

Implementation of an automated dispensing robot led to a reduction in error rates and faster order processing times.

The bionic pharmacy: where human and machine meet to improve medication safety

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Introduction

Automated dispensing robots are believed to increase efficiency and reduce pharmacy error rates. These outcomes are achieved by:

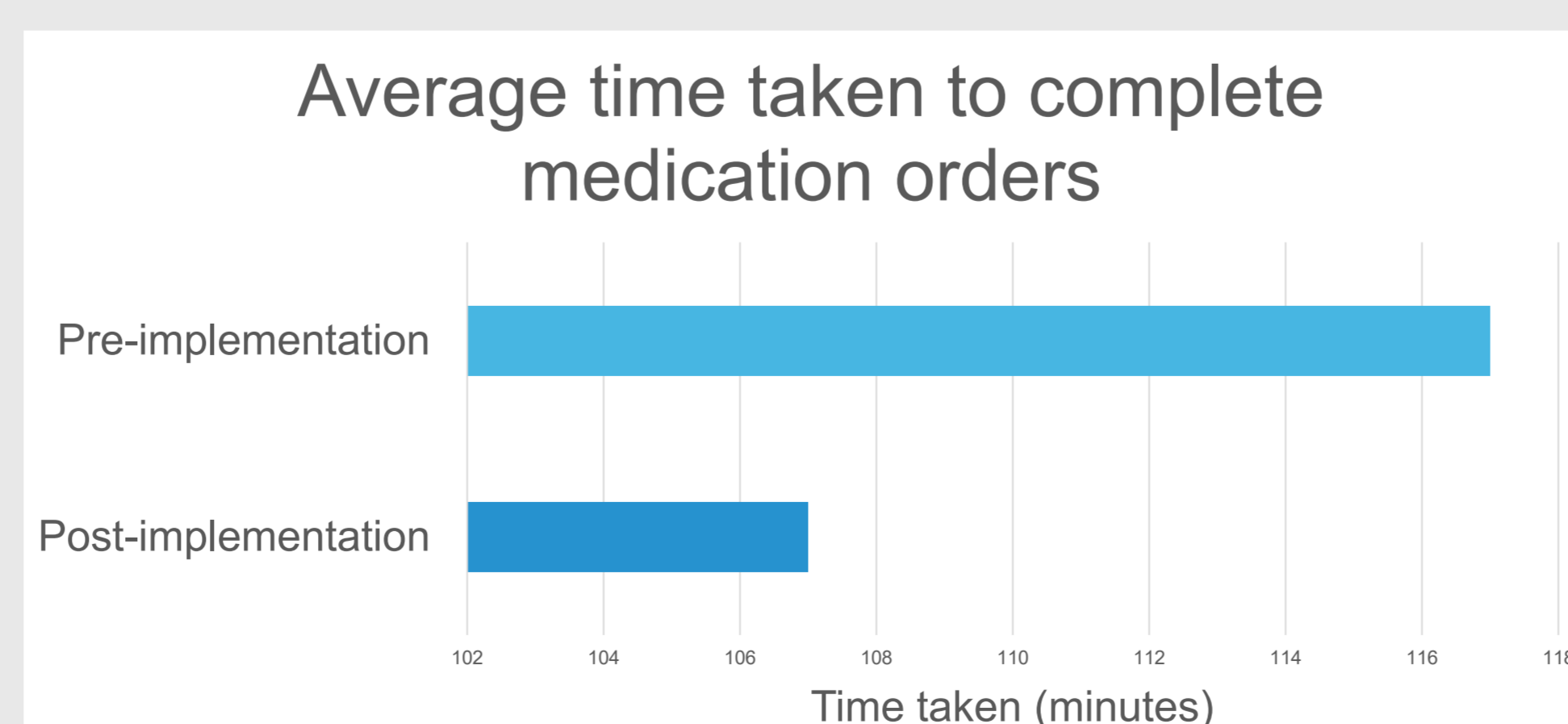
- Decreasing time taken to stock, pick and pack products.
- Aiding in product selection.

Aims

This study aims to evaluate the impact of an automated dispensing robot on inpatient prescription errors and order processing time in a tertiary hospital pharmacy in South Australia.

Results

- Error rates reduced from 2.1% (83/3890) pre-implementation to 0.99% (33/3336) post-implementation ($p < 0.01$).
- Average time taken to complete medication orders decreased from 117 minutes pre-implementation to 107 minutes post-implementation ($p < 0.001$).



