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Implementation of a patient-assisted teledermatology model in the Veteran Health Administration

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Abstract

Owing to the inherently visual nature of the field of dermatology, advances in imaging and communication technology have resulted in widespread application of teledermatology since its introduction in the mid-1990s. In the last 20 years, studies have repetitively shown that teledermatology provides effective and efficient quality care for patients. It also increases access to underserved patients and reduces traveling costs, wait times, and unnecessary referrals. In this letter the authors seek to analyze implementation of a direct patient to dermatologist model in a Veteran Health Administration (VHA) patient population, referred to as patient-assisted teledermatology. This population is largely over the age of 65 and a significant portion are either without internet or have the minimum technology necessary to participate in the studied model. Owing to these observations and personal experiences, the authors found the implementation process of a patient-assisted model to be challenging in this population.

Keywords: telemedicine, telehealth, teledermatology, technology, implementation requirements, teledermatology models

Introduction

Teledermatology is a specific form of telemedicine that uses technology to remotely deliver dermatological care. It can be applied to a variety of healthcare settings including primary care, hospitals, nursing homes, and rural areas without access to a dermatologist. In practice, it can be used for consultation, triage, and follow up of patients. Years of trouble-shooting and advances in technology has led to solutions to many of the original barriers to implementation and the Veteran Health Administration (VHA) has been a leader in this process [1, 2]. However, certain issues remain difficult to solve depending on the particular model of teledermatology. There are several models for implementation of teledermatology with the most traditional involving a general practitioner serving as the intermediary between the patient and dermatologist. Of particular interest in this letter is the patient-assisted model, which allows the patient to directly send and receive data using their own device without oversight by another provider [1, 3]. The discussion here concerns an experience of testing and implementation of a

patient-assisted model in a VHA patient population.

Discussion

With ever-expanding pressure on healthcare systems throughout the world to find innovative ways to deliver more efficient care without increasing costs, teledermatology offers a promising new model of care. Specifically, the patient-assisted model allows for follow up without the patient having to come back to the office, thus deleting travel cost and greatly expanding access to care [1, 3]. For health systems such as the VHA with specialty providers concentrated at large urban centers potentially hours from their furthest patients, this model can both lower cost and increase patient satisfaction [2, 3]. However, certain requirements must be met for this model to work.

At minimum, patients must have an internet connection, a computer, tablet, or smart phone, and the ability to upload a picture taken by, or for the patient. With these requirements met, the patient must also have technological skills to navigate the software and use the required devices to appropriately follow up as requested.

While testing a patient-assisted model in a VHA patient population, it became immediately apparent that these requirements may not be fulfilled by a substantial percentage of this population. Census data for the Veterans Administration population estimated that the share of veterans age 65 and older during 2014 to 2024 will increase from 49% to 51%, representing the majority of this population [4]. A study concerning a VHA population demonstrated that 69% of teledermatology patients in 2014 were over the age of 60 [2]. Census data also demonstrates that for U.S. households as a whole, householders age 65 and greater are the cohort that is least likely to have a computer,

smartphone, or tablet, at 74.8%. The percent for this cohort with any internet subscription is even lower at 67.8%. The application tested in this discussion was specifically designed for use with smartphones, although only 48.5% of householders over 65 having this type of device. Cohorts less than 65 years of age ranged from 80.3-92.6% [5]. With these statistics in mind, one can deduce that a significant portion of the VHA patient population would not meet the minimum requirements to use the tested application.

In addition to meeting the above requirements, a patient participating in patient-assisted teledermatology requires a baseline level of technological skill. Although it has been suggested that younger generations present for the explosion of technological devices in the last two decades will be important targets for patient-assisted teledermatology practice [3], it is unclear if the older generation will also benefit. Additional barriers included both patient willingness and ability to set up the appropriate account services required for access. This discussion is meant to highlight the additional difficulties that many patients will have in accessing telemedicine technology by themselves, even if they meet the basic requirements mentioned earlier.

Conclusion

Teledermatology is an exciting tool that can offer many health systems efficient solutions to provide a greater access to care. Choosing the right model of teledermatology for insertion into clinical practice serving a particular patient population is important for both the patients and providers to receive the benefits this technology has to offer. In testing a patient-assisted teledermatology model in a VHA patient population, the authors here found that this population may not be best served by this model. In a population with limited access to the internet, computers, and smartphones, the more traditional model in which

patients are selected by primary providers for teledermatology consultation may be more effective.

Potential conflicts of interest

The authors declare no conflicts of interests.

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