

# True Integration

Greater interoperability is central to reaching winning outcomes for patients, practitioners and hospital administrators.

By Jeff Pelletier

Now, more than ever, the entire world is relying on technology to improve quality of life and respond to the constantly changing demands of a fast-paced society. From hybrid cars to the convergence of voice, video and data capabilities, technology continues to enhance everyday experiences. And the health care industry is no exception.

Though hospitals are increasingly turning to technology as a resource to improve workflow efficiencies and patient safety, the industry can do more to realize the potential of a truly integrated health care environment. Communication, or interoperability, between medical systems is a key factor in providing quality health care.

Interoperability delivers a holistic view of a patient's medical history and medication administration, much like a car dashboard. For example, hospital networks can be designed to support communication among medical devices at the patient's bedside, the hospital pharmacy and a patient's medical records.

The opportunity for this detailed level of communication comes at a time when the Institute of Medicine of the National Academies sees preventable medication errors affecting more than 1.5 million Americans each year.

## **The path to interoperability**

Many hospital devices communicate to address medication delivery errors where they most frequently occur — when medication is ordered and when it is administered. Highly interoperable hospital technology allows clinicians to link medication administration data to a patient's electronic health record by scanning a barcode on a patient's wristband, the medication and the infusion pump. The scanned data is then automatically routed between the infusion pump and the hospital information system, resulting in safe and timely medication administration. The end result: decreased chance for dosing errors and reduced programming time.

Additionally, infusion pumps equipped with medication management software check that the programmed medication administration request is within the hospital's predefined drug dosing limits. Connectivity between devices can also help improve the time it takes to respond to a potentially serious adverse drug event. For example, if a nurse is working on the second floor, a pager can send an alert that an alarm is sounding on the fourth floor.

Currently, medical devices are not standardized to communicate with all hospital IT networks. To increase interoperability, hospital administrators have to find a medical device manufacturer that can work within the hospital's technology landscape.

<http://health-care-it.advanceweb.com/Article/True-Integration.aspx>

Many medical device manufacturers are forming partnerships. Thanks to organizations such as Integrating the Healthcare Enterprise, which introduced DICOM and HL7 standards to promote communication between devices, the industry is taking steps toward greater interoperability.

Congress is also continuously evaluating legislation that increases government funding for initiatives that promote electronic medical records and other technologies and connectivity efforts that enhance patient safety and health care IT.

### **Quality and safety improvements**

As medical device standards continue to evolve, clinicians will come to rely on one central computer location to analyze vital signs, medication administration status, medical charts and relevant allergies. Likewise, device-to-device communications will enable diagnostic products to help control therapy. For example, an insulin pump could change the rate of infusion in real time based on output from the glucose monitor.

Although clinicians are already employing technologies that improve medication management and job effectiveness, greater interoperability is central to reaching winning outcomes for patients, practitioners and hospital administrators. Interoperability's promise for boosting the quality and safety of patient care guarantees that the challenges of today will soon be a thing of the past. HIE

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