

**GOAL 5: INCREASE THE EXTENT TO WHICH HOSPITALS AND RELATED HEALTHCARE SETTINGS APPLY TECHNOLOGY EFFECTIVELY TO IMPROVE THE SAFETY OF MEDICATION USE.**

Document imaging technology was implemented at Trillium Health Partners in January 2013 to achieve multiple goals. Our ultimate goals were to improve patient safety, decrease the time orders took to reach the pharmacy department, and to help with version control of order sets within the hospital.

**BACKGROUND**

The need for this initiative stemmed from an internal review into the current process of receiving medication orders from patient care units, which revealed three key areas for improvement. The first involved risks to patient safety resulting from unintentional marks on the duplicate copies of order sets due to shifting of the carbon paper copies, orders received with poor or no addressographs, and the lower quality of orders received via fax. Secondly, there was a need to improve the amount of time it took for orders to reach the pharmacy department. It was found that the time the physician or healthcare professional initially wrote the order to the time the medication left the pharmacy department was greater than 12 hours. The majority of this time delay was due to the time it took orders to come to pharmacy. Thirdly, The Mississauga Hospital relies heavily on order sets to provide each healthcare professional evidence-based choices for their patients. When order sets are reviewed and updated, new paper copies are available from the print shop for units to obtain. However, it was determined that some units do not always receive these updates and may have older versions of the order. Consequently, these units may not be following the most up to date guidelines and best practices for our patients.

**METHOD**

The document scanning software consists of two components that have helped address these goals. The vendor created a web based application to store all the order sets within our hospital, so the nurses, unit clerks, or physicians could use this application to look up their patients and print off the order set with patient specific demographics. The physician or nurse could then fill out the order and scan the order to pharmacy. The secondary software installed within the pharmacy allows for these scanned orders to appear every sixty seconds into a queue. Therefore, the overall time for orders to be received by the pharmacy has been significantly decreased. In addition, the orders appearing to the pharmacist have clear patient demographics and medication errors due to unintentional marks secondary to bleeding through to the carbon copy have been eliminated.

The Pharmacy department led this project with a technician team leader (Natalka Jewusiak) and Pharmacist (Betty Abraham) as the co-leads. The co-leads designed their team to include information technology, unit clerks, front line pharmacists and nurses. The project was an organization-wide roll out,

Document Scanning Technology: Hospital Wide Initiative for Improved Patient Safety  
Betty Abraham, BSc PharmD, Medication Management Pharmacist  
Natalka Jewusiak, BSc, Pharmacy Team Leader

starting with a test unit at the Mississauga Hospital, and eventual role out to the Mississauga Hospital and Queensway Health Centre sites, with Credit Valley rolling out in the upcoming months.

Prior to implementation of document scanning, baseline data was collected looking specifically at the overall turnaround time. The time from initial order written to the time the medication left the pharmacy department was greater than 12 hours. We also collected orders that came to the pharmacy department with no patient demographic information and medication orders that were incorrectly entered onto patient profiles due to unintentional markings on the pharmacy carbon copy received. Analysis of the all data collected provided the evidence needed to substantiate an initiative to implement document scanning.

Initially, the team decided to begin document scanning on a single unit as a trial for several months in order to see how it would impact the workflow of the unit. We also hoped to obtain feedback from the unit clerks, nurses and physicians on how the document scanning software fit their needs and where improvements were needed. The trial also allowed the pharmacy department to become accustomed to viewing orders electronically and deal with workflow issues within our order entry area. As well, this trial enabled us to give feedback to our vendor to enhance the software to make it more applicable to the needs of the pharmacy department. The feedback sent to the vendor resulted in changes to the initial document scanning software thus extending the trial past the time predicted.

In January 2013, document scanning was rolled out to units with in the hospital. Our team decided to roll out document scanning in groups; approximately 8-10 units were rolled out every other week. All nursing and unit clerks needed to be trained on how to use the software, so we adopted a super user methodology. The two co-leads along with the vendor educated a select group of nurses and unit clerks to use the scanning software and web application. After this group was educated, it was their responsibility to disseminate this information to the rest of their units. We trained one week and then went live on the units the following week. This allowed the units, as well as, the pharmacy department another week to become comfortable with electronic orders before rolling out to the next group of units. Document scanning was rolled out to the majority of the hospital (excluding the Emergency and Intensive Care Unit) by the middle of March 2013.

## **CONCLUSION**

Our initial findings show that we have achieved the goals set out at the beginning of this initiative. Through the same audits done prior to implementation, we were able to see a decrease in overall turnaround time by approximately three hours (Appendix A). Feedback from the nursing units indicates they are receiving the medications for their patients in a more timely fashion. Order entry errors have been minimized and patient demographics are now clear and legible for the pharmacists to enter. All order sets kept in our vendor library are now the most current, so pharmacists, nurses and physicians can be assured that they are following the most up to date order sets. Ultimately, the document scanning initiative is allowing our patients to get the appropriate medications in a safe and more timely manner, therefore improving our overall quality of care.