

Abstract

Early Implementation and Evaluation of a Teledermatology Virtual Clinic Within an Academic Medical Center

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Abstract

Background: Teledermatology can increase patient access; however, its optimal implementation remains unknown.

Objective: This study aimed to describe and evaluate the implementation of a pilot virtual clinic teledermatology service at Duke University.

Methods: Leaders at Duke Dermatology and Duke Primary Care identified a teledermatology virtual clinic to meet patients' access needs. Implementation was planned over the exploration, preparation, implementation, and sustainment phases. We evaluated the implementation success of teledermatology using the Reach, Effectiveness, Adoption, Implementation, and Maintenance framework and prioritized outcome collection through a stakeholder survey. We used the electronic health record and patient surveys to capture implementation outcomes.

Results: Our process consisted of primary care providers (PCPs) who sent clinical and dermatoscopic images of patient lesions or rashes via e-communication to a teledermatology virtual clinic, with a subsequent virtual clinic scheduling of a video visit with the virtual clinic providers (residents or advanced practice providers, supervised by Duke Dermatology attending physicians) within 2-5 days. The teledermatology team reviews the patient images on the day of the video visit and gives their diagnosis and management plan with either no follow-up, teledermatology nurse follow-up, or in-person follow-up evaluation. Implementation at 4 pilot clinics, involving 19 referring PCPs and 5 attending dermatologists, began on September 9, 2021. As of October 31, 2021, a total of 68 e-communications were placed (50 lesions and 18 rashes) and 64 virtual clinic video visits were completed. There were 3 patient refusals and 1 conversion to a telephonic visit. Participating primary care clinics differed in the number of patients referred with completed visits (range 2-32) and the percentage of providers using e-communications (range 13%-53%). Patients were seen soon after e-communication placement; compared to in-person wait times of >3 months, the teledermatology virtual clinic video visits occurred on average 2.75 days after e-communication. In total, 20% of virtual clinic video visits were seen as in-person visit follow-up, which suggests that the majority of patients were deemed treatable at the virtual clinic. All patients who returned the patient survey (N=10, 100%) agreed that their clinical goals were met during the virtual clinic video visits.

Conclusions: Our virtual clinic model for teledermatology implementation resulted in timely access for patients, while minimizing loss to follow-up, and has promising patient satisfaction outcomes. However, participating primary care clinics differ in their volume of referrals to the virtual clinic. As the teledermatology virtual clinics scale to other clinic sites, a systematic assessment of barriers and facilitators to its implementation may explain these interclinic differences.

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Conflicts of Interest: None declared.

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KEYWORDS

teledermatology; implementation science

Multimedia Appendix 1

Teledermatology Process Depiction.

[\[PNG File , 420 KB-Multimedia Appendix 1\]](#)

Multimedia Appendix 2

Implementation Outcomes of a Teledermatology Service.

[\[PNG File , 334 KB-Multimedia Appendix 2\]](#)

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