Using Wireless Connectivity to Address Health Care Hyperinflation

Mike Holt, CEO and founder of ConnectedHealth

Mike Holt, CEO and founder of ConnectedHealth

The face of medical care in the United States is rapidly changing, and, for health care providers, achieving profitability now depends on managing costs - as opposed to the insurance-driven cost pass through model of days past. Policy changes penalizing health care providers who do not manage costs have been implemented. As a result, health care organizations are seeking ways to reduce physical hospital visits made by patients. A reduction in non-emergent, non-critical hospital visits would result in less costs being borne by the health care provider – costs that are steadily eroding their profitability. Reducing the cost of patient care by keeping patients that can be cared for remotely out of hospitals is a very attractive idea, and wireless monitoring holds great potential as a patient care solution that will help to drive down costs and improve profit margins for health care providers.

Strong Market Drivers for eHealth Solutions
Health care providers agree and are already beginning to deploy remote monitoring and management systems in order to reduce hospital visits. In fact, the wireless home health market is expected to grow to $4.4 billion by 2013.

Remote monitoring also has multiple benefits for the patient, allowing them to more easily comply with their caregiver’s instructions without the added effort of travelling to the health care facility. What if routine procedures such as glucose or blood pressure monitoring could be carried out from the comfort of home? Seamlessly connecting patients with caregivers has the potential of greatly benefiting all parties and, as such, it seems clear that the remote monitoring movement is set to gain widespread adoption. ‘Unnecessary’ hospital visits are the highest manageable costs faced by health care providers – and providers are very motivated to implement wireless patient monitoring.

This article gives an overview of the changes that have occurred in order to enable a next generation, “Phase 2,” of eHealth systems. These changes and technology have enabled the implementation of eHealth platforms that address the demand from health care providers for lower cost eHealth solutions that can scale by leveraging newly created standard communications standards (Continua), utilizing third party measurement devices and using standard, third party health gateway hardware (i.e., Android phones).

What Drives Phase 2 of eHealth?
With the benefits being clear, the question remains: why isn’t this idea taking off? Three hurdles - lack of connectivity standards, interoperability issues and the availability of wireless monitoring devices – have stalled widespread adoption.

To reduce the costs of unnecessary hospital visits, healthcare providers are deploying remote monitoring and management systems. This is a new effort and adoption has been hampered by several factors including lack of connectivity standards, interoperability issues and availability of wireless monitoring devices. Over the past 2 years this has changed via:

- Adoption of industry standards for health care device connectivity.
- Coalescing wireless standards with medical device technology.
- Availability if standard health gateway devices (Android phones)

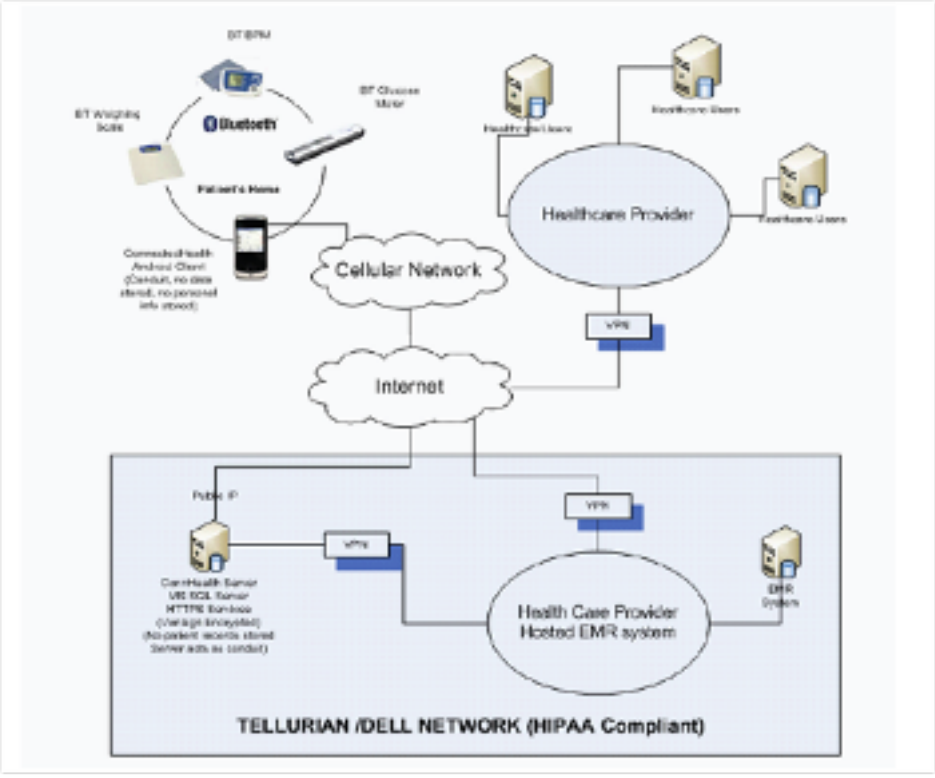
The standardization has opened up opportunities for companies to capitalize on these existing and evolving standards.

