

An evaluation of automated dispensing cabinet usage across Australian hospitals - A snapshot pilot audit

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Background

Many Australian health services are utilising automated dispensing cabinets (ADCs) to manage their inventory systems. Some of the top reasons why ADCs have been implemented in Australia can be found in Figure 1.



Figure 1: Top reasons why ADCs have been implemented in Australia

Although ADCs have evolved and undergone several improvements since their first introduction, a poorly executed ADC system still has the potential to negatively impact nursing workflows and cause patient harm. ADC design, implementation and resourcing are key determinants as to whether or not a reduction in medication selection and administration errors can ultimately be achieved.^{1,2}

Objective(s)

To evaluate the current state of ADC usage across Australia.

Action (Method)

The Triple C model (Consultation, Collaboration and Consolidation) project methodology was undertaken to develop a framework for implementing ADCs in health services.

An online survey was distributed to pharmacists and health informaticians. It included questions to gauge current and future plans for ADC adoption, appetite for integration with EMR, barcode scanning utilisation, restocking privileges, and the challenges experienced with implementing ADCs in health services.

Evaluation

A total of 40 responses were received, representing 32 health services. See Figure 2. Half of those without ADCs intend to implement them in the future.

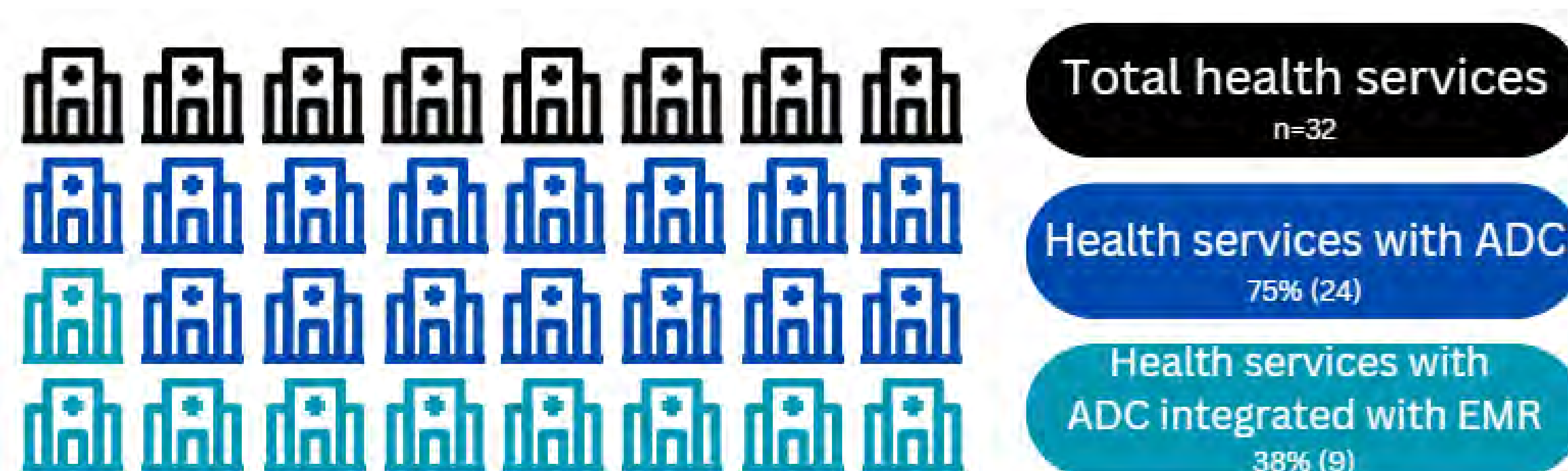


Figure 2: Health services with ADCs with and without integration

Evaluation (cont.)

The use of barcode scanning technology provides an additional layer of safety for the medication administration process¹, however our survey identified that many health services do not scan medications at the point of restocking, and even less at the point of removal. Providing nursing staff with restocking abilities, whilst increases convenience, can also increase the risk of medication being placed in the incorrect compartment, further increasing selection errors. Refer to Figure 3.

