Guest Editorial

The Teledermatology Train is Coming: Get on Board, Get Out of the Way, or Get Run Over

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Dermatology is one of the most frequently requested telehealth services due to the shortage and geographic maldistribution of dermatologists. Fortunately, the specialty is well-suited to provide patient care at a distance using health information and telecommunications technologies (ie, teledermatology). Teledermatology allows dermatologists to be virtually located in distant and underserved healthcare settings, enhancing collaborative care between primary care providers and dermatologists.

By having access to dermatologists using telemedicine systems, primary care providers are able to better manage their patients with earlier diagnoses, focused workup, and targeted treatment regimens. Interactive teledermatology involves videoconferencing systems equipped with imaging devices. The dermatologist remotely examines the patient at a distant site with the assistance of a nurse or medical assistant presenter under the instruction of the dermatologist. With store-and-forward teledermatology, patient information such as history, prior workup, and digital photographs are assembled in a secure computer-based system for subsequent review by the consulting dermatologist who gives an opinion and relays it back to the referring provider.

All skin conditions are considered appropriate for teledermatology evaluation, according to the American Telemedicine Association's Practice Guidelines for Teledermatology.[1] The guidelines recommend a lower threshold for obtaining biopsies to histologically evaluate suspicious lesions. Teledermoscopy has been proven to be of high diagnostic accuracy.[2-4] Widespread use is limited because of the training involved for the referring staff to obtain the images as well as the cost of the equipment. Some experienced teledermatologists consider teledermatology to be less effective for conducting full-body skin examinations, while others find it effective.

The guidelines state that cell phones are not recommended for teleconsultations.[1] Mobile technology has improved since the guidelines were written. Today, smartphones have high-quality cameras, are more affordable, and are owned by individuals worldwide; many people have given up their landlines. The American Academy of Dermatology Association supported a teledermatology pilot in Africa that demonstrated the success of cell phones for store-and-forward teleconsultations.[5]

The interactive and store-and-forward teledermatology literature validates the effectiveness of this delivery tool for initial, follow-up, and second-opinion diagnosis and management. Cost avoidance has been reported by the military.[6] Diagnostic agreement including diagnosis and differential diagnoses between clinic-based dermatologists and teledermatologists ranges from 57% to 95%.[7,8] The diagnostic agreement among dermatologists evaluating patients in person also varies,[9] with 80% agreement reported among 5 board-certified dermatologists reviewing 139 consecutive dermatology clinic patients.[10]

Although in-person dermatologic care may provide better diagnostic and/or management accuracy compared with teledermatology,[11,12] many patients never get to see a dermatologist. Therefore, when no dermatologic care is compared with care by teledermatology, teledermatology is always better.

The widespread adoption of the Internet and social media has created an expectation of rapid on-demand access to health information and provider interaction. Patients sometimes contact physicians by e-mail with questions and photographs of their skin for advice and follow-up. Digital photographs of skin conditions taken by patients or family members have been shown to be effective for management after initial in-person visits for acne[13] and other conditions.[14] Innovations in cell phones and tablets may soon result in direct patient-dermatologist interactions. An automated image analysis using a smartphone platform that recommends whether a

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lesion should be evaluated by a healthcare professional also is available.

Implementing and delivering teledermatology has its challenges; reimbursement is an issue. Private insurance and Medicaid varies from state to state. There are legislative mandates in 12 states requiring equal reimbursement for telehealth services–provided care and in-person care. In 26 states, Medicaid reimburses for interactive teleconsultations. Medicare payment for telehealth services is restricted to interactive consultations and requires that the patient's site be in a federally designated rural location or a health professional shortage area. Fee-for-service telehealth service reimbursement is limited with payors in primarily rural states paying for remote services. Dermatologists also are being paid for teledermatology through contracted services and self-pay arrangements. Several successful for-profit telehealth service businesses provide contracted services in multiple states with remote consultants in radiology, acute teleneurology, and telepsychiatry. Medical licensure is required in the state where the patient is located, and compliance with the Health Insurance Portability and Accountability Act privacy mandates and The Joint Commission's credentialing regulations are other issues.

Another challenge is getting pertinent history and good images from the referring provider. The patient presenter, typically a nurse or medical assistant, should be trained in the technology platform being used as well as digital photography and/or videography so that well-illuminated focused images show appropriate regional, close-up, and tangential views of the skin. It also is helpful to know the referring site's formulary and the surgical skills of its medical staff in performing biopsies and excisions.

Teledermatology is integrated into several civilian and military residency training programs. Some recent graduates have continued doing teleconsultations as a requirement of their jobs. In the future, telehealth service education may become a component of the medical school curriculum and residency training, and perhaps a requirement.

Teledermatology is a relatively new way of delivering specialty care and is rapidly expanding. To meet the demand for scarce dermatology services in the future, we predict that private and government payors will uniformly reimburse for store-and-forward teledermatology and for teledermatology services without geographic restriction. It is time to get on board.

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