Provision of Blood for Neonates in the Emergency Setting

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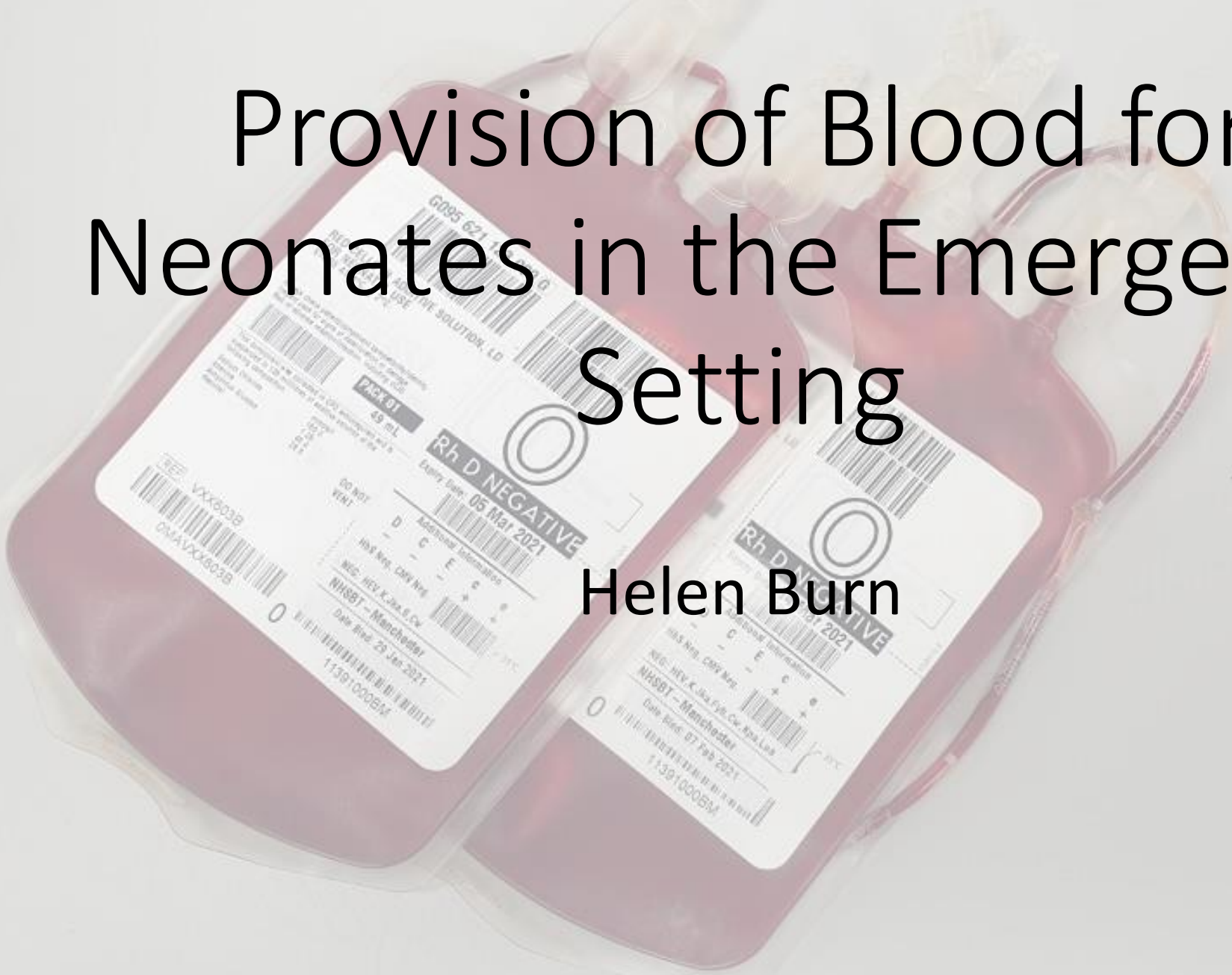


Introduction

A stock of blood suitable for neonates should be available at all times in preparation for an emergency.

These units are usually group ONEG, K-, HbS-, CMV-, E-,C- and from a repeat donor with a high haematocrit.

These specifications make such stock very precious and we should be doing all we can to prevent wastage.

Pre-planned or non-urgent neonatal transfusions could be ordered from local NHS BT as required.

Emergency stock is for when the clinical situation does not allow the time to source the units from the local NHS BT.

Previously a ‘grab bag’ (an adult ONEG, K- unit) was on standby but following a review of a paediatric emergency, paediatric packs were introduced.

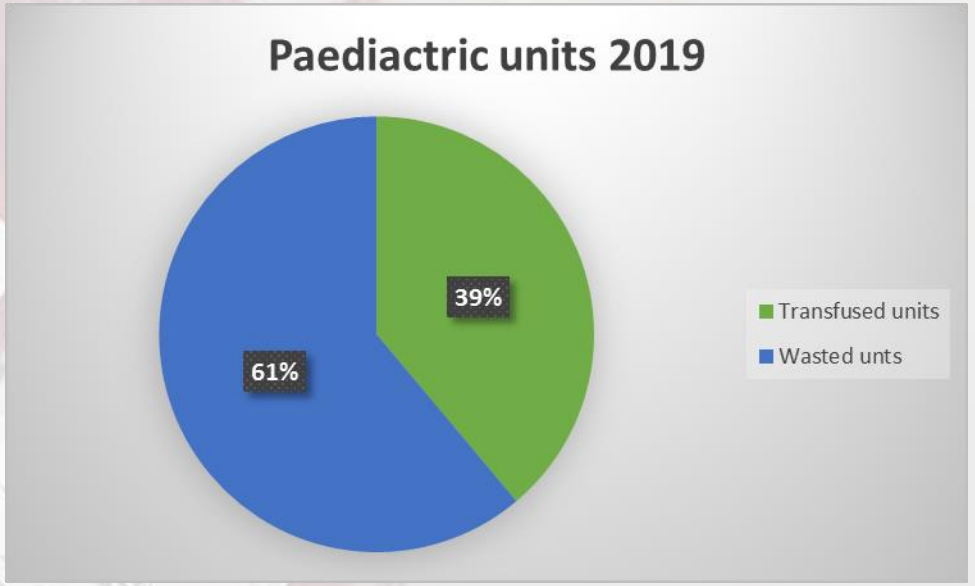
In 2019 our trust ordered 288 neonatal units.

