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Using Mobile Technology to Improve Vascular Care

Development of a mobile app to facilitate physician-to-physician communication, share knowledge, and develop optimal treatment plans in a large health system.

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Health care is in the midst of a "mobile revolution." Doctors are using mobile apps that help make them more effective. Patients are using apps to monitor specific aspects of their health and take more responsibility for their well-being. The use of secure messaging in various settings for care coordination is also rapidly gaining popularity across the United States. This increasing utilization of mobile technology in health care helped lead to the development of a new mobile app, launched by the OhioHealth Vascular Institute (OHVI), that is changing the way physicians connect with one another, share knowledge, and develop optimal treatment plans for patients (Figure 1).

The creation of an entity as large as OHVI, which spans across 11 hospitals and more than 40 care sites, required optimal communication among institute members and referring physicians. The primary purpose of this enterprise mobile app, developed in concert with Duet Health, an Ohio-based health care technology company, was to facilitate physician-to-physician communication in a manner compliant with the Health Insurance Portability and Accountability Act (HIPAA). This HIPAA-compliant, cloud-based application, which is exclusively for medical professionals at this time, offers the ability to securely store confidential patient data while allowing immediate access on an iOS or Android mobile device. The mobile app also allows users to send and receive secure messages, including photos and videos, and receive new message alerts via push notification.

The app is also designed to help physicians locate and consult with vascular institute specialists, without the sometimes-cumbersome reliance on voicemail, text messaging, pagers, or other communication tools that are not always effective or secure.

BEST PRACTICES CLOSE AT HAND

Another key feature of the mobile app is access to evidence-based vascular disease management algorithms, developed by the OHVI, which offer clinical recommendations for the treatment of common vascular disorders such as pulmonary embolism, carotid artery stenosis, peripheral artery disease, and aortic aneurysms. These algorithms were created by the vascular institute membership committees, which included various specialties. The app disseminates these algorithms in an interactive, simple, elegant manner to its membership, referring doctors, and emergency room physicians. The app also provides calculator functionality with a focus on specific vascular issues (eg, Pulmonary Embolism Severity Index and Wells scores for management of pulmonary embolism and deep vein thrombosis). It also provides on-demand access to PowerPoint or Keynote presentations, recorded webinars, and interesting cases in PDF and/or video format.
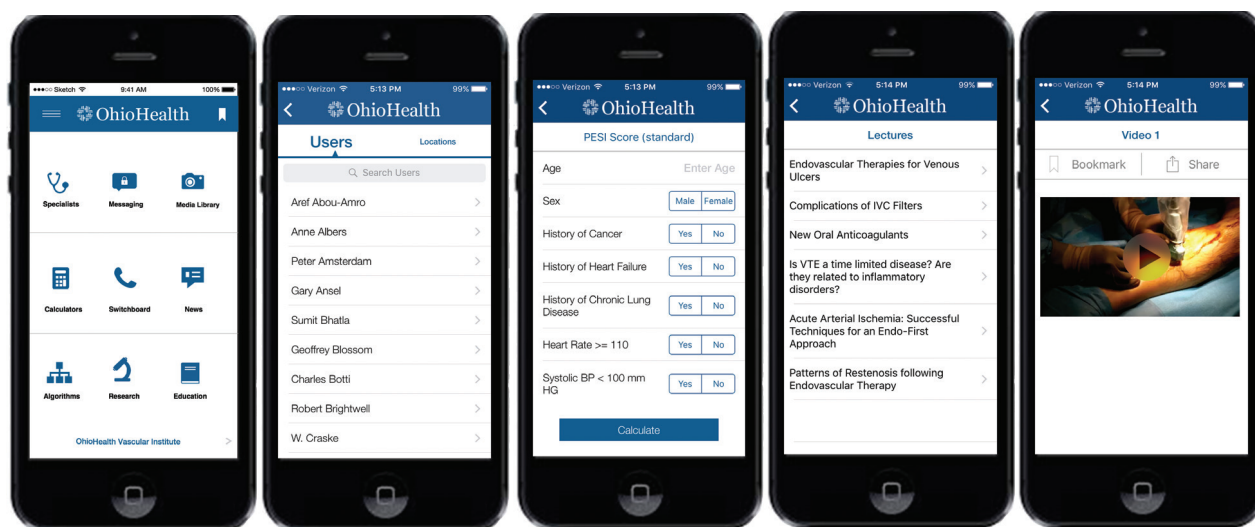
Figure 1. Screenshots of the new mobile app launched by OHVI.

Because OHVI spans across multiple hospitals and outreach clinics in Ohio, finding the location of a nearby specialist can sometimes pose a challenge. The app provides a location-based list of vascular institute members, their specialties, and contact information to enable a referring physician to quickly communicate with an OHVI specialist using the app's HIPAA-compliant messaging feature, either with a simple text message or by attaching an image to convey the nature of a disease or its stage.

Members of the OHVI are involved in more than a dozen clinical trials at any given time. The app has important implications for research through its real-time updates to information about ongoing clinical trials. This enables physicians to learn of trials that potentially could benefit their patients, including details of the trial and inclusion and exclusion criteria, all at their fingertips.

Leaders of the vascular institute note that the app provides a forum for sharing collective knowledge and clinical recommendations, thereby propagating expertise in order to improve patient care. The direct messaging "shortens the distance" between referring physicians and institute members.

Implementation practices for enterprise mobile apps within health care organizations are associated with varying levels of adoption. Keeping the app simple and easy to use improves this adoption process. The app's user-friendly functionality resulted in quick and immediate adoption by institute members.

OHVI is working to expand the functionality of the app with the following future upgrades:
- Discussion board that will allow referring physicians to send messages to the entire institute and speak with multiple specialists at once
- Improved search capabilities to find a physician by location, procedure, and specialty
- Insurance information by provider, including copays
- Continuing medical education opportunities along with appropriate credits
- Additional data on clinical trials
- Multiple levels of security to allow health care providers, such as RNs, catheterization laboratory technicians, and sonographers, to access the app
- Synchronized on-call schedule
- Vascular news feed and announcements via push notification
- Indications for noninvasive vascular testing and guidelines for surveillance

SUMMARY

Physician willingness to embrace the latest technology, such as the vascular institute app, has the potential to reframe patient care, making it more efficient, effective, and value driven. The OHVI app is now available for physicians to download from the App Store for iOS devices and from Google Play for Android devices at no charge. ∎

To learn more about the OHVI app, visit MedProfessionals.OhioHealth.com/OHVI.