients had experience with telehealth visits. The results indicated that most of this patient demographic preferred in-person appointments (62.5%) but want to continue to have the option for telehealth appointments in the future. When assessing the perception of accessibility of an appointment, it was considered more unlikely for patient to perceive that they would miss a virtual appointment than an in-person appointment (87.6% vs. 81.3%).

Those who did not have experience with telehealth may find that this impacts their comparative reflection on their perception of virtual and in-person health appointments. The interest in in-person appointments increased from 37.5% before COVID concerns to 43.8% today which shows a change in perception over time and environmental changes. The results per question below indicate the split among response rates favoring in-person appointments (Figure 2 to Figure 8).

Figure 2: Patient Preferred Health Appointment

Which type of health appointment do you prefer?

16 responses

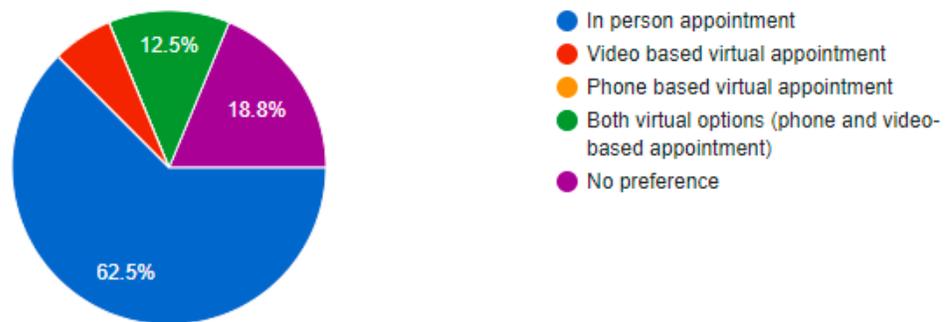


Figure 3: Patient Preference Between Video Based Telehealth and Phone-Call Based Telehealth

I prefer video telehealth over phone call-based telehealth appointments for diabetes management

16 responses

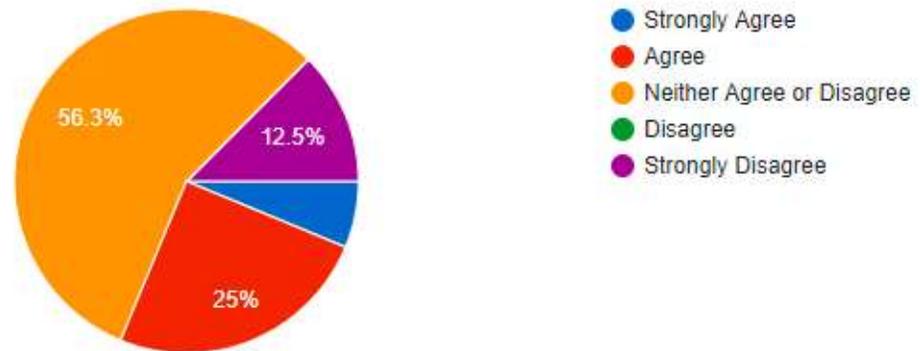


Figure 4: Future Consideration for the Offering of Virtual Health Visits Post COVID-19 Pandemic

With the resolution of the current health crisis, do you think you would want virtual health appointments to remain an option to for diabetes management?

16 responses

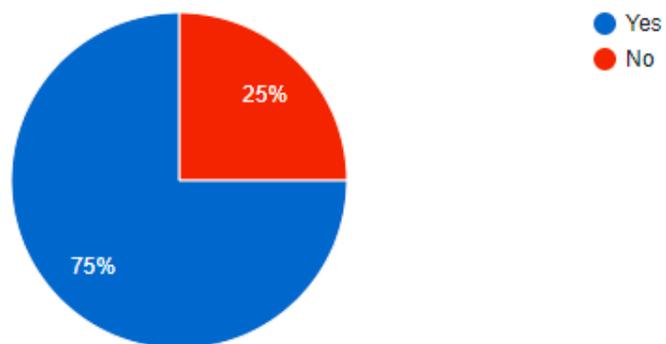


Figure 5: Previous Consideration for the Offering of Virtual Health Visits Before COVID-19 Pandemic
PRIOR to March 2020, and prior to the concern of COVID-19, I preferred in person visits:
16 responses

