# Learning to sink or swim: navigating the uncharted paediatric perioperative waters

Authors: Gemma Burns[1], Sonya Stacey[1,2], Lana Steward-Harrison[1], Bruce Chio[1], Lung Hei Cheng[2]
1. Pharmacy Department, Queensland Children's Hospital, South Brisbane
2. School of Pharmacy, University of Queensland, St Lucia Campus, Brisbane

## Background

Transitions across healthcare interfaces introduce risks for medication-related errors, including the perioperative environment[1]. Surgical preadmission clinics are routine and perioperative pharmacist roles are emerging in adult centres, but scarce in paediatrics. Perioperative medication mismanagement contributes to delays in patient care and potential post-operative harm[2].

## Description

Implementation of an electronic medication management system (eMMS) highlighted existing gaps in medication management for patients requiring surgery but also provided ability to streamline medication-related workflows via introduction of a perioperative pharmacist. A short pilot of a pharmacist-led perioperative service was conducted over two months in mid 2019 to review patients prior to planned surgical admissions.

**Project aim:** To improve accuracy and timeliness of prescribing on admission to hospital and reduce medication-related delays through theatre.

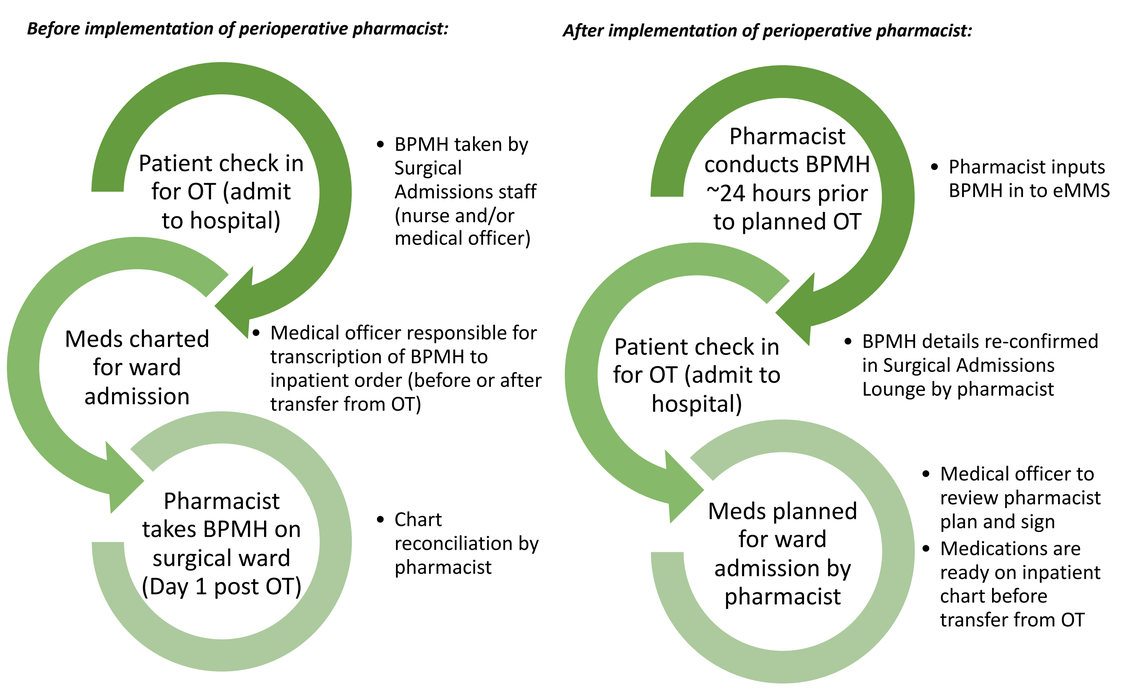


*Figure 1 – Process of patient journey through Surgical Admissions Lounge before and after implementation of perioperative pharmacist.*

## Action

As shown in Figure 1, the pharmacist role was introduced earlier in the patient journey to minimise medication misadventure. Families were contacted via phone (audio or video) to document a best possible medication history (BPMH) and identify medication-related problems. This information was input in to the eMMS and risks noted in the theatre electronic whiteboard. Urgent issues were communicated directly to the treating team. At admission, BPMH was converted to 'planned' inpatient orders for signing by the medical officer.

