

Transforming the Pharmacy:

Using Technology to Improve Patient Care

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Introduction

Traditional prescription filling process is manual and labor intensive. Pharmacy automation offers a viable solution to handle high prescription loads safely, in an organized and efficient manner. Since November 2012, full end-to-end automation of the Pharmacy workflow was implemented in the SGH Outpatient Pharmacy, collectively termed as the Automated Pharmacy Dispensing System (APDS). Key features include:



Figure 1: Pharmacy layout with key features highlighted

Aim

Evaluate the impact of the APDS on efficiency and safety of the Pharmacy workflow.

Methodology

Primary outcome: Average patient waiting time.

Secondary outcome: Number of staff-reported prevented dispensing errors per month.

Pre-APDS and post-APDS period data were collected from electronic databases, compared and analyzed. Pre-APDS time period: January - March 2012

Post-APDS time period: January - March 2014

Results and Discussion

An average of 24.7% of all medications (comprising blister/strips and boxes) were packed automatically by the DDS, with 75.3% manually using LED-guided pick.

Average Patient Waiting Time

Significant reduction in average patient waiting time of approximately 6 minutes from 31.2 minutes pre-APDS to 25.3 minutes post-APDS.



Table 1: Comparison of average patient waiting time between pre-APDS andpost- APDS time periods

Prevented Dispensing Errors

Total prevented dispensing errors were significantly reduced by 47% post-APDS from an average of 895 to 474 per month, with the highest reduction of 71% seen in prevented dispensing incidents involving wrong drug and strength.





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