

How much blood is in the supply chain?

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Introduction

The Blood Stocks Management Scheme (BSMS) collect data about red cell stock and wastage from hospitals and blood services in the UK and Ireland.

The aim of the study was to estimate the red cell stock within the English blood supply chain with a view to aiding stock planning within NHSBT.



The Blood Supply Chain

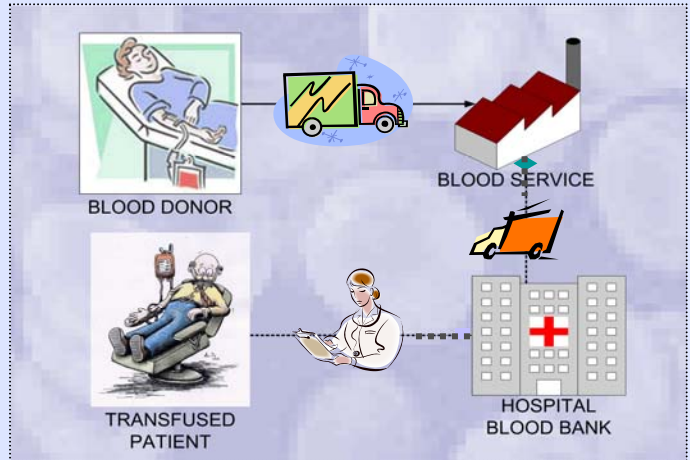


Figure 1 - The Blood Supply Chain

Blood is collected from donors, processed by the blood service and issued to hospitals for transfusion to patients.

Methods

Red cell stock data was collected from NHSBT and hospitals.

NHSBT red cell stock data is automatically available to the BSMS on a daily basis.

Hospital red cell stock data is available to the BSMS via the VANESA data management system into which individual hospitals manually enter their daily stock figures

Data from these sources, collected between April 2005 and March 2011 were used to estimate the total stock in the supply chain.

How much stock is in the Supply Chain ?

NHSBT stock varies on a daily basis, ranging from a minimum of 31,700 to a maximum of 65,300 units per day.

Total hospital stock also varies on a daily basis but to a much lesser degree, ranging from a minimum of 27,100 to a maximum of 28,500 units per day.

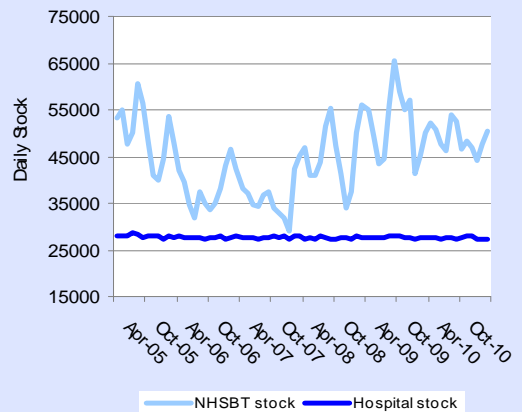


Figure 2 – Graph showing the variation in NHSBT and hospital stock by month from April 2005 to March 2011.

Discussion

The estimation of stock in the blood supply chain is dependent on regular entry of stock data from hospital participants to the BSMS. Entry is not mandatory. Hospitals making less than 10 daily stock entries per month were excluded from this analysis and the resulting dataset was scaled to represent the missing data.

NHSBT currently aims to maintain a red cell stock level between 40,000 and 50,000 units. Variation from this level can be due to planned stock builds in preparation for predicted events.

Knowledge of the amount of red cell stock in the supply chain will aid NHSBT stock planning processes which may result in benefits for hospitals. Benefits might include longer shelf life and subsequent reduction of wastage.

For more about the
Blood Stocks Management Scheme
 visit
www.bloodstocks.co.uk