Unleashing the power of information sharing between the EMR and clinical systems

Hardin Memorial Hospital enhances workflow and frees more time for patient care

PHILIPS

Who/where

Hardin Memorial Hospital,
Elizabethtown, Kentucky.

Challenge

Deliver vital signs information from multiple departments and clinical information systems to the EMR system, leveraging the existing ADT system, while enhancing workflow.

Solution

A single, standards-based point of interoperability between Philips clinical systems and enterprise information systems. Philips IntelliBridge Enterprise improved workflow by using ADT information to populate patient information on the devices, and by making critical data available where and when needed.

Table of contents

Introduction 4

Timely data. 6

ICU/CCU eliminates double-charting 8

Bidirectional information 10

Training eases transition 12

Request a consultation >

As hospitals seek to create complete electronic medical records, they often find system interoperability difficult to achieve. In the United States, Meaningful Use standards now demand that hospital IT organizations not only digitize and store various data into electronic medical records (EMR), but that they drive toward EMRs that contain real-time actionable information, and support the measurement of clinical outcomes and quality to improve patient care.

Given this requirement, leaders at Hardin Memorial Hospital, a 300-bed hospital in Elizabethtown, Kentucky understood that the hospital needed an interfacing solution as part of its overall interoperability strategy. Key systems, such as its spot check and real-time, continuous patient monitoring systems, must be able to feed vital signs data into its EMR system, as well as take information from its Admit, Discharge, Transfer (ADT) system, to provide consistency of patient registration and patient matching information.

Lester Haney, biomedical specialist, and Jenny Horn, RN, clinical informatics program manager, had three main criteria for the interoperability solution. First, they wanted to populate the EMR with vital signs data so that it was accessible throughout the facility, as well as from physician offices or homes. Secondly, they wanted

to transfer that data in a way that enhanced workflow. Finally, they wanted software that was IT-friendly and would fit into their enterprise IT strategy, which includes leveraging virtualization and existing infrastructure, and capability to expand in the future.

Hardin Memorial chose Philips IntelliBridge Enterprise, an interfacing, software-only solution that provides a single point of interoperability between its Philips systems and the hospital's ADT system, Meditech EMR system and other specialized departmental clinical information systems, such as in the emergency department.

Hear about Hardin Memorial's journey.

Request a consultation >

Timely data

While the hospital was already meeting the meaningful use requirement to document vital signs, switching to IntelliBridge Enterprise helped them do so efficiently. The first stage of implementation focused on the ICU and CCU, where Hardin uses Philips IntelliVue patient monitoring at the bedside, and IntelliVue telemetry systems. These monitoring systems send vital sign data to the IntelliVue Information Center at the nurses' station for viewing by nurses and physicians.

"The ICU/CCU staff records more vital signs at a higher regularity than those on Med/Surg floors. Given the volume and frequency of vital signs charting and the ongoing activities such as titrating drips, it was easier for the ICU/CCU staff to write vital sign data on paper, rather than enter it into the computer in a timely matter," Horn explains. "However, then the physician couldn't see those values in the EMR, and only learned of them when making rounds or seeing them on the EMR considerably after the vital signs were taken.

"As we moved towards a completely electronic record, it was very important to get those (vital signs) values into the record, and for them to be as real-time as possible." – *Jenny Horn*

So as we moved towards a completely electronic record, it was very important to get those values into the record, and for them to be as real-time as possible."

She adds, "Because the implementation was successful in ICU/CCU, and improved nursing workflow, we also implemented IntelliBridge Enterprise on the Med/Surg floors, in the post-anesthesia care unit (PACU), and in same day surgery."

In the PACU, where constant vital signs monitoring is required, vital signs data are sent from the IntelliVue real-time monitors through IntelliBridge Enterprise to the EMR, and charted more frequently. Hardin is able to configure the IntelliVue data timing to send vitals anywhere from every five to sixty seconds in five second intervals, even though the EMR charting needs may only require that vital signs be sent every 5 minutes.

On the Med/Surg floors, Hardin wirelessly sends data from the Philips SureSigns spot check monitors through IntelliBridge Enterprise to the EMR.