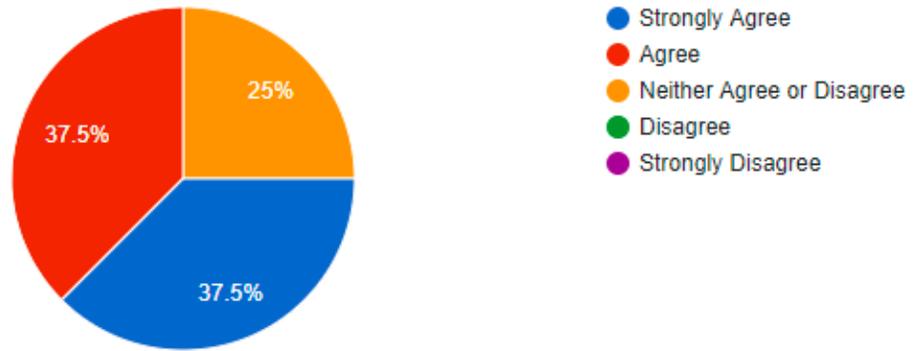


Figure 6: Current Consideration for the Offering of Virtual Health Visits Today
NOW I prefer in person visits for diabetes management appointments:
16 responses

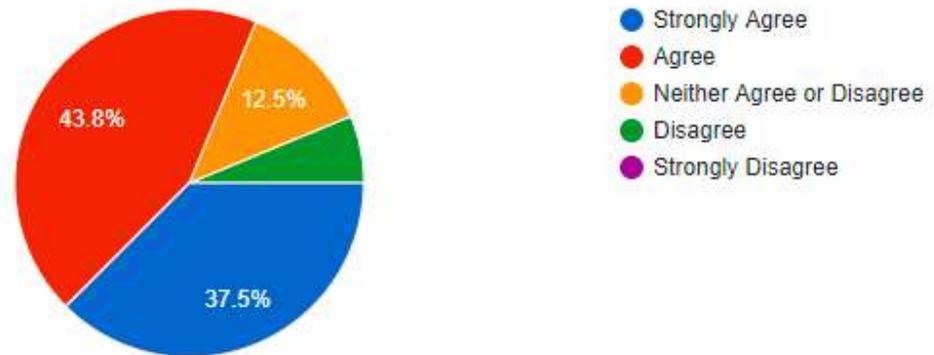


Figure 7: Perception of Missed In-Person Health Appointment

How likely are you to miss an in-person health appointment for diabetes management?

16 responses

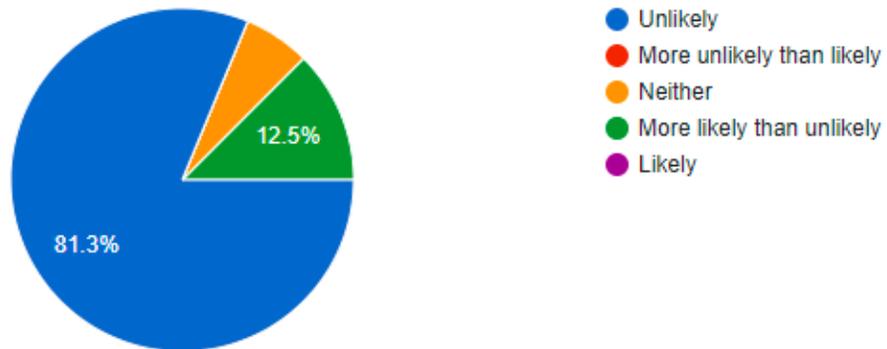
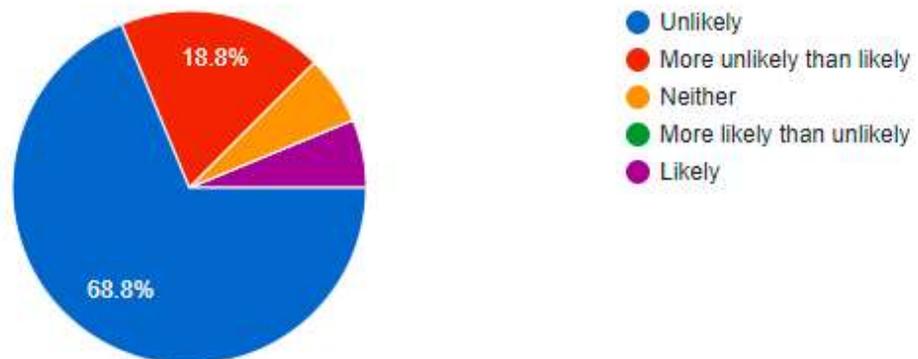


Figure 8: Perception of Missed Virtual Health Appointment

How likely are you to miss a virtual health appointment for diabetes management?

