Guest editors’ introduction

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The unprecedented proliferation of mobile devices and the growing innovation and sophistication in mobile software applications to address healthcare priorities have evolved into a new mobile health field. Mobile health is a general term describing the use of mobile applications, mobile devices, or other wireless technology in healthcare. Mobile health adds modern technology advances to healthcare systems to let users exploit health information and healthcare services anytime, anywhere.

The Mobile Technology Boom
According to the Gartner group, more than 200 new tablets and 250 new smartphones were introduced globally in 2011. Furthermore, according to a recent study by the International Telecommunication Union, there were 5.9 billion mobile-cellular subscriptions in the world in 2011. This translates into a penetration rate of 87 percent worldwide and 79 percent in the developing world.

The penetration of mobile phone networks in many developing countries surpasses other infrastructures, such as paved roads, electricity, and water. While people in developed countries usually use mobile-broadband networks in addition to a fixed-broadband connection, mobile broadband is often the only access method available in developing countries. The growing reach, power, and convenience of mobile devices will make them the platform of choice for functions once limited to home and work computers. The growing sophistication of mobile applications and databases is transforming the way health information is accessed, delivered, and managed.

In this Issue
Mobile technology is poised to revolutionize the healthcare industry. In this issue, we focus on medical information processing and health information delivery.

Mobile health technologies provide significant benefits during natural or human disasters. The first article, “People Locator: A System for Family Reunification,” describes a system to mitigate the effects of mass casualty events, both natural and deliberate, that periodically occur. One of the disturbing consequences of a natural or human disaster is that people go missing, with distraught family and friends having no information as to their whereabouts. The People Locator provides relevant information to first responders and the public to help track hospitalized disaster victims.
and assist with triage operations, thereby helping reunite families.

The next article, “MedlinePlus Connect: Linking Health IT Systems to Consumer Health Information,” highlights an innovative approach to bringing the rich, consumer-friendly information from MedlinePlus.gov to patients and providers at the point they need it in a patient portal, electronic health record, or health IT system. The new approach leverages coding standards used by health IT systems and healthcare organizations to achieve context-sensitive information delivery. Furthermore, it helps healthcare providers in their efforts to achieve meaningful use of health IT.

The lack of reliable, interactive, and always available communications presents constant challenges to the deployment of enhanced mobile health services. To overcome this limitation, the third article, “M-Hippocrates: Enabling Reliable and Interactive Mobile Health Services,” proposes a communication technology that simultaneously exploits multiple heterogeneous wireless networks to guarantee the necessary quality of service for communications. The article also discusses guidelines for developing enhanced m-health services and highlights the ability to introduce communication improvement without affecting application logic.

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Finally, “MedlinePlus Mobile: Consumer Health Information On-the-Go” describes a mobile-optimized approach to reach the diverse audience of mobile users seeking health information. The authors first delineate challenges in delivering different types of content through various mobile devices. Then they describe reliable ways to detect individual users’ devices on the fly; discuss innovative approaches to reformat, package, and deliver various digital objects to various mobile devices; and summarize practical mechanisms to conduct comprehensive and multifaceted testing.

We hope these articles invigorate your enthusiasm for and expand your interest in mobile health technologies. We’re looking forward to future mobile health technology innovations and the benefits they’ll bring to human health.

References

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