

Closed loop medication management for the safety win



Fruzsina Pataky is one of the directors of pharmacy at LMC

“Clinical & Systems Transformation is our chance to have an integrated health information system, as opposed to the hodge-podge of systems we have at the moment. We need to meet the challenge of transferring health information across sites and sectors,” states Fruzsina Pataky, one of the directors of pharmacy at LMC.

Fruzsina is particularly excited that CST will introduce closed loop medication management.

What is closed loop medication management?

It’s a fully electronic medication management process, in which all relevant information is documented seamlessly. “All the steps of the medication cycle are supported electronically – ordering, verifying, preparing and administering – with decision support where relevant. So it’s all about safety,” explains Fruzsina. “Closed loop medication management requires four things: an active medication order; an electronically-identified provider (nurse); a barcoded drug; and an electronically-identified patient.”

Care providers will enter orders directly into the computer, so they’re transmitted directly to the pharmacy for verification and dispensing. “At the pharmacy end, we’ll break down medications into single doses, which are bar-coded. We won’t have bottles of medicines anymore; we’ll have individual, pre-measured doses,” says Fruzsina. Most patients will also have barcodes on their armbands. Each medication order will be linked to the patient’s barcode and the medication barcode. This is to make sure that the right patient gets the right dose of the right medication, at the right time and by the right route (oral, IV, etc.).

Scanning the barcodes will result in the right documentation being entered into the clinical information system.

How else does it help patients?

“No more legibility issues,” replies Fruzsina immediately. “Deciphering handwriting in the paper-based system is a huge issue for us. Also, there’ll be reduced turnaround. At the moment, the medication order sits in a chart until it is faxed, and can sit on fax machines or desks until it’s picked up and processed. Closed loop medication management means clinicians will be able to receive and review orders online. Again, it’s the patient who ultimately benefits.”

Did you know?

Studies have shown that after introducing closed loop medication management or bar-coded medication administration, there was a:

23-56%	• reduction in the number of reported adverse drug events ^{1,2}
45-77%	• reduction in observed adverse drug events ^{1,2}
10%	• decrease in errors causing harm ¹
1 hour	• reduction in the total time nurses spent documenting medication administration per shift ²
71%	• reduction in number of steps in medication administration, from 17 to 5 steps ³

1. <http://healthit.ahrq.gov/ahrq-funded-projects/medication-management-closed-computerized-loop>
2. http://www.gehealthcare.com/usen/hit/docs/WakeForest_ClosedLoopMed_4.pdf
3. Microsoft, Closing the Loop in Medication Management: Why an integrated, closed-loop solution is vital for hospitals, April 2009

Background information

The Clinical and Systems Transformation project is a joint initiative of three health organizations: Vancouver Coastal Health, Provincial Health Services Authority and Providence Health Care. The project is designed to transform healthcare delivery systems and processes to improve the quality and consistency of the patient and caregiver experience. CST will support the health organizations in establishing common clinical and process standards, including work flows, order sets, clinical guidelines integrated plans of care and a common electronic health record. This clinical transformation will be supported by the implementation of a clinical information system that will replace aging existing systems. The project will be implemented in stages across the health organizations.

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