Phase 2 eHealth Platforms

eHealth Platforms can address these barriers to adoption. They can integrate into a health care provider's existing patient management systems and enable wireless patient monitoring – at a cost of 25 percent less than existing wireless health solutions. Over the past two years, adoption has been trending upwards due to: adoption of industry standards (Continua), coalescing wireless standards with medical device technology and standardization of PHRs and EHRs.

How It Works

For example, the system from ConnectedHealth is shown below. ConnectedHealth is the first to leverage standard connectivity technology to provide support for third-party devices (i.e., scales, glucose and blood pressure monitors). This provides secure, HIPAA-compliant connectivity from device to health care provider electronic record systems.



The System Includes**:**

• **Health Gateway**: Uses Android phone and ConnectedHealth SIM card for data connectivity, configured to automatically boot up and start ConnectedHealth's Health Manager Application.

• **Bluetooth Medical Devices**

The Health Gateway communicates seamlessly with Bluetooth medical devices. Currently, the following medical devices will be supported 1) Bluetooth Weighing Scales 2) Bluetooth Blood Pressure Monitors 3) Bluetooth Glucose Meters and 4) Bluetooth Pulse Oximeters. Additional devices such as Spirometers, Pill Dispensers and pedometers are being added.

• **Android HMA** (Health Manager Application "HMA")

The Android HMA is an application developed by ConnectedHealth which will be pre-installed on the Android Phone. The role of the HMA is to act as a gateway routing data from medical devices in the patient's home to a central Electronic Medical Record housed at a secure site, and accessible by the Managed Healthcare organisation.

• **eHealth Server**

The eHealth Server is the conduit between patient data transmitted from the HMA and the EMR system. Data from the patient's home is transferred via the cellular network, to the ConnHealth Server. Data is then packaged in the HL7 CCR format and transmitted via a secure VPN connection, to the customer's EMR servers.

• **Healthcare Provider**

Once the patient's Personal Health Records are transferred and integrated into the patient's Electronic Medical Record, the data is then part of the data flow and is managed by the Healthcare Organization, according to their treatment regimens and work flow.

In the sample eHealth platform, the patient's glucose, weight, blood pressure measurements and other vital signs are constantly registered and automatically uploaded to the secure server dor access by health care providers. The eDiabetes Portal tracks readings which enables the patient to adjust insulin usage in consultation with their doctor, analyze over time behavior, send reminders for tests and treatments, and alerts in case of potential hazardous conditions.

Where This Is Going

In Bill Gates' recent TED talk, he described health care hyperinflation as the factor that is devastating education budgets and is leading to a pitting of old versus young. It won't be long before $1 out of every $5 in the U.S. economy is spent on health care - despite the U.S. ranking 31st in the world in terms of health outcomes. Addressing health care hyperinflation is critical. Dramatic changes are needed. Using communications technology enables these changes without changing what patients do now. Using volume platforms (like Android phones), connectivity standards (Bluetooth Continua) and integrating data into existing health care systems enables a "Phase 2" approach to eHealth that greatly reduces the cost of patient care. To meet these needs, companies like ConnectedHealth, along with medical device suppliers, are working with health care providers to reduce the cost of health care by seamlessly connecting care givers, patients and suppliers using wireless device to web connectivity.

www.connhealth.com [1]

Links:
[1] http://www.connhealth.com