

*As part of our ongoing support of Pharmacy, Pharmaceutical Partners of Canada is proud to bring you a special feature article on the cutting-edge automated drug dispensing system at the William Osler Health Centre.*

**Brampton Civic:**

# On the Cutting Edge of Pharmacy Technology



**At the William Osler Health Centre,  
automated drug dispensing is making the difference.**

## What does the future of medication dispensing look like?

Pharmacists at William Osler Health Centre's Brampton Civic Hospital can show you: it's a multi-million dollar automated system that is revolutionizing patient safety, and changing the way hospitals manage medications.



The **PillPick**<sup>®</sup> system – a whirring computerized marvel of vacuums, conveyors and electronic eyes – is an automated drug dispensing and pre-packing unit manufactured by SwissLog, an Italian company and global provider of integrated logistics solutions.

Sue Alderson, past Director of Pharmacy at William Osler Health Centre (WOHC), had the vision to pursue this exciting new technology, with the belief that streamlining the dispensing process would increase patient safety by reducing medication errors. As a brand new hospital, Brampton Civic was the ideal place to implement new technology. The facility had a chance to start from square one, with everyone on the same page and total collaboration between doctors, nurses and pharmacy staff.



Sue Alderson believes that the PillPick<sup>®</sup> system will significantly reduce medication errors.

## How does the new PillPick<sup>®</sup> technology work?

PillPick<sup>®</sup> is a 100% barcode-enabled solution that supports centralized, decentralized, and hybrid pharmacy operations. The system receives electronic patient medication orders, sorts them by priority, and automatically creates individual doses by retrieving and portioning drugs that are stored in its drug nest, a high-density drug storage warehouse. The drug nest stocks the hospital's medication dosages required for that hospital's inpatients for 3 days. Every patient-specific drug dose is assembled on a Pick Ring<sup>®</sup>, a plastic ring that keeps doses secure and in chronological order. The final output is a bar-coded, chronologically organized 24-hour supply of all the medications required by an individual patient. At maximum capacity, the system can create 1,100 doses per hour, and more than 8,000,000 per year.

The main objective of PillPick® technology is to minimize human intervention in the dispensing process, thus dramatically improving patient safety. And the PillPick® “robot” has arms and legs that reach beyond the pharmacy: via MediTech – the hospital’s internal communication conduit – PillPick® is linked with other systems throughout the hospital, such as the Pyxis MedStations located near each nursing station. These automated drug cabinets are capable of communicating with the PillPick® robot and automatically requesting the replenishment of selected pharmaceuticals. Pyxis cabinets are password and fingerprint scan-secured for the management of controlled and narcotic drugs, adding an additional layer of validation. As well, the PillPick® is the supply source for the hospital’s mobile dispensing carts called MedCOWs – short for Medication/Computer On Wheels. These rolling medication stations allow nurses to efficiently transport, track and administer drugs in the course of a day.

Krystin Szymkiewicz, Manager of the Brampton Civic Department of Pharmacy, worked behind the scenes to bring the PillPick® system to Brampton Civic. She says that the innovative new systems are really the foundation for hospital-wide technological and process changes to come.

“The advantages of PillPick® aren’t just felt in the pharmacy. It’s a system that benefits the entire hospital, making it possible for us to move to the next level. It’s all about patient safety, and we’re excited by the potential.”

Ms. Szymkiewicz says now that the system is in place, the goal is to increase the capacity of automated dispensing over time.

“At the moment, about 60% of meds come from the robot, but we’d like to eventually achieve 90%. We also want to be able to do order entry from anywhere in the building. The machine gives us the potential to do that.”

Pharmacy staff are quick to point out that automated drug dispensing enhances patient safety in more ways than one. Apart from eliminating possible human errors in the dispensing process, outsourcing it to the PillPick® will, in time, enable the pharmacy at the Brampton Civic site to “decentralize” their pharmacists and pharmacy technicians so they can work more closely with other healthcare staff.

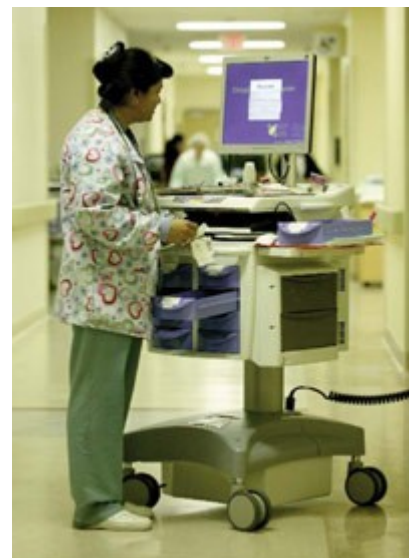
“A pharmacy technician’s place has traditionally been down in the pharmacy, but this new technology means they can be decentralized”, says Ms. Szymkiewicz. “Nurses now have greater access to pharmacy services, which can help them solve medication problems and get answers to drug access related questions quickly. This team approach enhances job satisfaction, saves time, and increases the level of patient care. It’s a win-win-win situation.”

The system has also had a positive influence on the way nurses deliver care to patients. Nurses spend about 25% of their time interacting with drugs. With the new system, the robot will manage the drugs while nurses manage patients. The result is that nurses will be able to focus more on providing outstanding patient care.

Although it will likely be years before the full potential of automated medication dispensing is realized, the new system at Brampton Civic Hospital has gone a long way towards fulfilling the Medication Management Committee’s vision for the future.



PillPick® operates 24 hours a day, creating more than 8,000,000 patient-specific doses per year.



Mobile “MedCOW” units enable nurses to efficiently transport, track and administer drugs.

Ms. Szymkiewicz says the staff at William Osler Health Centre are proud to be blazing a trail to the future of patient safety in Canada.

“In time, our barcode-enabled automated dispensing will mean we can implement bedside verification systems whereby a nurse is assisted by technology in the administration of drugs. Eventually, nurses will scan the barcode on a unit dose that’s been prepared by the robotic system, scan the patient’s electronic medication administration record, then the barcode on the drug, and then the patient’s wristband, to ensure that he or she has the right patient, the right drug, the right dose, and the right route at the right time.”

**As one of the largest community hospitals in Ontario, William Osler Health Centre’s Brampton Civic Hospital has been chosen as a Canadian trial site for the PillPick® automated medication management system. The hospital celebrated its first year of operation in October, 2008.**



Pyxis MedStations throughout the hospital “communicate” with the PillPick system, and provide secure access to controlled and narcotic drugs.

