



The Australian Commission on Safety and Quality in Health Care (the Commission) has established the *National Patient Blood Management Collaborative* (the Collaborative). The Collaborative will focus on improving the management of anaemia for patients having elective surgery in the surgical areas of: gastrointestinal, gynaecological and orthopaedics. 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.

By facilitating the uptake of the Patient Blood Management (PBM) and the National Blood Authority's (NBA) *Patient Blood Management Guidelines*, and supporting compliance with the *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.

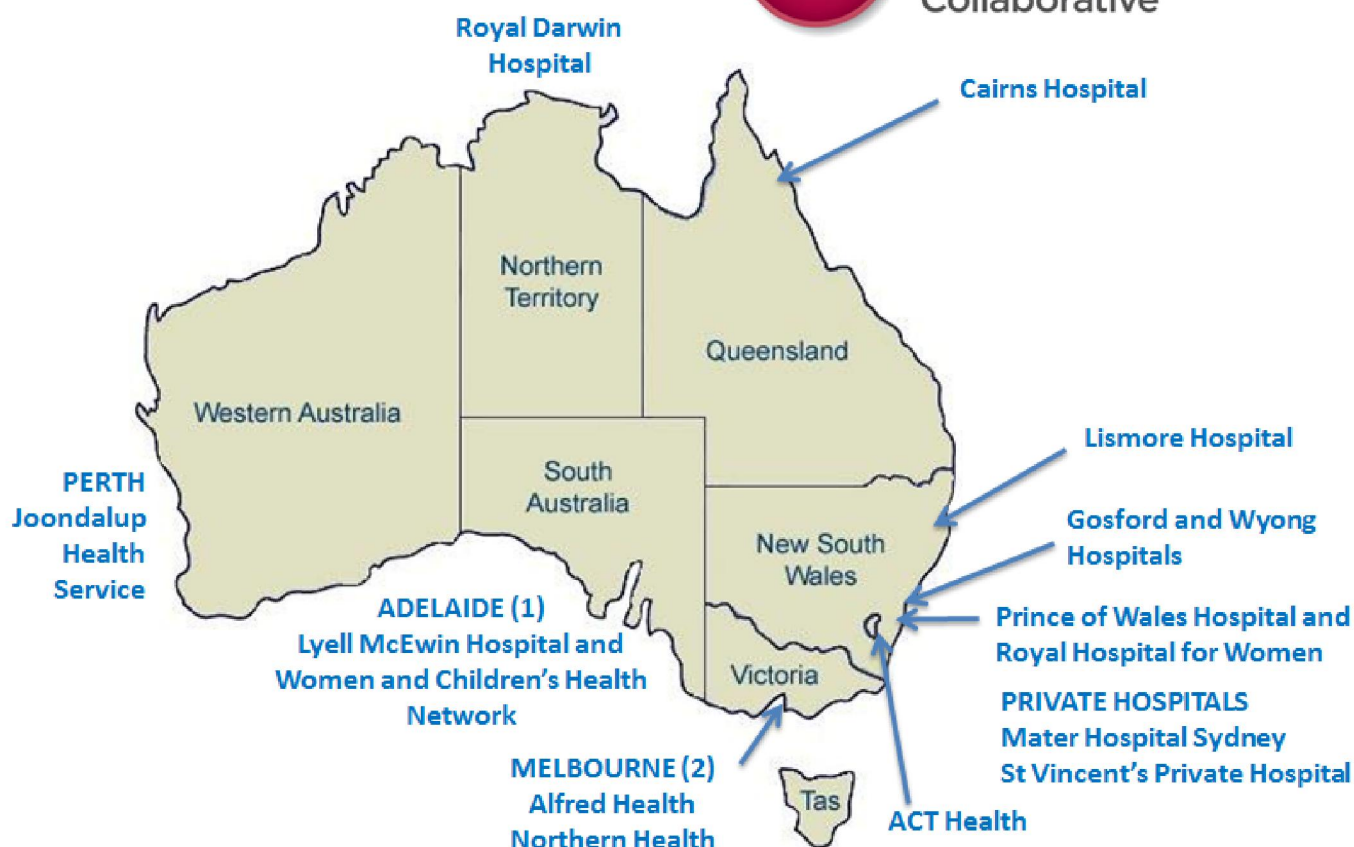
Expressions of Interest

In December 2014, the Commission released an Expression of Interest (EOI) for public and private health services to participate in the Collaborative. EOIs that involved partnerships with the primary care sector and partnerships between public and private hospitals were encouraged. Forty-six submissions were received in response to the EOI, with representation from public and private health services, and the majority of states and territories.

A Selection Panel, with representation from the Commission, the Australian Government Department of Health, the states and territories and clinical experts, reviewed the submissions against the key criteria outlined in the EOI. Fifteen health services were supported for further consideration against available resources. Eleven health services, some of are the result of partnerships between two applicants, were included in the Collaborative, to be supported as outlined in the EOI and include public, private and not-for-profit health services from metropolitan and rural areas. Subsequently, a large private hospital requested to be included in the final participating cohort, with no cost to the Commission. The final health services included in the Collaborative are:

- The Canberra Hospital
- Gosford and Wyong Hospitals
- Lismore Rural Referral Hospital
- Prince of Wales Hospital and the Royal Hospital for Women
- Royal Darwin Hospital
- Cairns Hospital
- Lyell McEwin Hospital and the Women and Children's Health Network
- Alfred Hospital
- Northern Health
- Joondalup Health Campus
- The Mater Hospital Sydney
- St Vincent's Private Hospital Sydney

Between 2015 and 2017, these 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 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 Principles

Change Principles and Change Ideas are key components of the Collaborative methodology. Change Principles are a pathway for the participating health services to follow and guide improvement. Change Ideas are the practical steps that can be used to make improvement in each Change Principle.

