

ROBOT AND RESULTS

DISPENSING TIME MOTION STUDY OF THE FIRST ROWA IN A NSW PUBLIC HOSPITAL

Wilma Kong¹, Catherine Richards¹, Timothy Yi¹, Tiffany Leonarder¹, Mridula Viswanathan²

1) Hornsby Hospital Pharmacy Department, NSW 2) Northern Sydney Local Health District, NSW

Background

In November 2020 Hornsby Hospital Pharmacy Department implemented ROWA™, the first dispensing robot in a NSW public hospital.

Public hospitals in NSW typically supply part-packs of medication on discharge (3-5 day supply) compared to other Australian states and territories which supply PBS whole-packs.

ROWA has been shown to reduce dispensing time in other Australian public hospitals, but no data is available for NSW as yet.

Results

↓ Time for ALL PRESCRIPTIONS
(mean difference= -3.19 mins, p=0.02)

↓ Time for DISCHARGE PRESCRIPTIONS
(mean difference= -2.86 mins, p=0.31)

↓ Time for INPATIENT PRESCRIPTIONS
(mean difference = -0.21 mins, p=0.59)

↓ Time for OUTPATIENT PRESCRIPTIONS
(mean difference= -3.99 mins, p=0.05)

Discussion

The introduction of ROWA™ has reduced dispensing time in all categories:

- Discharge
- Inpatient
- Outpatient

Likewise, the thematic analysis of a 2022 staff survey identified **SPEED (and ACCURACY)** as the most liked benefits of ROWA™.

However a statistically significant reduction was only observed in outpatient prescriptions which generally have less part-packs.

This supports how part-pack dispensing will reduce some of the time-saving ability a whole-pack ROWA™ dispensing site would experience.

Objective

To evaluate the effect of ROWA™ on dispensing time in a NSW public hospital for discharge, inpatient and outpatient prescriptions.

Method

Trained observers utilised a time-and-motion methodology to measure the time to dispense medication over two, four-week periods pre- and post-ROWA™ in August 2020 and September 2022 respectively.

All statistical analyses were performed in SPSS V26.0 / STATA V16.0.

Dispensing time saved by ROWA equates to

1.6 FTE

Type	Period	n	Mean	Mean difference	95% CI of mean difference	p
Discharge	Post	33	16.67	-2.86	(-8.45, 2.73)	.31
	Pre	36	19.52			
Inpatient	Post	83	2.90	-0.21	(-0.98, 0.56)	.59
	Pre	49	3.11			
Outpatient	Post	5	5.07	-3.99	(-7.88, -0.09)	.05
	Pre	12	9.06			

Table 1. Comparison of the total dispensing time between pre and post-implementation periods classified by patient type

Conclusion

Our experiences show ROWA™ reduces dispensing time in a NSW public hospital, but the magnitude may not be the same as that experienced interstate.

As a result, our staff have had more time for quality improvement initiatives.

The benefits of this technology is not only limited to time saved; ROWA™ also improves patient safety via closed-loop dispensing.

Contact Details

Wilma Kong — Snr Pharmacist, Automation and Distribution

✉ Wilma.Kong@health.nsw.gov.au

www.linkedin.com/in/wilmakong



Health
Northern Sydney
Local Health District