

The Challenge In Reducing Blood Wastage Faced By QML Central Blood Bank

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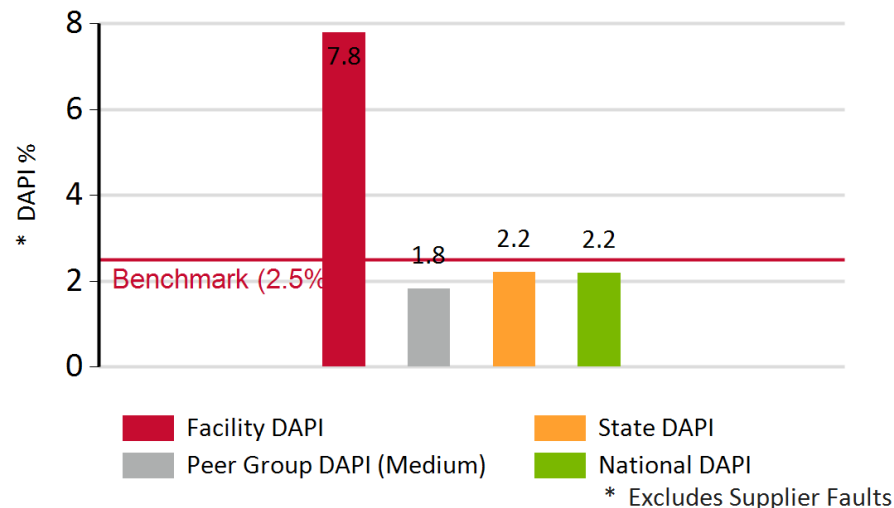


The Bloody Problem

■ DAPI (Discards as a Percentage of Net Issued) blood as per the National Blood Authority's (NBA's) report is at about 7.8%¹, while the target is 2.5% or less.

■ 1st Jan 2018 – 31st July 2018: 174 units of red cells were discarded due to time expired (~25 units per month) in QML.

* Red Cells: DAPI Comparators



March 2018

- An audit were carried out by senior QML blood bank scientist to evaluate the blood usage, wastage in several surgical hospitals
- ONLY **1** in every **7.5** pre-op blood issued is being transfused

Number of red cell issued	Number of red cell transfused	Number of red cell returned	Number of returned red cells fated as expired
285	38	247	68