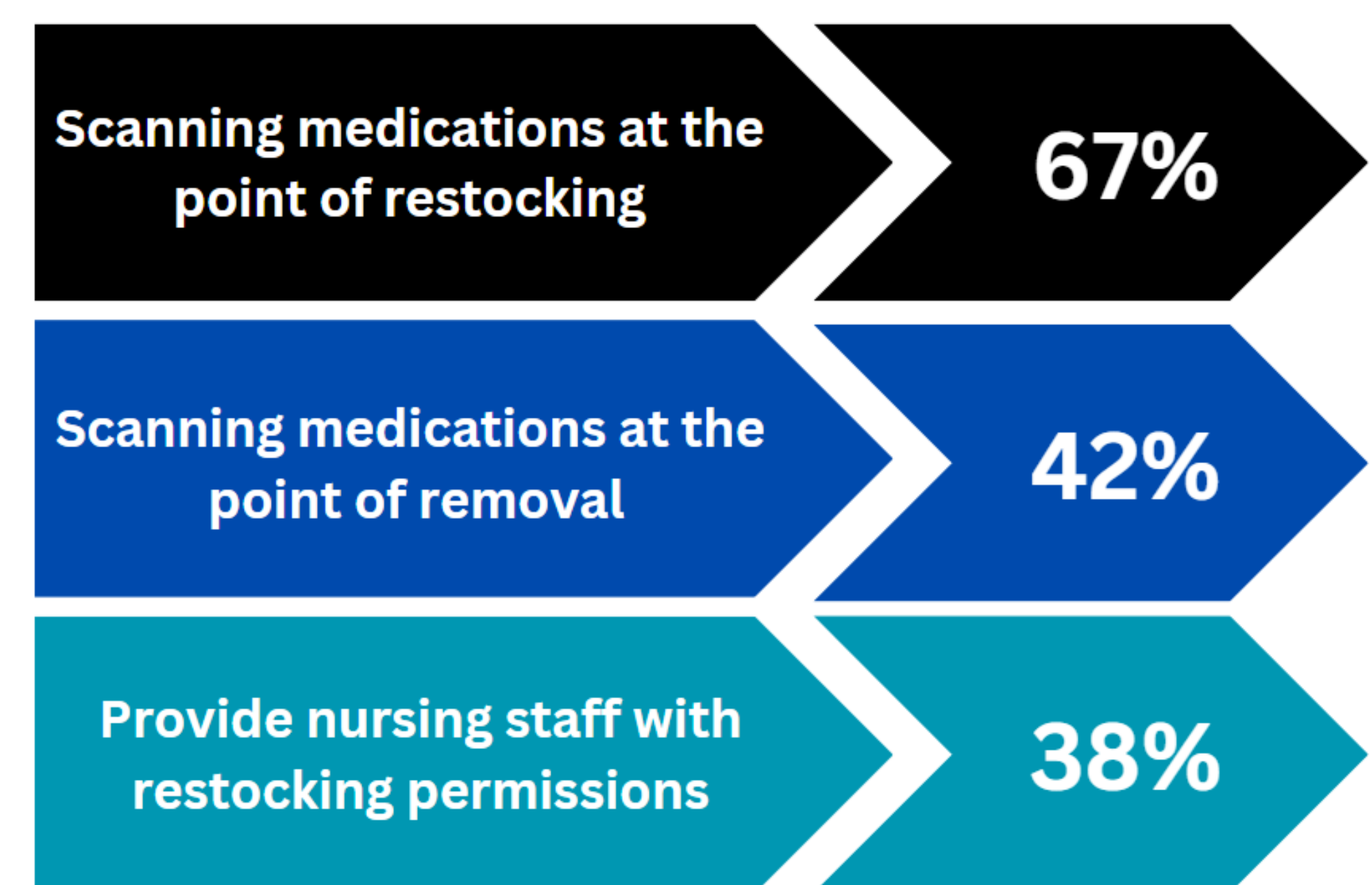


Figure 3: Percentage of health services who scan and provide nursing with restocking permissions.

The implementation of ADCs into an organisation is no small task. The top 5 challenges experienced by health services who were surveyed can be seen in Figure 4.

