

Guest Editorial
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**Why business leaders worry about medication errors:
And what they can do about it**

For a doctor, the difference between a prescription for “10 mg of Colchicine” and one for “1.0 mg of Colchicine” is the placement of one decimal point. For a patient, the difference between the two prescriptions is the difference between life and death. A dose of 10 mg would likely cause Colchicine poisoning, which has been compared to arsenic poisoning: symptoms start 2 to 5 hours after the toxic dose has been ingested and include burning in the mouth and throat, fever, vomiting, diarrhea, abdominal pain and kidney failure. Onset of multiple-system organ failure may occur within 24 to 72 hours.

Gruesome as the consequences may be, it’s easy to see how this error could be made by a physician writing dozens of prescriptions a day. Indeed, medication errors are the most common errors in hospitals, with an estimated one million serious medication errors made each year, contributing to 7,000 deaths.

A good body of research suggests the best-known method for reducing those errors is a technology called computerized physician order entry (CPOE). The physician enters orders for a patient on a computer that contains patient information including key lab values, clinical condition, etc, and the computer processes the order. The computer will alert physicians to the misplaced decimal on the Colchicine order, or other common errors.

The urgent case for more rapid CPOE adoption is compelling: the literature suggests errors decline by as much as 85% when hospitals implement CPOE. Unfortunately, progress by hospitals in adopting CPOE has been slow. Leapfrog, which represents employers and other purchasers of care, is the only organization actively monitoring CPOE adoption. We find that only about 12 percent of hospitals have adopted CPOE in any inpatient unit.

To accelerate use of lifesaving technology, the federal government has designated funds from economic stimulus legislation to help hospitals adopt this technology.

But all the emphasis on hospital adoption of technology has obscured one important lesson that business leaders in other industries know well: Technology does not automatically work as promised. It must be implemented strategically, engaging and training all the stakeholders who use it. And it must be monitored to make certain it works as promised. While this seems a logical extension of CPOE adoption, it was not until Leapfrog launched a test of CPOE systems that a tool was available to hospitals to test and compare the performance of their CPOE systems.

This is not a minor issue. These new Leapfrog evaluation results reveal that when 214 hospitals used the simulation, as many as 52% of simulated orders that would result in adverse events were not flagged by their CPOE systems. About one-third of simulated orders that would have resulted in patient death were not flagged by the systems.

The Leapfrog test cases, part of the voluntary annual Leapfrog Hospital Survey, are not the cases of real patients. But simulation proves that CPOE systems are far from foolproof. The good news is that hospitals that deployed the test a second time almost always showed improvement the second time. They identified flaws in their systems and corrected them.

It is imperative that several things happen. First, stakeholders must come together and lay out the best practices for implementing CPOE for all to see. Competition has its place in health care, but when it comes to patient safety, collaboration should trump competition every time. Today, many hospitals rely on their vendors for instruction and full implementation. But CPOE adoption is too complex for a proprietary approach. Adoption requires experience with management and change within the hospital system—and that is one of the toughest challenges in any hospital.

Second, federal investment in health information technology should require monitoring of system effectiveness and quality. Any definition of meaningful use without that requirement would be a loss for patients, hospitals and the health care system as a whole.

Finally, purchasers should be monitoring whether the hospitals their employees use have CPOE, how well it performs and if it is monitored and adjusted on a continuous basis. We know CPOE is better than no CPOE, but we also know that unmonitored systems can defeat all of our effort to make patient care as safe and efficient as it can possibly be. The solution is within reach, but we must resolve to get there the right way.