Request a consultation >

ICU/CCU eliminates double-charting

Inez Caswell, RN, a 30-year veteran of Hardin Memorial's ICU, states that the biggest workflow advantage of IntelliBridge Enterprise is that it eliminated double-charting. Previously, nurses were recording vital signs information manually on the patient chart, and then entering it manually in the Meditech system. "Now that we can push the vital signs data directly from the monitor to the EMR system, we eliminate those extra steps," she says. "It has given us more time for direct patient care."

Carol Phillips, IT Clinical Analyst, adds that physicians have realized workflow benefits as well. "Occasionally, if a nurse had recorded vital signs manually but hadn't had the opportunity to enter the information into the system, the physician would have to track down that person," she says. "Now he or she can access it from the EMR, from any location and at any time, and have a single, integrated clinical view."

Having real-time or near real-time data flow directly from the point of care at the monitoring system, through IntelliBridge Enterprise into the EMR is a key part of a solid interoperability strategy.

Nathan Ernst, ICU/CCU Nursing Manager, points out that as more physicians move to an electronic chart, they are seeing the benefit of accessing vital sign data from home or before they arrive for rounds, which also improves workflow and enhances patient care. "We've had physicians ask to see vital signs every hour or so to follow patients they have concerns about," he notes. The system also eliminates problems with legibility that occurred when busy staff didn't mark the paper flow sheets neatly.

Request a consultation >

Bidirectional information

IntelliBridge Enterprise offers bidirectional flow, so in addition to pushing vital signs data to the EMR, it can transmit ADT data to the monitors.

"The ADT interface is critical because if only the V (or visit) number is manually entered into the monitoring system, it's possible that an error could occur," Haney says. "If that happens, then our nurses could have difficulty matching the vital signs data correctly in the clinical information system or in the EMR."

He explains that currently in the Emergency Department, ED staff may not admit a patient immediately, because often time is critical and patient care comes first. "This becomes a problem when they must admit the patient to a unit bed from the ED, and the nurse may not get ADT information," he says.

Haney notes that the hospital has solved this problem by using barcode bracelets in the ED that contain the V number.

"Now that we can push the vital signs data directly from the monitor to the EMR system, we eliminate double-charting. It has given us more time for direct patient care." – *Inez Caswell, RN*

Once scanned, the units have the correct V number, and can use that to pull ADT information to the monitors. This increases efficiency, because the nurses don't need to enter patient demographics. "That's our temporary solution, but our plans are to interface to T-System's emergency department information system in the ED through IntelliBridge Enterprise in the future," he says. With the IntelliBridge Enterprise, Hardin will be able to interface several different types of Philips solutions with multiple clinical information systems, gathering critical patient data from the point of care and connecting caregivers to the information that matters.

Haney says that implementing an interoperability solution as far-reaching as the one at Hardin requires both a strong clinical engineering department and a strong IT department. "Both groups have to understand what the hospital is trying to accomplish, both from a technical and clinical standpoint," he says. "The partnership is essential to making this work."

Request a consultation >

Training eases transition

While the staff initially reacted to the move to digitizing information with IntelliBridge Enterprise and their EMR with both apprehension and excitement, Ernst credits the training his department provided with helping to ease the transition. "We did one-on-one training to show people what to expect, and to explain the capabilities and how to be successful," he says.

He advises others making the transition to an interoperable, connected patient care system to begin training early and implement it in phases. "In retrospect, I think we would have benefitted from conducting an initial training, followed by hands-on practice time and follow-up training before it went live," he notes. He adds that it is essential to make sure that both physicians and staff are made aware of the change at least a month ahead of time.

Caswell adds that the transition was a particular concern for those nurses who had many years' experience with paper recording. "We worried that something would get overlooked, because we were moving information from one computer to another, rather than writing it on the chart," she explains.

In particular, she says, it took some time to get used to the flow sheet, which presented information differently than the paper version that they had used.

Now, however, she is pleased with IntelliBridge Enterprise sending data directly from the monitoring systems to the EMR. "The system is good, and it does free up time for patient care," she concludes. "My advice to other nurses is to not get hung up on the old way. If you let the system work for you, it is good for the patients."

Request a consultation >

Philips Healthcare is part of Royal Philips

How to reach us
www.philips.com/healthcare
healthcare@philips.com

© 2014 Koninklijke Philips N.V.
All rights are reserved.

Philips Healthcare reserves the right to make changes in specifications and/or to discontinue any product at any time.

4522 991 03421 * JUN 2014

Disclaimer: Results from case studies are not predictive of results in other cases. Results in other cases may vary.