National Inventory Management Framework

The Project

The National Inventory Management Framework (NIMF) project, led by the Australian Red Cross Blood Service in collaboration with the National Blood Authority, aims to define appropriate red cell inventory levels at health providers and the Blood Service and provide better practice guidelines for effective red cell inventory management. The outcome will be to optimise red cell inventory across the sector to ensure stock is held where it is best placed to provide for patient needs, maintain security of supply and minimise product wastage.

The Pilot

We have identified a number of laboratories to participate in a pilot. This is an opportunity for laboratories to be involved in the development of improved red cell inventory practices for the wider sector. Potential benefits for pilot sites:

- Opportunity to improve red cell inventory management processes through the development of a red cell inventory management guideline to support best practise.
- Understanding the safety stock calculation and the data inputs so that sites are better informed and understand the trends at their own sites.
- Appropriate inventory levels and efficient inventory management practices will lead to reduced workloads for inventory management and potentially reduce ordering requirements.
- Inventory is held at the appropriate place and costs such as wastage are reduced i.e. improved inventory availability for whole of sector in normal supply situations and during contingency events without any negative impact on the operation or ability to support patient needs.

What have we done so far?

We undertook a successful proof of concept with the Royal Brisbane and Women's hospital in November 2012 using the revised inventory management stock calculations. The proof of concept tested the capability of the RBWH to operate effectively under revised inventory levels based on a new safety stock methodology and revised routine deliveries of red cells to twice a day (previously there where 3 routine deliveries per day). The revised inventory levels were developed using safety stock calculations which took into account the usage requirements, transfusion data, wastage and supply of the RBWH over an extended period. Inventory levels were adjusted by blood group which resulted in an overall decrease in total inventory required, although there were some increases in inventory for a couple of blood groups based on the specific ABO usage and required inventory. This mix change by ABO to more accurately reflect demand was an important outcome of the proof of concept.

At the completion of the proof of concept, the RBWH decided to maintain the revised inventory levels with a further reduction in routine red cell deliveries to one delivery per day, stating that the laboratory staff found it easier to manage less blood and deliveries. There was no increase in urgent and life threatening orders across the proof of concept period of 5 weeks.

In short, the revised inventory levels and delivery arrangements were considered more appropriate for the RBWH, which is amongst the largest receivers of blood products in the country. The proof of concept was focussed on red cells, with no change in deliveries and/or stock levels for platelets and other blood products. Following the success of the proof of concept, the project is progressing to a pilot. The potential for this initiative is significant. In the first stage of the pilot phase, we aim to test the principles successfully trialled at RBWH with other large hospitals.

What the pilot will involve?

The pilot will replicate the activities undertaken in the proof of concept at RBWH. We will request current inventory and transfusion related data that is specific to the laboratory and a range of supply data. Based on that data we will calculate optimal inventory levels for pilot laboratories and provide a delivery schedule to support those levels. The aim of the pilot is to test reductions in cost and effort in each laboratory driven by the inventory levels and ensure no negative impact on patient support. The revised inventory levels will be tested over a five week period. The project team will remain in close contact with pilot sites over the period to ensure there is no limitation to product availability or meeting clinical needs. At the end of the pilot period, a debrief workshop will be held to gather the opinions of pilot site staff, and data analysis will be performed to determine the success of the pilot.

Next steps

The project team will compile the findings of the pilot into a final report which we hope to publish early 2014.