Cause

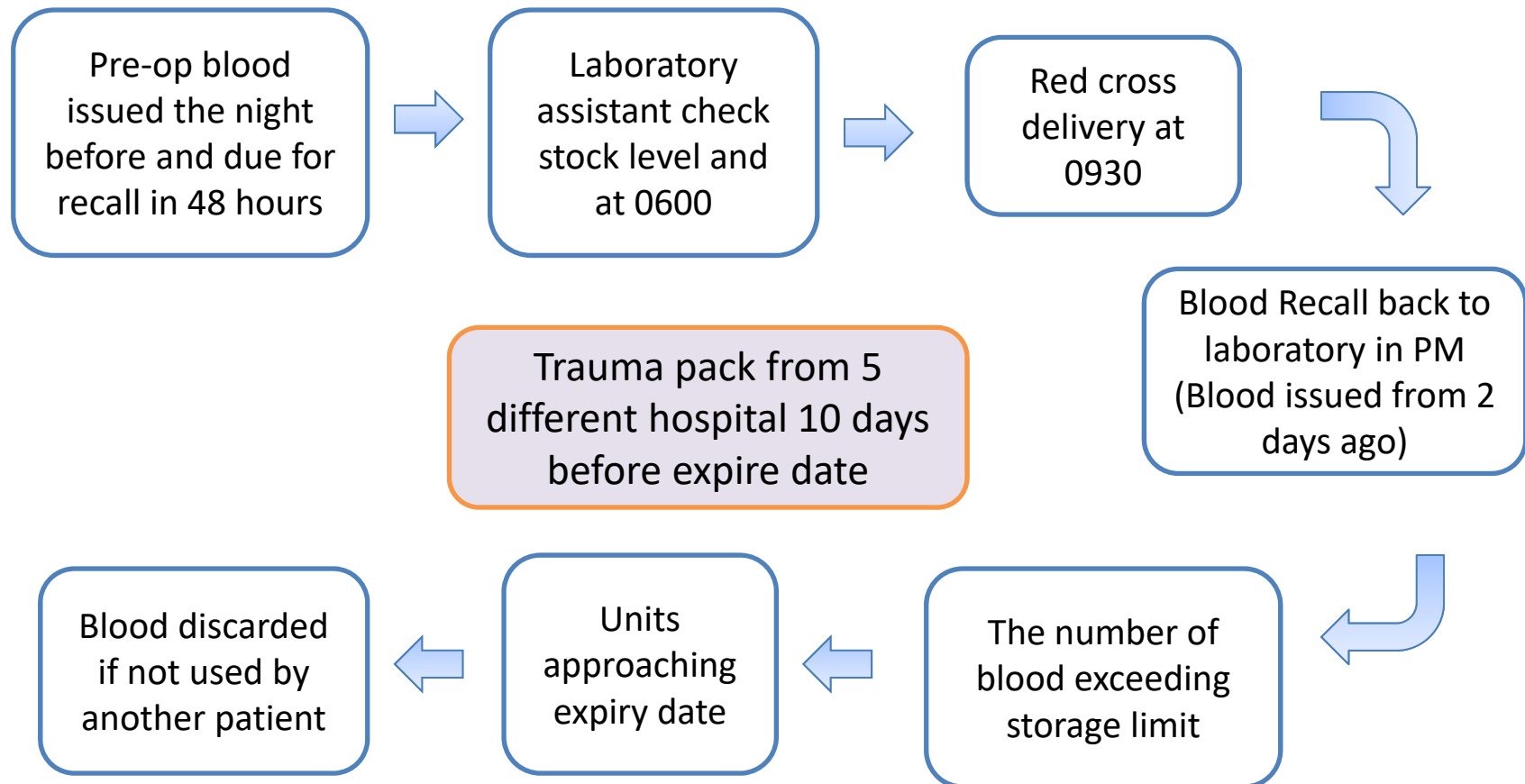
- 🚒 Hospital A's cardiac pre-op blood accounts for 40% of the wastage.
 - 🚒 Where there is an onsite stat lab, 4 trauma packs and central blood bank located no more than 15 mins drive

	Doctor A	Doctor B	Doctor C	Doctor D
Cross-match	278	197	152	68
Transfused	50	12	12	8
C:T Ratio*	5.56	16.4	12.7	8.5
% Transfused	18%	6.1%	7.9%	11.8%

* Cross-matched to transfused ratio

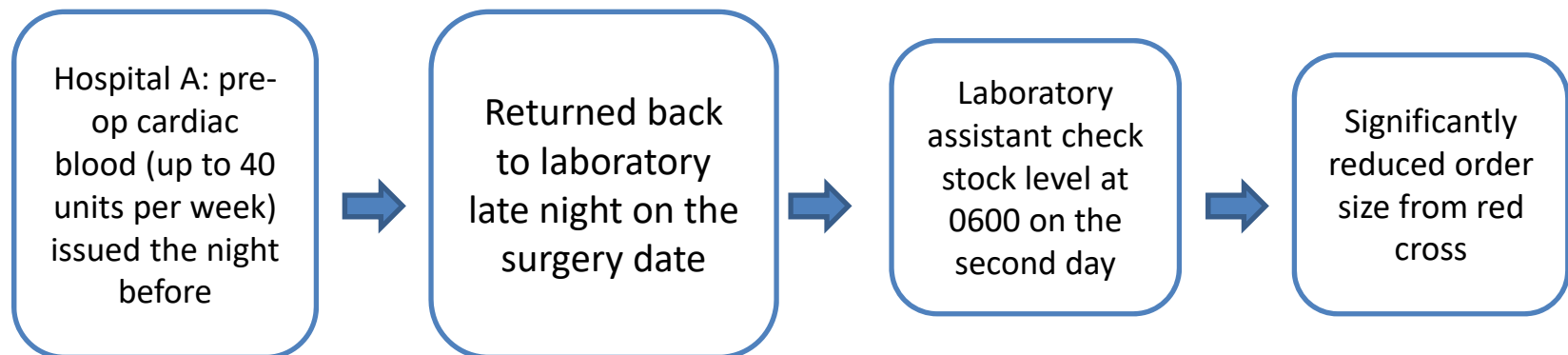
- 🚒 On average, 30 - 40 units of blood were issued each week for pre-op.
- 🚒 The current main reason for QML's high blood wastage is due to the stock level exceeding storage limit.

