

Teledermatology app system offers efficiencies, reliably prioritizes inpatient consults

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A new Penn Medicine study shows that remote consultations from dermatologists using a secure smart phone app are reliable at prioritizing care for hospitalized patients with skin conditions. Researchers in the Perelman School of Medicine at the University of Pennsylvania report in *JAMA Dermatology* that this teledermatology process is reliable and can help deliver care more efficiently in busy academic hospitals and potentially in community hospital settings.

A national shortage and uneven distribution of dermatologists in the United States has caused scheduling concerns in both the inpatient and outpatient settings. Many hospitals do not have inpatient [dermatology](#) consultative services, and those that do often have limited availability for consults after hours and on weekends.

"Dermatology support is essential for [hospitalized patients](#), but unfortunately many hospitals lack dermatology coverage.

Teledermatology may help optimize time spent by dermatologists in the inpatient setting by potentially reducing or eliminating trips to the hospital, and allowing some dermatologists to batch consultations or schedule non-urgent inpatients to be seen after discharge for outpatient appointments," said senior study author Misha Rosenbach, MD, assistant professor of Dermatology and director of the Dermatology inpatient dermatology service at Penn Medicine. "A substantial agreement between in-person and teledermatology consultants in this study

demonstrates the reliability and potential of this platform."

The new study compared assessments of 50 hospitalized patients in a high acuity academic medical center, the Hospital of the University of Pennsylvania, between a face-to-face consultation with an inpatient dermatologist and a standardized teledermatology consultation with two experienced teledermatologists.

When the inpatient dermatologist recommended a patient be seen the same day, the teledermatologists independently suggested the same course of action in 90 percent of cases. The teledermatologists agreed in 95 percent of cases where the inpatient dermatologist had recommended a biopsy. The doctors completely agreed on a diagnosis 82 percent of the time, and partially agreed in 88 percent of cases, which is in line with the standard variation expected between providers.

The team used a secure "store-and-forward" teledermatology smart phone app, which was developed through Penn Medicine's teledermatology program, in concert with the American Academy of Dermatology (AAD). This initiative, co-led by Carrie Kovarik, MD, associate professor of Dermatology and William D. James, MD, professor of Dermatology and vice chair of the Department of Dermatology, works to improve specialty health care in underserved areas and expand dermatology access to patients locally, nationally and internationally. Dr. Kovarik has led efforts to connect doctors from around the world – including those from Botswana, Uganda and Guatemala – with Penn Dermatologists, to assist physicians in diagnosing and providing treatment recommendations for various [skin conditions](#). In the United States, the Penn team works closely with the AAD to bridge [dermatologists](#) in states across the nation to nearby underserved areas nearby using the AccessDerm app. In Philadelphia, the Penn team now partners with 13 community clinics including Philadelphia Department of Health clinics; more than 400 patient

consultations have been performed through the program in Philadelphia to date.

"Our study of this model demonstrated that teledermatology consultations are not only effective at distinguishing cases in need for an urgent consultation in a hospital environment, but can also streamline follow-up care for both patients and clinicians," said Dr. Kovarik.

"In addition to addressing physician shortages from a clinical standpoint, teledermatology programs are very important for vulnerable citizens in the United States and abroad," said James, past president of the American Academy of Dermatology. "It is wonderful that the impact of these [teledermatology](#) consultations continues to expand."

The Penn team also included John Barbieri, Caroline Nelson, David Margolis, MD, MSCE, PhD, and Ryan Littman-Quinn.

Provided by University of Pennsylvania School of Medicine

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