

How Being “Most Wired” Helps You, The Patient

By Christina Johnson | August 25, 2014

UC San Diego Health is among the top 1 percent of the nation’s “most wired advanced” hospitals – not wired as in buzzed and jittery on java but wired as in dialed into information technology and its application to health care.

The designation is an honor: Only 20 of 370 of the nation’s “most wired” hospitals earned the “[most wired advanced](#)” – best of the best – distinction this year.



But what does advanced information technology mean for the patient who comes through a hospital door? How does the ability to store, retrieve, transmit and manipulate huge amounts of data faster than ever affect your care?

The short answer is that information technologies are eliminating some medical errors and bringing potentially life-saving information to doctors and nurses faster and more efficiently.

A case in point is the hospital patient identification band. The iconic white wrist band looks pretty much the same as it did 40 years ago with a major

exception: It now sports a tiny barcode.

This digital fingerprint matches each patient to his or her electronic medical record and, along with other measures, has made it virtually impossible to give the wrong medication to a patient in the UC San Diego Health.

“We are leveraging innovation and advanced information technology to ensure that the highest level of medication safety is built into our entire continuum of prescribing and administering medications,” said Edward Babakanian, Chief Information Officer at UC San Diego Health.

The procedure for avoiding medication errors goes something like this:

When a doctor orders a prescription, the order is entered through the patient’s electronic medical record and transmitted to a pharmacy.

A pharmacist checks for dosing errors, allergies or contraindications with other medications or conditions. If the order is approved, the medication is then bar-coded and an alert is sent, notifying health care providers that the drug is ready for pick-up. To open the secure automated dispensing cabinet, doctors and nurses must swipe their badges, which are also bar-coded.

Before the medication is administered, the health care provider's badge is scanned, as is the medication and patient ID band. The process is a bit like opening a safe: All of the codes must match.

The closed-loop safety measure is possible because UC San Diego Health has completely transitioned to electronic medical record-keeping.

In health care lingo, that means UC Health System has earned a HIMSS Analytics Stage 7 award. Only about 2 percent of the nation's hospitals in 2014 were at this stage of sharing patient data, without paper.

"The awards we have won for our IT capabilities are a way for us to be recognized for having leveraged technology as a tool for providing the safest care possible," Babakanian said.

In some cases, technologies are improving patient care while the patient is still en route to one of our hospitals. "UC San Diego Health was the first in the area to employ wireless communication between ambulances in San Diego and emergency rooms," Babakanian said.

"When emergency services begin measuring a person's vital signs, the data elements are digitized and sent to a data hub that interfaces with our emergency room. This means that if a patient is having a heart attack, our emergency department staff can begin to set up the appropriate equipment in advance of the patient's arrival by ambulance."

Similar technologies that interface between monitoring devices and patient medical records are used in intensive care units.

Diagnostic imaging has also been a beneficiary of the digital revolution. Imaging, such as X-rays, MRIs, CT scans and mammograms, are now mostly conducted in digital formats, no film required. With sufficient bandwidth, these digital files can be sent securely to doctors almost anywhere instantaneously and can be included permanently in a patient's medical record.

"It used to be that it would take days for a doctor to get the results of an MRI," Babakanian said. "Now it is virtually instantaneous."

Not just imaging equipment, but also glucometers, urinalysis machines, some types of blood testing equipment and IVs are computerized, performing their tasks with robotic efficiencies and delivering results at lighting speeds.

"It is not that capturing information electronically is a treatment, but if your health care team has access to the latest information available, they can formulate a more informed course of action,"

Babakanian said. "Without information, treatment is impossible and wrong; incomplete information can lead to the wrong treatment."