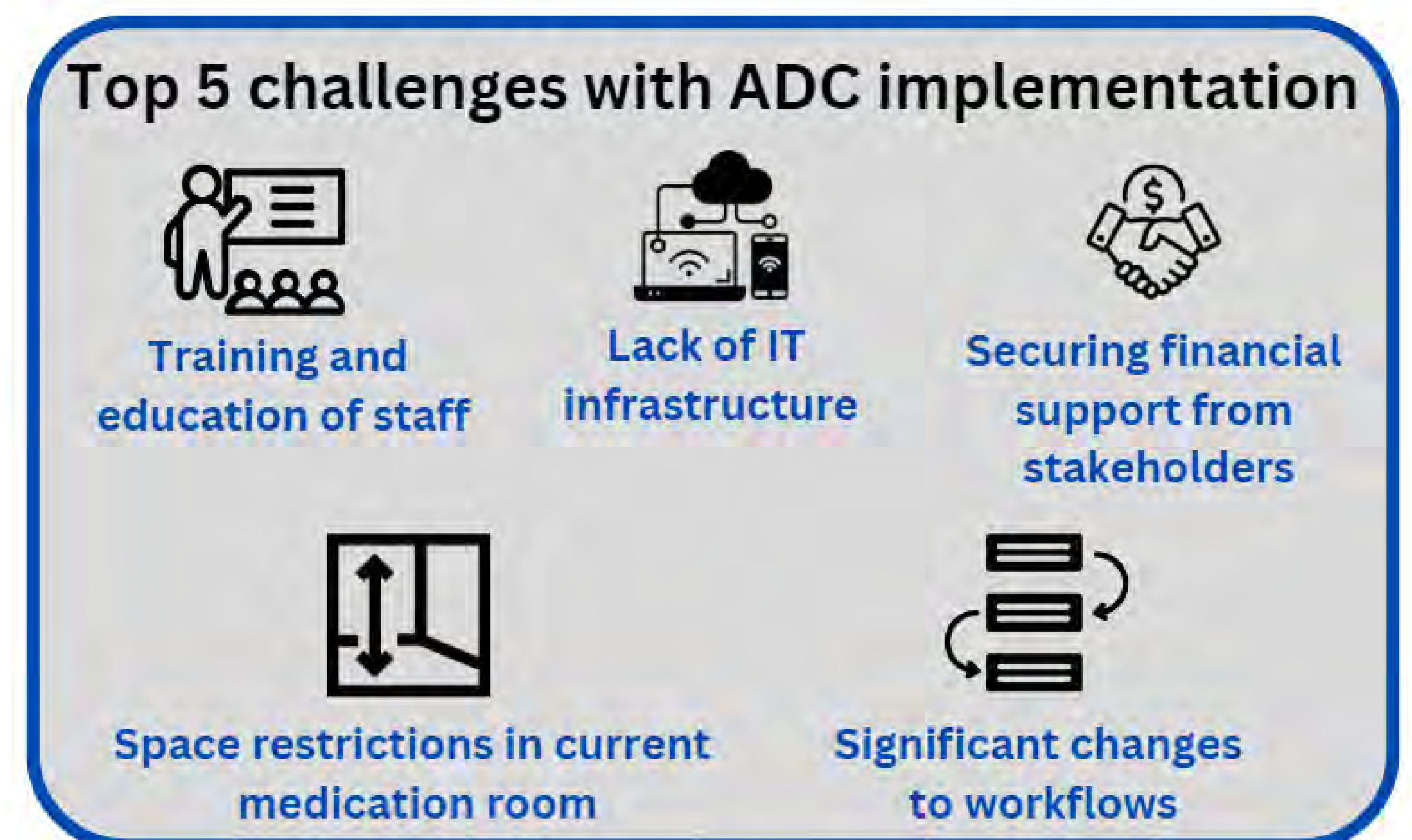


Figure 4: Top 5 challenges experienced with ADC implementation

Discussion

The survey demonstrated there is a large variation and non-standardised approach for implementing ADCs across health services in Australia. The variations ranged from authorised clinicians who could restock an ADC, utilisation of barcode scanning, and level of integration with the available EMR.

The results of the survey will be used by the authors to develop a framework to provide Australian health services with a standardised approach, and guidance for implementing and managing ADCs.

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References

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