

Peninsula Regional Medical Center Uses Medication Safety Results to Present an Iron-Clad Case for CPOE



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An Adoption Argument

When we started rolling out a [computerized physician order entry](#) (CPOE) system at [Peninsula Regional Medical Center](#) in 2005, I felt that I had a solid argument for adoption.

As the chief medical information officer, I told physicians and other caregivers that the CPOE system would help us to minimize errors and provide safer care to our patients. Plain and simple, I thought playing the patient safety card would be more than enough to persuade clinicians of the need for change.

With *To Err is Human*, the Institute of Medicine's landmark report, and a number of other subsequent studies pointing to the need to reduce medical errors, I thought this argument would resonate with clinicians.

Electronic systems can minimize errors due to misinterpreted handwriting – a legendary problem with physician-written orders – and improve communication among caregivers. These factors alone made CPOE adoption a logical next step in the quest for improved safety.

A Theoretical Thorn

One physician, however, said he would not use the system until I could unequivocally prove to him that CPOE could, in fact, improve medical care at Peninsula Regional. In essence, he demanded a well-rounded Aristotelian argument that included not only emotional and logical appeals but concrete data as well.

My work was cut out for me. I would have to get clinicians to adopt CPOE by documenting real-world results.

As a result, I took a methodical approach to decision support — starting with the orthopedic department. I reasoned that these physicians would be most amenable to CPOE because they practice medicine in an evidence-based manner. A "peer-to-peer" training program also helped get physicians, nurses and pharmacists up to speed quickly.

Real Results

Most important, we leveraged key interdisciplinary teams — one focusing on anticoagulants and the other on narcotic medications. Focusing our CPOE efforts on use of these medications would help the hospital achieve some significant patient safety wins and reduce some of the dangers associated with high-risk medications.

These teams, which comprise physicians, nurses and pharmacists, have created a series of Web-based interactive forms in the CPOE system. We use the forms to guide advanced orders and prompt clinicians to adhere to specific protocols and safety standards.

By using CPOE with high-risk medications, we've been able to:

- Eliminate concurrent orders of heparin and lovenox, a combination that results in potentially dangerous complications. The two medications were ordered concurrently three times between January and June of 2009, but were prevented when a CPOE order that stops concurrent orders was put into play.
- Reduce the number of patients with elevated INR (international normalized ratio) for blood clotting time from greater than 20% to about 10% in a one-year period.
- Increase compliance with an accepted heparin protocol by 60%, greatly improving anticoagulation management.
- Achieve a 19% reduction in adverse drug reactions with dilaudid, a highly overused and potentially dangerous narcotic medication.

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Just the Beginning

These results have made it possible to convince the naysayers – such as the physician who resisted our initial efforts – that CPOE is worth it. We now operate with 85% CPOE adoption. Instead of spending time trying to persuade clinicians to adopt CPOE, I am working to keep up with the demand for CPOE-driven decision support.

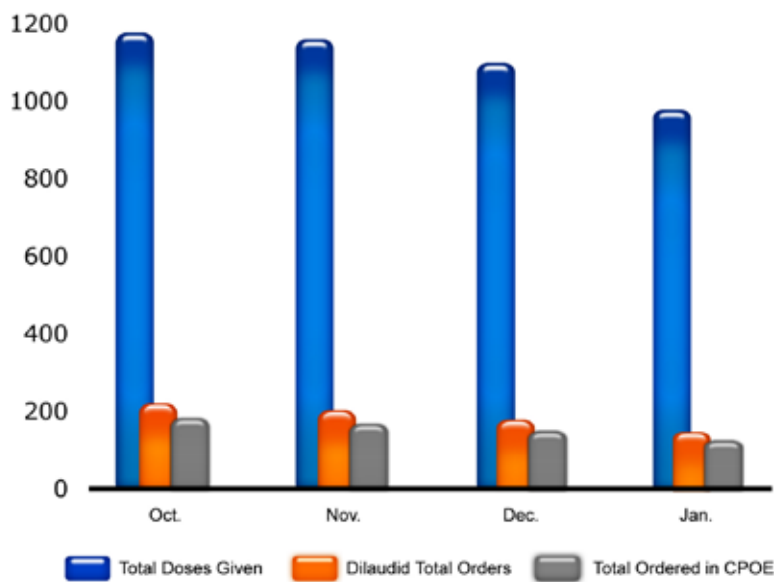
Demonstrating these strong results has also made it possible to gain even stronger organizational support for the CPOE initiative. As evidence, in June 2009, the hospital's medical executive committee issued a mandate requiring clinicians to use CPOE.

Because patient safety is such a prominent institutional objective, we are implementing an executive "dashboard" that will make it easy for hospital leadership to monitor the adoption of CPOE and related patient safety results.

Fortunately, with this type of organizational support, we are turning the corner and starting to realize the ultimate promise of CPOE. Instead of focusing exclusively on adoption, we are also focusing on quality improvements and using the system to truly enhance the care delivered to our patients.

Chris Snyder, D.O., currently serves as the chief medical information officer (CMIO) and as a hospitalist at Peninsula Regional Medical Center. Over the last 10 years, he has worked in utilization and performance improvement at Peninsula Regional. He specializes in clinical data mining and physician engagement using evidence-based educational and communication tools.

**Dilaudid Use at Peninsula Regional Medical Center
October 2009 to January 2010**



Since implementing CPOE to order narcotic medications, the total number of dilaudid orders and the total doses of dilaudid have dropped considerably. As a result, Peninsula Regional has achieved a 19% reduction in adverse drug reactions with dilaudid, a highly overused and potentially dangerous narcotic medication.

Learn More

[Lucian Leape Institute Releases “Transforming Healthcare: A Safety Imperative”](#)

[McKesson’s Celebrating CPOE Success Award](#)

[ISMP’s Guidelines for Standard Order Sets](#)

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