Method

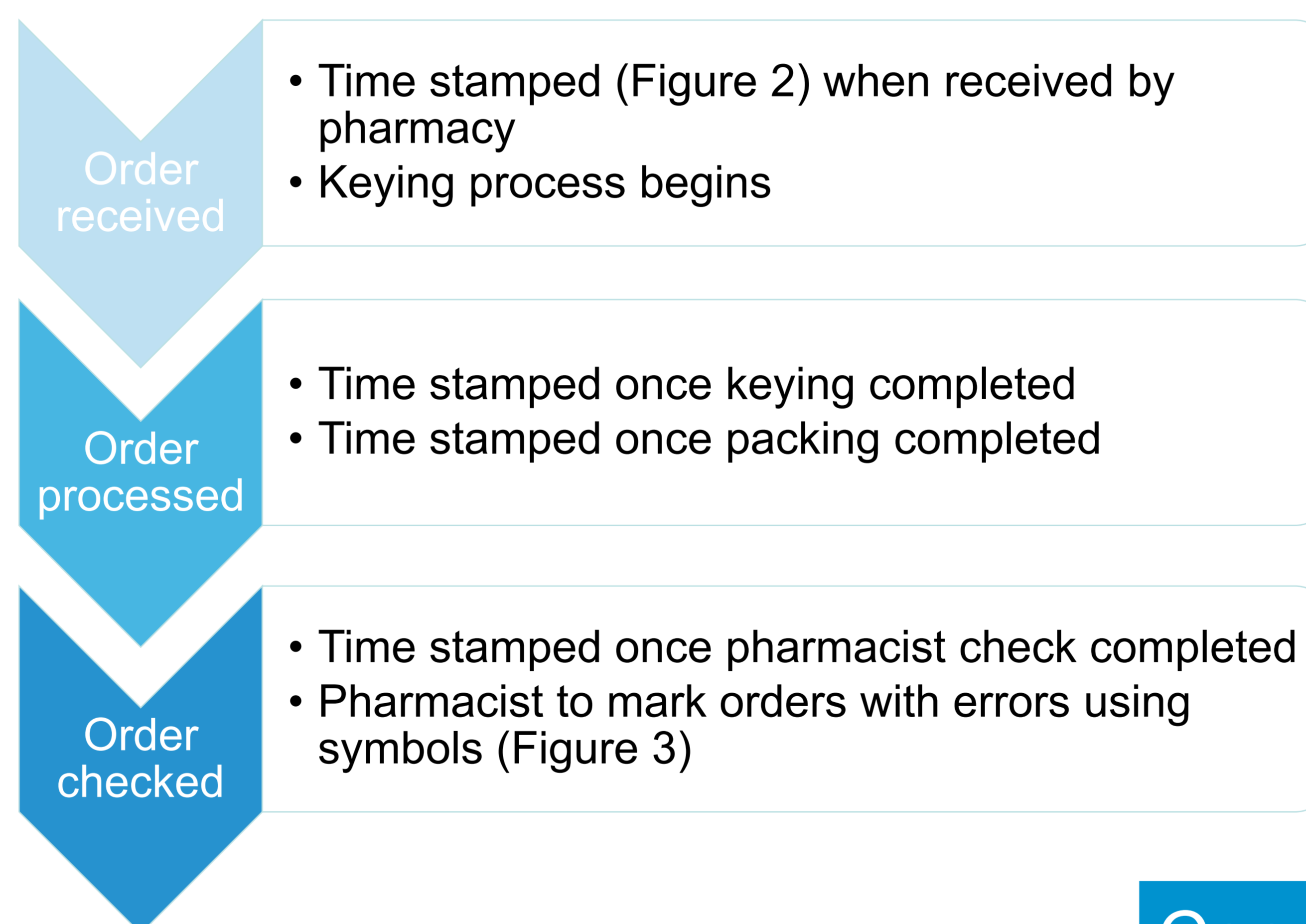


Figure 1: Automated dispensing robot at the Lyell McEwin Hospital pharmacy in South Australia

Received:	_____
Keyed:	_____
Packed:	_____
Checked:	_____

Figure 2: Time stamp used on orders

γ = keying error
 ★ = picking/packing error
 ∅ = pharmacist query

Figure 3: Legend for types of errors

Conclusion

Implementation of an automated dispensing robot resulted in a reduction in errors made and increased efficiency through faster order completion.

This results in a decreased likelihood of errors reaching patients, increasing medication safety. It also may allow for redistribution of resources due to time saved.

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For more information

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