

MOBILE MEDICINE AS EFFICIENT AND EFFECTIVE INTERCULTURAL HEALTH COMMUNICATION PRAXIS

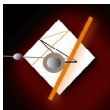
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Mobile medicine is a tablet-based, collaborative learning paradigm, applying principles of telemedicine to leverage mobile, affordable, and ubiquitous Wi-Fi enabled devices. Through the use of video conferencing to transfer relevant medical knowledge, mobile medicine processes facilitate customizable peer-to-peer (P2P) medical consultation across rural, underserved, and urban communities.

Although some platforms are HIPAA-certified to ensure patient privacy and information security, which is considered a component of providing ethical care, the increased need for care and the decreased availability of medical personnel in some remote and under-developed countries may supersede patient privacy expectations. Real-time P2P video consultation sessions are not usually recorded or archived, for instance, thereby mitigating some patient data security issues or ethical breaches.



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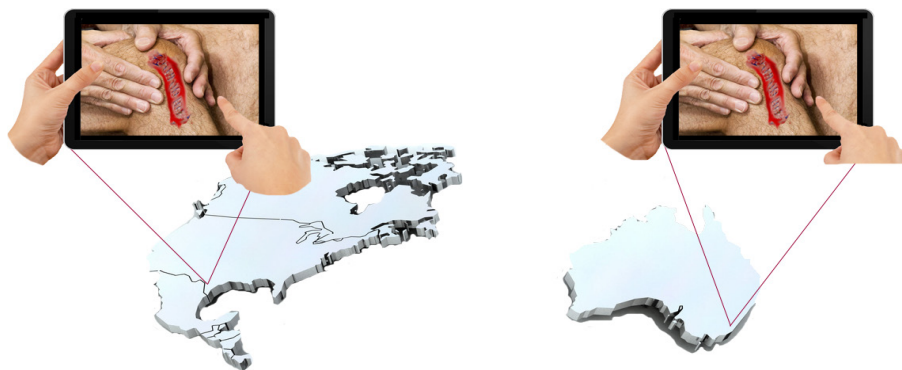
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The healthcare industry is just beginning to understand and implement mobile medicine praxis, and absolutely must explore further system-wide application. Utilizing mobile medicine effectively and efficiently over geographical distances and between a variety of cultures can establish and strengthen intercultural healthcare communication globally, educating clinicians via exposure to remote case studies, as well as educating patients with greater access to medical expertise.

Dermatology clinical practice, for instance, relies extensively on visual information (Whited, 2001, p. 59; Williams *et al.*, 2001, p. 145), as do several other healthcare specialties, making them well-suited to utilize recent advances in mobile tablet devices that offer higher resolution retina displays and video conferencing applications, such as Apple's FaceTime®. Similar to placing a cellular phone call, healthcare professionals with camera-ready mobile devices, videoconference technologies, and reliable Web 2.0 access may open a live, real-time, mobile, audio-video connection while examining a patient during a routine office visit or at a patient's hospital bedside (see Figure 1).

Figure 1

Mobile medicine collaboration



In medically advanced countries, mobile medicine praxis offers new opportunities for P2P medical consultation, while supporting traditional social constructivist and problem-based learning (PBL) learning models familiar to healthcare professionals—patients and practitioners work together to socially construct etiologies and identify diagnoses. PBL is a student-centered approach to learning, designed to create practical and personally motivating assignments (Gallow, 2012) and “just-in-time” diagnoses. The fact that “a whopping 75 percent of US physicians own some form of Apple device” (Miliard, 2011) suggests that both interest and infrastructure can be easily put into place. Further, the Apple FaceTime® platform is “HIPAA compliant and encrypted” (Chan, 2011), which has garnered support from clinicians in urban centers and industrialized nations. Other platforms, software, and networked solutions will follow.

If developed, tested, and utilized effectively, such paradigms will augment healthcare delivery efforts in rural and geographically distanced clinicians, using principles of media naturalness to approximate face-to-face (F2F) communication as closely as possible. This will expand divergent thinking, motivating patients to be more proactive, and align several universal designs for learning approaches, mitigating any ambiguity and enhancing cultural acceptance of virtual interaction. A patient with a unique condition in Stratford, Texas, could be digitally presented, in real-time, to a specialty physician in Houston, Texas, nearly as authentically and perhaps even more conveniently and cost-effectively than being F2F.

Such protocols can, further, be designed to implement global delivery of medical care to underserved and undersupplied communities. “According to the WHO, among 57 countries, mostly in the developing world, there is a critical shortfall in healthcare workers, representing a total deficit of 2.4 million healthcare workers worldwide” (Vital Wave Consulting, 2009). Many rural areas, such as Ragihalli, India, have strong cellular signals and technological infrastructures (Levy, 2011, p. 2). Thus, a general family practice physician in Ragihalli could seek a P2P consultation from a specialist in Mumbai, Kolkatta, or Bengaluru, and do so from the patient’s bedside, thus supporting inter-regional medical collaboration and increasing self-guided medical learning.

This is readily accomplished using a mobile device weighing a mere 1.46 pounds (662 g) (Apple, 2012). Less expensive mobile devices, such as India’s Aakash, will only increase affordability. And more expansive scenarios of intercultural healthcare communication and international medical collaboration, across borders and natural barriers, may further be realized. For instance, a physician in Puerto Limon, Costa Rica, can receive diagnostic and treatment advice through real-time video from another physician at a major university hospital in Miami, Florida. Conversely, London physicians can collaborate with doctors in developing countries, especially if a patient has returned to the city from that same developing region with unique and unexplainable symptomatology.

It is imperative for telemedicine practitioners, developers, and scholars to realize that the transfer and utilization of relevant medical

knowledge is not concretely situated in a vertical, top-down educational vacuum. Instead, we must embrace multidirectional information exchange across geographical regions, epidemiological populations, medical conditions, and disease morphologies.

Healthcare consultation, evaluation, education, and even treatment delivery could be implemented locally, expanded regionally, and enhanced globally via mobile medicine praxis. And this could be done with ubiquitous, affordable, and consumer-grade devices over already-developed international cellular infrastructures that can emphasize data security and ethical use. ■

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