ExteNet Systems, Inc.

mHealth and Wireless Connectivity

1/10/2011

Introduction

Mobile Health (mHealth) promotes improved patient safety, better quality of care, and enhanced workflow management by using wireless communications to facilitate information flows between patients, caregivers, and clinical systems. By leveraging healthcare IT and broadband wireless such as WLAN, 3G, and 4G (i.e., Long Term Evolution - LTE), a Care Delivery Organization (CDO) is able to provide healthcare services outside of the traditional boundaries of a clinical setting, thereby promoting patient-centered care.

ExteNet Systems offers a compelling value proposition to organizations considering mHealth technology. Our open wireless networks integrate all wireless service providers onto one network for CDOs. ExteNet's network solutions enable highly-available, secure, scalable, and robust wireless networks featuring 24x7 monitoring with a high quality of service. The latter is particularly important to a CDO given increasing regulatory needs to ensure that Covered Entities comply with HIPAA and HITECH privacy and security requirements.

ExteNet's mHealth technology and business solutions are embraced by healthcare facilities throughout Canada and the United States. Across the continent, ExteNet offers mHealth solutions by delivering the wireless service from all the leading wireless service providers to the CDO. We take on all the challenges, risks, and complexities of ownership, including design, construction, installation, operation, network upgrades, monitoring, and maintenance, as well as managing the wireless service providers.

Benefits

At the 2010 mHealth Summit, Aneesh Chopra, the U.S. Chief Technology Officer, announced that "marketplace innovation to move healthcare forward using mobile technology is advancing at speeds that only a short time ago could not be imagined"[1]. mHealth improves patient outcomes because vital biomedical information between the patient and the clinician is continuously available, whether it is bedside point of care or patient-centered care in a medical home environment. Consequently, interventional care may be promptly given if vitals change outside pre-established parameters.

For healthcare organizations, mHealth provides a multitude of benefits. The clinician has virtually real-time access to all necessary information to stay apprised of and to direct clinical workflows. For the Chief Medical Informatics Officer, Meaningful Use (MU) guidelines tacitly demand the use of mHealth. According to the Department of Health and Human Services, MU has five core objectives: improve the quality of healthcare; engage patients and families; improve care coordination; protect the privacy and security of protected health information (PHI); and improve population and public health[2]. mHealth real-time access significantly enables achieving these objectives by supporting messaging and alerts, remote patient monitoring, and location based services to meet public reporting and bio-surveillance goals.

Furthermore, electronic medical record (EMR) systems may automatically log streaming updates from remote patient monitors, aggregate the data, and provide a summary analysis to the patient's physician for review. When an event is triggered (for example, sudden high blood glucose levels), the physician and patient are immediately alerted in order to take remedial action.

ExteNet's mHealth technology and business solutions are applicable both inside and outside of a CDO setting. Within the CDO, our solutions are able to "un-tether" the patient from point-of-care bedside monitors by using wireless instead of wired connections. Not only does this give the patient freedom to travel and move around the care facility (thereby improving quality of life), but it also increases administrative efficiencies through greater personnel and asset utilization. In addition, wireless connections reduce the clutter from cables and wires and remove the requirement for sterilization of the latter. Beyond the CDO, ExteNet's extensible infrastructure solutions ensure that both patients and clinicians can securely use broadband, feature-rich wireless devices and medical monitoring equipment for bi-directional information flows at home, in the office, on the road, and while traveling between facilities.

ExteNet's Solutions are an Investment in the Future of Healthcare Delivery Services

Telecommunications technology continues to advance delivering broadband wireless access at speeds that rival wired networks. User devices that interface to such networks continue to evolve, and now have user friendly form-factors, good battery life, and applications that mirror and replace wired devices with reasonable price points. Finally, interoperability between fixed and mobile networks permits the seamless exchange of voice and data regardless of one's location. For these reasons, it is not surprising that smartphones and portable data devices are so prevalent amongst clinicians.

ExteNet's mHealth solutions facilitate the concept of "medical mobility" given embedded remote monitoring and interventional care capabilities, as they are aptly suited to provide virtually instantaneous monitoring of patients and information. ExteNet's secure networks support high-speed, bi-directional data flows that improve response times by clinicians, and enable the latter to receive patient information faster, supporting timelier decisions in a more efficient manner. In addition to providing the caregiver and participatory institutions access to the patient, ExteNet's approach to mHealth has the ancillary benefit of improving teaching and education by extending the knowledge-based resources of a CDO. As a result, the efficacy of treatment outcomes is greatly advanced. For example, in chronic disease management, patients may reduce visitation to healthcare facilities on a recurring basis by using ExteNet's mHealth solutions that provide communication of biometric data, which speed processing and analytical reporting of disease status.

ExteNet's Approach

Streamlined communications greatly improves efficiencies, lowering the cost of healthcare delivery services, thereby promoting a quick return on investment.

Wireless devices and point-of-presence mHealth applications permit the automatic exchange of data between devices and monitors, encouraging the use of EMRs and promoting Health Information Exchange data sharing, where applicable. This facilitates easier, automatic documentation of both clinician and patient information, lessening the likelihood of medical errors, and thereby meeting a key safety and quality recommendation from the Institute of

Medicine (IOM) and one of the core MU value propositions. Reducing medical errors improves patient outcomes and raises the overall quality of care, assisting in a reduction of malpractice premiums.

ExteNet's open, highly-available, standards-based wireless communication technology provides a wireless framework for clinical and caregiver applications. Our patented, unobtrusive solutions don't disrupt clinical operations, and are aesthetically pleasing. Significantly, the versatility of ExteNet's technology is amplified by the recognition that it has low entry costs for a CDO or healthcare services provider. While others struggle with building mHealth networks, ExteNet is able to meet a CDO's demands for mission critical network availability. Furthermore, ExteNet's relationship with wireless service providers speeds network deployment times.

We would be delighted to tell you more, or you can learn about our indoor and outdoor wireless technology and business solutions at http://www.extenetsystems.com.

[1]Manos, D. (2010, November 9). HealthcareITNews: *IT chief: mHealth moving forward faster than expected*. Retrieved from http://www.healthcareitnews.com/print/20096

[2] Retrieved from http://healthit.hhs.gov/portal/server.pt?open=512&objID=2996&mode=2