16 responses



Finally in an optional free response question, when patients were asked what factors impacted their perception on virtual health appointments there was a variety of responses. In favor of in-person health appointments, three responses specifically mentioned being face to face in-person allows for more clear discussion, three responses stated that a telehealth appointment does not feel like personal or proper one-on-one care. In favor of virtual health appointments, four responses describe that virtual visit are more convenient and do not interrupt their busy lives as much as in-person appointments do. Two responses state no factors have affected their perception.

Discussion:

Patients within the ADMP program may prefer in-person appointments for a variety of reasons. The program within Albertsons Companies has always been an in-person appointment requirement for the patients since the appointment itself is comprehensive in discussing lifestyle, diet, medications as

well as providing point of care testing: blood pressure, A1c, and cholesterol panel. Due to the nature of the program the patient may see benefit in the comprehensive experience of being in the room with their pharmacist for their appointment and may not see for it to be possible to complete these components over a virtual visit. When looking at the data over missed appointments and patient perception, the missed appointment perception is greater with in person appointments. This can be due to the time and travel dedication that takes place to get to an in person appointment. It was more unlikely for patients to miss virtual appointments than in person appointments.

This study did have limits as it was assessing perception over the duration of the year. This can create a potential for recall bias in patients that may interfere with the results. Additionally, there was a delay in survey distribution from early March to late March. This led to an alteration in the reminders being sent out for the survey. Instead of three reminders going out there was only time for 1 survey send out before the collection period ended. This may have limited potential responses being entered. Finally, the data set was small, the response rate was near 2.28% and may lead to questions regarding the utilization of this communication platform for the patients in the program. Further research could compare response rates from the scheduling and communication platform used.

In summary patients generally preferred in person appointments despite a majority experiencing some version of telehealth. This may have contributing factors such as patient age and a potential lack of comfort in virtual communication. The free response section also provided insight on how patient perception is impacted by how patient feel and how easy patients find it to communicate to their healthcare provider, but no comments focused on the difference in quality of provider counseling. Further research on how provider performance varies in telehealth visits compared to in-person visits would be beneficial. Variation does exist in the responses which leaves room for provider guidance and preference. Further decisions on making diabetes education counseling a telehealth or in-person service may depend on the goals for the patient. For example, a skill teach-back or physical assessment may be better in-person where a verbal understanding, or check-in may be preferred to be virtual. Most patients did not change their responses to questions relating to time (ie. Prior to COVID, During COVID, In the future) and this may contribute to recall bias. While half of respondents experienced only telephonic appointments, offering video telehealth services may be seen as a difficult or easier experience depending on the patients access and grasp of technology. It may be more difficult as video based telehealth requires more technological experience but may be easier as it is more personal and allows for a visual assessment over a descriptive assessment in cases for the patient. The increased interest in in-person appointments indicates a change in perception over time. This may be attributed to the desire for more personal communication and interaction after the pandemic. This can further reflect changes in the goals of health appointment between virtual and in-person appointments.

Conclusion:

The results of this research may lead to extended care and new services in telehealth to address diabetes management for patients. The future of diabetes services may provide higher quality and more preferred appointments to patients by community pharmacists who understand patient preferred communication methods. Ideally the expansion of this research would lead to more support for patient centered care and this can be though providing options to patients.

References:

1. Maxwell LG, McFarland MS, Baker JW, Cassidy RF. Evaluation of the Impact of a Pharmacist-Led Telehealth Clinic on Diabetes-Related Goals of Therapy in a Veteran Population. *Pharmacotherapy*. 2016;36(3):348-356. doi:10.1002/phar.1719
2. Successful Delivery of Diabetes Self-Care Education and Follow-Up through eHealth Media. Danièle Pacaud, MD, FRCPC, Helen Kelley, PhD, Angela M. Downey, PhD, Mike Chiasson, PhD. VOLUME 36, ISSUE 5, P257-262, OCTOBER 01, 2012. DOI:<https://doi.org/10.1016/j.jcjd.2012.08.006>
3. Gillani SW. Determining Effective Diabetic Care; A Multicentre - Longitudinal Interventional Study. *Curr Pharm Des*. 2016;22(42):6469-6476. doi:10.2174/1381612822666160813235704
4. Klug, C., Bonin, K., Bultemeier, N., Rozenfeld, Y., Vasquez, R. S., Johnson, M., & Cherry, J. C. (2011). Integrating Telehealth Technology into a Clinical Pharmacy Telephonic Diabetes Management Program. *Journal of Diabetes Science and Technology*, 5(5), 1238–1245. <https://doi.org/10.1177/193229681100500533>