

# Optimising operational efficiency in automated dispensing cabinets

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## Introduction

Digital enablement in medication management creates opportunities to improve health outcomes by streamlining workflows, reducing variation, and removing inefficiencies associated with manual processes<sup>1</sup>. The Statewide Automated Dispensing Cabinet Service (SWADCS) provides Queensland Health Hospital and Health Services (HHSs) with a federated automated dispensing cabinet (ADC) system which achieves these benefits through clinical systems integration, providing an auditable digital trail, and coexisting seamlessly with traditional patient care workspaces.

Optimising operational efficiency by reducing congestion in medication rooms was a key driver during the August 2025 onboarding of Gold Coast Hospital and Health Service (GCHHS) to SWADCS. The desire to eliminate bottlenecks at ADCs prompted exploration of a previously out-of-scope feature from Beckton Dickinson's (BD) Pyxis system that enables remote removal queuing and medication waste. This opportunity for workflow optimisation led to the decision to pilot BD Pyxis™ Med Link Queue & Waste within SWADCS at GCHHS.

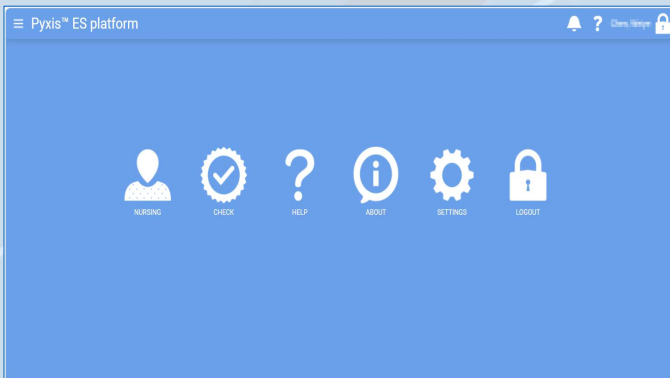


Figure 1. *The Med Link Queue & Waste web landing page*

## Objectives

Optimising nursing workflows improves operational efficiency and increases the time available for direct patient interactions. Introducing remote queuing capability into the nursing ADC workflow aims to reduce waiting times and alleviate congestion within medication rooms.

To support the pilot of Med Link Queue & Waste, new workflows and supporting documentation were collaboratively developed between the HHS, SWADCS, and the vendor to ensure a safe, consistent, and well-governed implementation.

This implementation also established a foundation for identifying further medication-management optimisation opportunities through analysis of queue behaviour, cabinet usage patterns, and medication-removal data.

## Conclusions

Although the implementation of Med Link Queue & Waste in SWADCS remains in its infancy, early observations have highlighted both its potential and the need for continued refinement.

Initial uptake has been modest, largely due to the requirement for nurses to use a separate application alongside pre-existing workflows and some congestion had been overcome by implementing an additional ADC in key locations.



Figure 2. *Trend in average removal times post completion of SWADCS onboarding at GCHHS*

The future potential for integration with Oracle Health's Electronic Medical Record software presents an opportunity for improving usability and driving broader adoption<sup>2</sup>. Sustained uptake will also depend on promoting and embedding workflow change across clinical teams, ensuring the digital process becomes a natural part of medication management rather than an added step. Together, these efforts will support the long-term maturation of the feature and unlock further optimisation opportunities across SWADCS sites.

Additional observation will need to be performed to evaluate the costs and benefits of implementing a remote queue & waste solution compared to procuring an additional ADC. As further data and analytics are collected, a clearer understanding of its impact on workflow efficiency, cabinet congestion, and removal trends will emerge.

## References

1. Australian Commission on Safety and Quality in Health Care (nd), [Electronic medication management systems | Australian Commission on Safety and Quality in Health Care](#)
2. CNBC (2012, October 4) CareFusion And Cerner Connect Technology And Data To Help Improve Medication Safety And Clinical Workflow. <https://www.cnbc.com/2012/10/04/carefusion-and-cerner-connect-technology-and-data-to-help-improve-medication-safety-and-clinical-workflow.html>

## Want to know more about SWADCS?

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## Acknowledgements

GCHHS Clinical Informatics & Medication Systems Management  
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