A Foundation Principle, which focuses on an effective and engaged team committed to participating in the Collaborative, has been adopted by the Collaborative. In addition to the Foundation Principle, the Collaborative has developed three Change Principles to guide improvement.

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.

FOUNDATION PRINCIPLE

Building and Maintain the Team

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.



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 anaemiaAssessed for iron deficiency
Diagnosis made	<ul style="list-style-type: none">Anaemia confirmedFe deficiency confirmed
Condition managed	<ul style="list-style-type: none">Anaemia managedFe deficiency managed
Outcome	<ul style="list-style-type: none">Anaemia improvedFe deficiency improved
Transfusion?	<ul style="list-style-type: none">Pre-operativelyIntra-operativelyPost-operatively

The teams will be working with experts in PBM, quality improvement and the Collaborative methodology, to design changes that will be trialed for the optimisation of patient care.

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 patient outcomes will be shared

Orientation Session

An Orientation Session for approved health services and members of the PBM Project Reference Group, and Expert Panel was held with the Commission's Project Team and the Improvement Foundation in May, via webinar. The session covered the Collaborative methodology; key aspects of PBM; the Collaborative aim and Change Principles; measuring for improvement; the Model for Improvement; and, an overview of the Program. The Orientation is available via qiConnect and also via YouTube – <https://www.youtube.com/watch?v=uxiyMeg6M38>.

Project Coordinator Training and Learning Workshop 1

A training session for Project Coordinators was held in May 2015, where participants were introduced to the Collaborative methodology, Change Principles, the Model for Improvement, PBM measures, data collection, submission and qiConnect, and building the network team. This was followed by the first Learning Workshop for teams participating in the Collaborative.

The Learning Workshops are an integral component of the Collaborative to ensuring that the Collaborative teams share ideas for improvement, measure and benchmark outcomes, and contribute to the future direction of best practice. Teams will develop and trial strategies, new initiatives in clinical practice and organisation of services locally that promote PBM. Teams will come together to share knowledge on the actions, processes used to make change, and discuss outcomes and impacts on patients and their health service.

