

National Patient Blood Management Collaborative:

Improving anaemia management for patients having elective surgery

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Introduction

Blood and blood products are vitally important in health care and, while they can be lifesaving, their administration may also be hazardous. Allergic and immunological complications, infections, incorrect blood transfusions and other adverse outcomes are not uncommon. Prescribing practices vary widely in relation to blood and a significant proportion of blood transfusions might have been unnecessary or could have been avoided.¹

Patient Blood Management (PBM) is a multidisciplinary approach to promote appropriate care for patients and reduces exposure to unnecessary blood transfusions. To reduce unnecessary clinical variation and morbidity and mortality associated with pre-operative anaemia, the Australian Commission on Safety and Quality in Health Care (the Commission) has established the *National Patient Blood Management Collaborative* (the Collaborative).

A systematic review has identified an independent association between pre-operative anaemia and increased morbidity and mortality¹, and an increased likelihood of red blood cell (RBC) transfusion². As pre-operative anaemia management could reduce RBC transfusions, and reduce post-surgery morbidity, mortality and length-of-stay in hospital¹, the Collaborative will focus on improving the management of anaemia for patients having elective surgery. Elective gastrointestinal, gynaecological and orthopaedic surgery are the focus areas for the Collaborative. The Collaborative will encompass the scope of the patient journey, from the time that the need for surgery is identified, through inpatient care, and then subsequent care back in the community.

Aim

By facilitating the uptake of PBM and the National Blood Authority's (NBA) *Patient Blood Management Guidelines*, and supporting compliance with the Commission's *National Safety and Quality Health Service Standard 7: Blood and Blood Products*, the Collaborative aims to improve patient care by optimising haemoglobin and iron stores by the time of elective surgery.

Study Plan

Subjects

Following expressions of interest from health services across Australia, twelve health services have been selected to participate in the Collaborative. They cover both metropolitan and rural areas and include public, private and not-for-profit hospitals. Each health service has networked with public and private hospitals and general practitioners. A total of 29 hospitals are participating in the Collaborative.

Methods

Between 2015 and 2017, the teams will be supported to develop and trial strategies in clinical practice and health service organisation to enhance PBM and the effective use of the NBA's *Patient Blood Management Guidelines*. Teams will use three Change Principles to develop strategies for improvement using the Improvement Foundation's Collaborative methodology, which applies the Model for Improvement and the Plan-Do-Study-Act Cycle (PDSA).

Change Principle 1: Implement a systematic and proactive approach to pre-operative optimisation of haemoglobin and iron stores for patients undergoing elective surgery

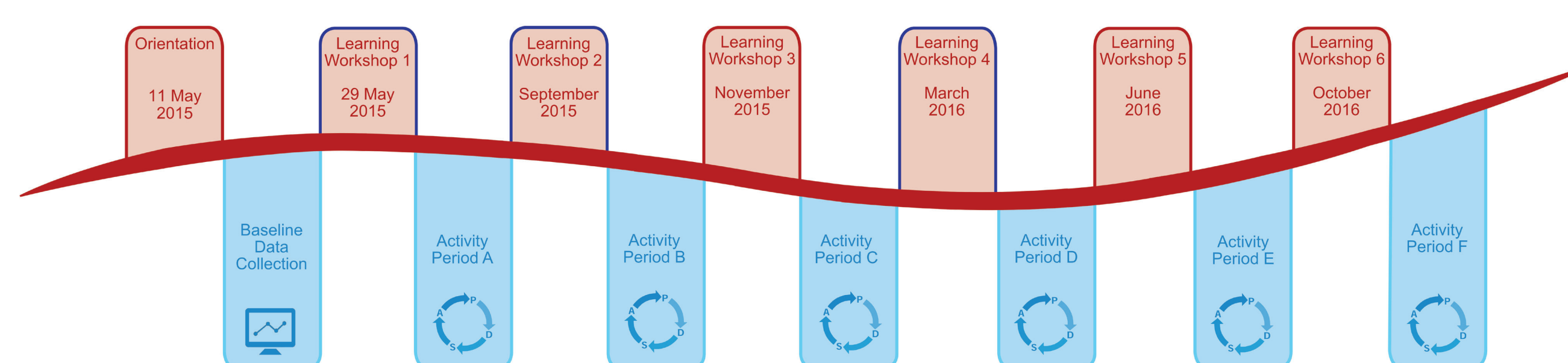
Change Principle 2: Ensure patients receive integrated and coordinated PBM pre-operatively

Change Principle 3: Enhance knowledge of evidence-based best practice in PBM

Through a series of Learning Cycles, teams will implement changes in small, manageable stages. Teams will:

- consult with experts in Collaborative methods, quality improvement and PBM
- share knowledge on current quality improvement processes
- share actions and processes used to make change
- test practice changes against a series of measures, and
- discuss outcomes and impacts on patients to identify practice changes that increase the number of pre-operative patients with optimised haemoglobin and iron stores.

The National Patient Blood Management Collaborative Wave



Measures

A series of measures have been developed to assess the impact and success of practice changes:

Step in clinical pathway	Indicator description
Assessment	<ul style="list-style-type: none">• Assessed for anaemia• Assessed for Fe deficiency
Diagnosis made	<ul style="list-style-type: none">• Anaemia confirmed• Fe deficiency confirmed
Condition managed	<ul style="list-style-type: none">• Anaemia managed• Fe deficiency managed
Outcome	<ul style="list-style-type: none">• Anaemia improved• Fe deficiency improved
Transfusion?	<ul style="list-style-type: none">• Pre-operatively• Intra-operatively• Post-operatively

Outcomes

By identifying practice changes that increase the number of pre-operative patients with optimised haemoglobin and iron stores, the Collaborative could help reduce:

- avoidable blood transfusions
- post-operative infections and adverse reactions to blood products
- transfusion related inflammatory events
- hospital lengths-of-stay
- readmissions from infectious complications of transfusion, and
- elective surgery cancellations.

Practice changes that are identified as improving surgical outcomes will be shared with health services nationally.

References

1. National Blood Authority Australia. Patient Blood Management Guidelines: Module 2 – Perioperative. Canberra: NBA Australia; 2012 [cited June 2015]; Available from: www.nba.gov.au/guidelines/module2/index.html.
2. Thomson A, Farmer S, Hofmann A, Isbister J & Shander A. Patient Blood Management – a new paradigm for transfusion medicine? *Vox Sanguinis*. 2009; 4(2): 423-435.