DESIGN OF THE VITAL SYNC VIRTUAL PATIENT MONITORING PLATFORM

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Background/Introduction: The recent incentives designed to improve adoption of information technology in healthcare have not achieved the desired effect of improved patient care. To ensure adherence to the timeline required to receive government benefits, many organizations implemented EMRs without taking the time to modify the core technology to work well in the use environments. Even those hospitals with well thought out and implemented systems have come to realize that the base capabilities of most EMRs do little to improve clinical decision support.

Covidien, as the producer of a large percentage of values used to determine patient condition, has created the Vital Sync Virtual Patient Monitoring Platform that is designed to address the enhanced clinical utility that is missing from EMR based systems. The core architecture supports remote real-time monitoring of clinical parameters and alarms and provides a platform for continuous monitoring of changes in patient condition.

Methods: To support development of this platform, Covidien has created the Integrated Patient Intelligence group whose sole focus is development of solutions that address meaningful use and improve patient outcomes. The group has created an architecture that utilizes both wireless and wired technologies to transmit data from medical devices to an integration server that is housed within the hospital IT department. A Web Server is utilized to provide access to data found in the Covidien database thus enabling any number of authorized users access to the captured information in real time. The captured information can be used to show changes in physiologic condition as well as changes to device settings or alarms on any web-enabled device including laptops, iPads, iPhones wherever they may be located.

Results: Within one year of inception, the IPI team has created and released several products that provide clinical utility by capturing and remotely displaying information from many different medical devices.

Conclusion: The IPI technology group, through the creation of the VS VPMP, has created a platform that will actually enable healthcare to reach the desired goal of improved patient care through remote real-time display, workflow enhancements, and clinical decision support.
Vital Sync™ v2.0 High-Level Architecture

Devices (Data Generators)

User Platforms (Information Consumers)
- Tablets
- Central Stations
- Handhelds

COVIDIEN

Data Collector
Informatics Manager
Virtual Patient Monitoring Platform
Informatics Database
Reporting Database

HL7 Interface (Configurable Engine)

EMR