Our Learning Workshop provided detailed information to the participants on Collaborative methodology and Change Principles, the Model for Improvement, PBM and anaemia management. Breakout sessions were also included in the day, which focused on:

- building and maintaining Collaborative teams,
- implementing systematic and proactive approaches to pre-operative optimisation of haemoglobin and iron stores for patients,
- ensuring patients receive integrated and coordinated care for the assessment and management of anaemia and iron deficiency pre-operatively, and
- enhance knowledge of evidence-based best practice in PBM.

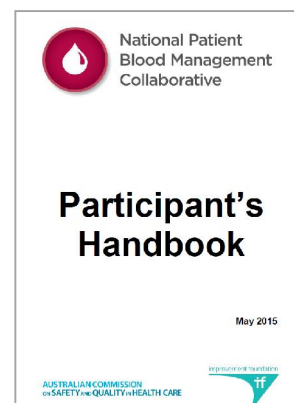
Improvement Foundation and KP Health

The Commission would like to welcome the Improvement Foundation and KP Health to the running of the Collaborative. The Improvement Foundation is a not-for-profit organisation providing expertise in the development and delivery of quality improvement techniques, particularly Collaborative methodology. The Improvement Foundation will provide specialist advice to the Collaborative concerning the methodology and change management, as well as providing infrastructure (qiConnect), which will enable measurement of improvement efforts. KP Health will support the Collaborative by providing clinical and technical expertise, workshop facilitation, report preparation, and promoting effective outcomes for the Collaborative.

Participant's Handbook

A comprehensive Participant's Handbook was prepared as a resource for the Collaborative and aims to provide a starting point for participants in addressing the challenges faced in delivering improvements in the quality of care for patients in regard to PBM. It combines evidence-based guidance with practical examples drawn from the field. It provides an introduction to the Collaborative and information about the support that participants will receive and how they can gain the most benefit from the Collaborative.

The ideas included in the Handbook are those that are currently being implemented within health services and hospitals across Australia. The material is helpful and concise; recognising that during the course of the Collaborative, participants will be acquiring a wealth of additional resources from the learning workshops and other events.



qiConnect

The qiConnect site is an interactive web portal designed for teams participating in the Collaborative to:

- input Collaborative data collected about elective procedures performed.
- receive regular feedback graphs on data submission
- check how the team's performance changes over time
- compare a team's performance with other teams participating in the Collaborative,
- log PDSA cycles, and
- participate in discussions, share resources and information.

Feedback graphs are accessible on qiConnect, and available for viewing within a few minutes following a successful data submission. Measures are displayed in such a way that makes it able to track improvements over time.

Events

Staff from the Collaborative's Project Team attended the *2015 National Blood Symposium: Showcasing Excellence—Standard 7: Blood and Blood Products* held in Brisbane 11-12 June 2015 and presented a poster on the Collaborative. A copy of our poster is attached and further information about the Symposium is at: www.blood.gov.au/events

For further information on the Collaborative:

Email: pbmcollaborative@safetyandquality.gov.au
Twitter: <https://twitter.com/ACSQHC> @ACSQHC #pbmcollaborative
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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 mortality², and an increased likelihood of red blood cell (RBC) transfusion³. As pre-operative anaemia management could reduce RBC transfusions, and reduce post-surgery morbidity, mortality and length-of-stay in hospital⁴, 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

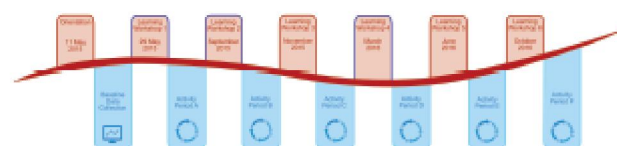
Change Principle 2: Ensure patients receive integrated and coordinated PBM pre-operatively

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, Ibbotson J & Shander A. Patient Blood Management – a new paradigm for transfusion medicine? *Vox Sanguinis*. 2009; 4(2): 433–435.

