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# High Risk equals High Reward: Reducing Theatre Cancellations

Initiative Type

Service Improvement

Status

Deliver

Added

30 May 2024

Last updated

11 July 2024

URL

<https://clinicalexcellence.qld.gov.au/improvement-exchange/high-risk-equals-high-reward-reducing-theatre-cancellations>

## Summary

Prior to this improvement initiative the preadmission clinic (PAC) at the Princess Alexandra Hospital (PAH) was designed on the screening of patients for a clinic appointment based on an anaesthetic

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referral criteria. Those who met the anaesthetic referral criteria attended PAC either in person or via a telephone appointment and were reviewed by PAC pharmacists regardless of medication type. Patients who did not meet the criteria were reviewed by PAC nursing staff only. If any medication adjustments were required, nursing staff referred these patients back to the surgical team for perioperative medication plans. A limitation to this system was that the PAC pharmacists did not review all patients on high-risk medications prior to surgery, subsequently leading to patients being cancelled on their day of surgery. This not only resulted in lost revenue for the hospital, but more importantly, led to sub-optimal patient outcomes and care. This project was initiated to implement a high-risk medication-based referral criteria for patients who did not meet anaesthetic criteria and only seen by PAC nursing staff. This medication-based referral criteria aimed to identify patients taking high risk medications, to ensure a review by PAC pharmacists prior to surgery. Examples of high-risk medications included anticoagulants, antiplatelets, immunomodulators and insulin. PAC patients screened via the normal anaesthetic criteria were still seen by a pharmacist to ensure current ABF revenue was maintained. Before developing the medication-based referral criteria, meetings were conducted with relevant stakeholders including PAC nursing staff, other pharmacists and Division of Surgery executives. Early engagement on the solution was critical. The medication-based screening tool also included certain high-risk patient cohorts such as those requiring ICU admission postoperatively, patients with Parkinson's disease, or those with complex perioperative pain management issues. Once the screening tool was finalised, education was provided to the PAC nursing staff by the PAC nurse unit manager and PAC pharmacist. Nursing staff were educated on how to use the screening tool within their current workflows. Following education, the sprint trial was then implemented over a two-month period. During this time, nursing staff referred the high-risk patients to the PAC pharmacists. Importantly, low risk patients were still reviewed by the pharmacist. The positive outcomes of the project resulted in additional funding that was granted by the Executive to continue the service. This will help collect further data that will support publication in the future. This project was part of the Metro South Health (MSH) Clinical Improvement Unit's (CIU) 'Sprint series'.

## Key dates

Aug 2023

Oct 2023

## Implementation sites

Princess Alexandra Hospital

## Partnerships

Metro South Clinical Improvement Unit, Medical and Nursing staff - Division of Surgery, PAH

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## Key Contacts

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## Aim

The primary aim of the project was to develop and evaluate a high-risk medication-based referral criteria to:

- increase the number of patients on high-risk medications seen in the pre-admission clinic
- reduce the number of theatre cancellations due to medication misadventure.

The secondary aim was to demonstrate the potential increase in activity-based funding that could be generated through optimisation of the PAC pharmacy service.

## Benefits

The additional patients that were referred to the pharmacist by PAC nursing staff and the additional Activity Based Funding (ABF) funding that was created as a result of this project.

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## Background

The Princess Alexandra Hospital (PAH) performs approximately 15,000 elective surgeries per year and local data estimate s there is a 50% cancellation rate. The last-minute cancellations of theatre cases are disruptive to staff, leave theatres vacant, frustrating to patients, and costly to the hospital. Pre-admission clinics (PAC) are designed to review the patients early (i.e. a week or more before theatre) to prepare the patient and streamline their journey and recovery. Many patients require dose adjustments or temporary cessation of their medications so that surgical complications are reduced. Classic examples include anticoagulants (to prevent excessive bleeding) and insulin (as patients are often fasting). Unfortunately, there is a lack of resources to pre-emptively see all high-risk patients. Pharmacists are medication experts and there is much evidence they improve medication management in the PAC setting; however, their workload must be prioritised to the high-risk patients. An audit of all 2022 surgical bookings at the PAH found that 66 surgeries were cancelled (at the last minute) for medication-related reasons, equating to lost revenue of over \$700K. The majority of the cancellations were for patients who were not reviewed by a pharmacist in the PAC.

## Solutions Implemented

Optimise the screening of patients for PAC pharmacists and ensure patients, taking high risk medications that require perioperative modification, were reviewed and educated before their procedure. The goal was to reduce or eliminate medication-related surgical cancellations. The solution included:

- a two month trial of a medication-based screening tool
- nursing staff categorised patients as high or low risk according to their medications
- high-risk patients referred to the PAC pharmacist for review

## Evaluation and Results

### **Primary outcome measure 1: Number of high-risk patients reviewed by a PAC pharmacist**

A one-month audit pre-project identified that of 802 patients seen in PAC, 60% of patients (n=481) would have met the criteria for high-risk medications and referral to the pharmacist. However, only 282 of these high-risk patients (58%) had been reviewed by a PAC pharmacist within the current referral system. During the two-month trial period, an additional 81 patients were referred to the pharmacist by PAC nursing staff as identified through the high-risk medication screening tool. Of these, nearly half (n=37) required pharmacist intervention to modify their medications perioperatively.

**Primary outcome measure 2: Reduction in same day surgical cancellations due to medication misadventure** Pre-data demonstrated an average of three same-day cancellations per month within the current referral system. During the two-month trial period there were no same-day surgical cancellations.

**Secondary Outcome measure: Increased ABF revenue.** Pre-trial data demonstrated an average of \$865,076 in annual ABF revenue generated by the PAC pharmacy service. During the two-month trial period, an additional \$6,549 was generated, demonstrating an

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additional~1% increase in revenue despite no additional resources for delivering the higher activity.

## **Lessons Learnt**

- Medication-based criteria is the gold standard.
- Pharmacists play a vital role in preparing the patient for surgery and reducing preventable cancellations.
- Challenging to implement a solution within existing staffing resources.
- Engagement and involvement from MDT was essential for the success of the trial.

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