The Work Flow



Action Plan - August 2018

- 🏥 Convincing clinicians to switch to Group and Hold or reduce the number of units being requested for each patient;
- 🏥 When blood reservation is compulsory, use short reservation period (24 hours) for Pre-op crossmatched units;
- 🏥 Maximum use of onsite STAT lab (530 am – 930 am), reduce the stock in central blood bank.



- 🩸 By doing this, we are hoping to provide evidence which can be presented to clinicians and transfusion committees at Hospital A, to lower the rate of unnecessary crossmatches and therefore, reduce wastage of red blood cells by QML.
- 🩸 The March 2018 data were compared with data from August 2018 and September 2018 for any improvement in blood stock management.



So.. Did It Work ?

	Stock order from red cross per month	Expired units per month	Expired Non-IRR units	Expired Non- IRR units %	DAPI (Expired Only) ¹
January – July	514	25	19	3.7%	6.5%
August	537	19	14	2.6%	5.4%
Septem ber	445	18	11	2.4%	5.6%

Next Step

- **Maintain the current plan at Hospital A to avoid overordering; ideally, C:T <1.5 for cardiac surgeons**

ARCBS Patient Blood Management Guideline²

Maximum Surgical Blood Order Schedule (MSBOS)³

National Safety and Quality Health Service (NSQHS) for Consumers and Carers⁴

FBC ELFT's
Hep B, C, HIV
xmatch 2 u/s
OT 4 / 10 / 16

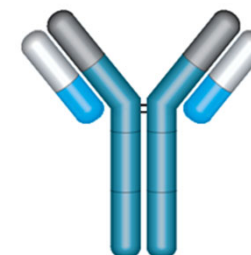
- **Reduce blood stock in Central Blood Bank and order blood on patient basis**

Minimum IRR wastage (oncology)

- **Ongoing discussion with Hospital B transfusion committee to avoid unnecessary crossmatches**

Coordinate with other pathology companies, internal and external stakeholders, QC officer

Procedure	Crossmatch requirements
Hysterectomy	Group & Hold
Hip replacement	Group & Hold



Limitation

This new strategy has only been implemented for the past two months. Although this improvement can be observed with the current data, a long term implementation is required for more reliable data. Moreover, this study is mainly limited to cardiac surgeons at Hospital A. Other hospitals may require a different approach.

Conclusion

From August 2018, QML is working together with clinicians, onsite STAT labs and other QML departments to reduce the blood wastage. The trail at Hospital A was supported by the majority of surgeons as well as QML staff. In the future, we are hoping to coordinate with more hospitals and clinics to meet our DAPI target, and keep in line with the national target.



Reference

- 1. Fresh Blood Management Report (QLD) 2017-2018 , National Blood Authority, <https://www.bloodnet.blood.gov.au/Reports>
- 2. Patient Blood Management Guidelines: Module 2 Perioperative, National Blood Authority, <https://www.blood.gov.au/pbm-module-2>
- 3. Guidelines for Pretransfusion Laboratory Practice, Australian and New Zealand Society of Blood Transfusion Ltd, 5th edition, https://www.anzsbt.org.au/data/documents/guidelines/PLP_Guidelines_Mar07.pdf
- 4. National Safety and Quality Health Service (NSQHS)) for Consumers and Carers⁴ , Action 7.6, <http://www.nationalstandards.safetyandquality.gov.au/7.-blood-management/prescribing-and-clinical-use-blood-and-blood-products/prescribing-and>
- Thanks to Patricia Fiddy QML for supporting our research and data

Q&A

We are also open for
suggestions &
recommendations!