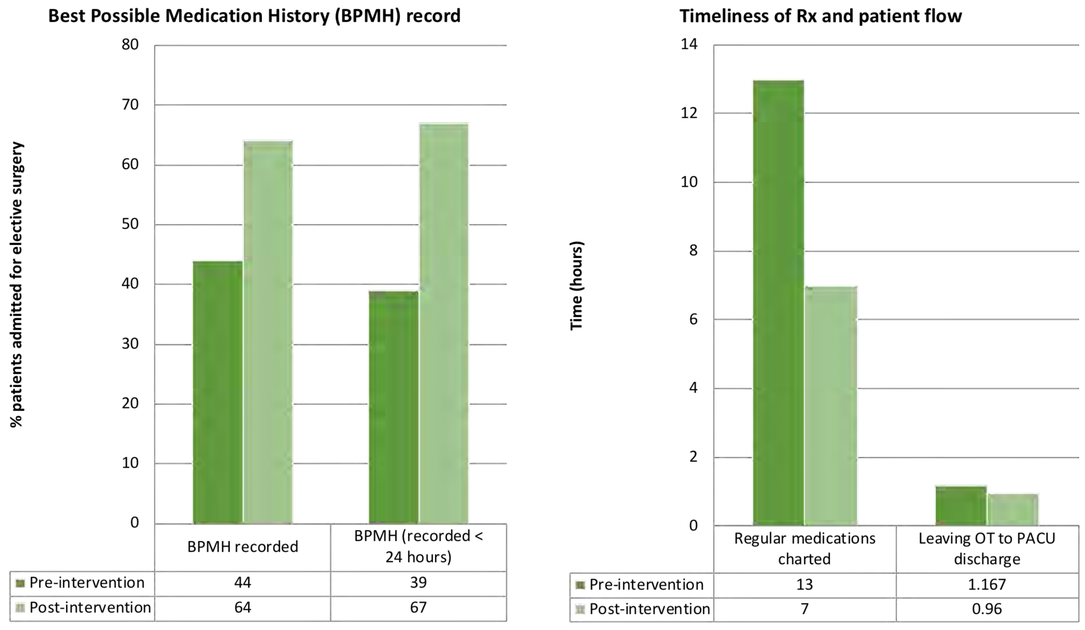


*Figure 2 – Comparative data pre and post implementation of a perioperative pharmacist in Surgical Admissions Lounge. Key improvements were shown in timeliness of charting regular medications on admission, reduced time in Post-Anaesthetic Care Unit (PACU) and increase in percentage of BPMH recorded within 24 hours of admission.*

## Evaluation

A retrospective clinical audit was undertaken of the pilot study period (May-June 2019) and a similar two month 'pre-intervention' period (Oct 2018 and Feb 2019). Key improvements from this comparison are demonstrated in Figure 2.

The pharmacist reviewed a total of 344 patients over the two-month pilot period, with the majority of patient reviews conducted over the phone.

BPMH was recorded an average of 29 hours prior to theatre check in time (admission to hospital), and there was noted to be a 34% hospital-wide increase in BPMH recorded within 24 hours of admission during the two month pilot period when compared to the immediate months prior.

Feedback from theatre staff was universally positive: saving nursing and medical time, improving accurate and timely prescribing and reducing delays.

## Implications

A preadmission pharmacy service can be provided adequately via telephone at a convenient time for families. Visible home medication histories allow for improvements in both perioperative medication planning and timely continuation of medication postoperatively.

***References:***
1. Mekonnen AB, McLachlan AJ, Brien J-AE. Effectiveness of pharmacist-led medication reconciliation programmes on clinical outcomes at hospital transitions: a systematic review and meta-analysis. *BMJ Open* 2016;6(2) doi:10.1136/bmjopen-2015-010003
2. Tran T, Taylor SE, Hardidge A, et al. The prevalence and nature of medication errors and adverse events related to preadmission medications when patients are admitted to an orthopaedic inpatient unit: an observational study. *The Annals of Pharmacotherapy*. 2019;53(3):252. doi:10.1177/1060028018802472

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