A large proportion of these units would have been on standby for a paediatric emergency.

Unfortunately only 112 units were actually transfused and the remaining 176 units were wasted due to time expiry. 61.6% wastage.

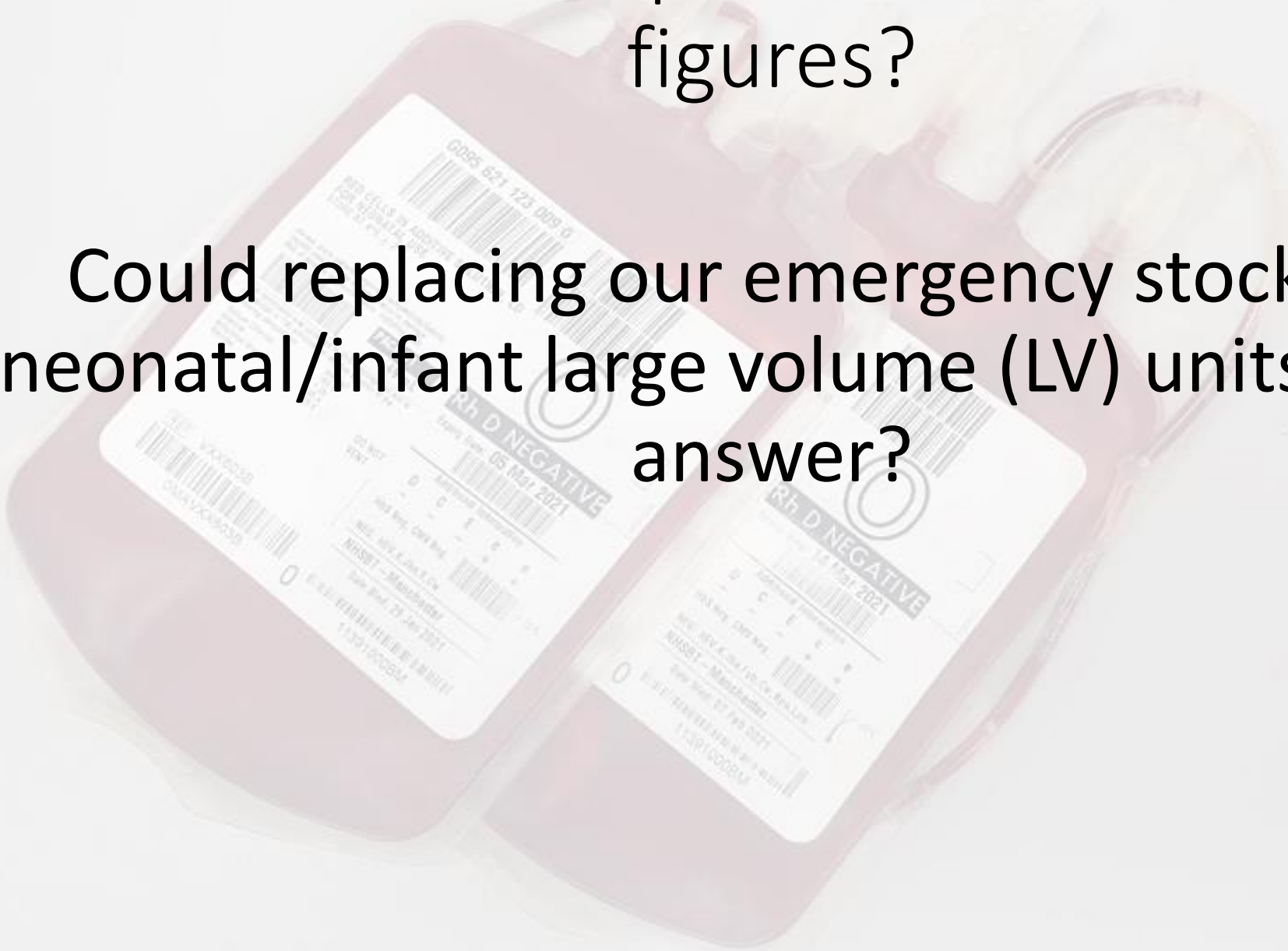
Trusts total wastage figure for all stock is a successful 3.06%.

*Note figures for 2019 as pandemic makes 2020 an atypical year.



How can we improve on these wastage figures?

Could replacing our emergency stock with neonatal/infant large volume (LV) units be the answer?



Cost Involved for Comparison

Unit Type	Cost
Neonate	£56.45
Standard Adult	£138.83
Large Volume (LV)	£175.89

Advantages

Can be ordered to match the neonatal specifications.

Can be rotated into routine adult stock as approaches expiry unlike neonatal packs.

Transfused to alternative adult rather than wasted due to time expiry.

Potentially less wastage of neonatal units and therefore save money.

Disadvantages

Not all of the unit is likely to be transfused in neonates, partial unit wastage.

If recirculated into routine adult stock the recipient may not have needed the addition specifications and resulting additional costs.

To waste a neonatal units has a lower financial impact than a more expensive LV unit.

Concern from medical staff regarding appropriateness of unit may cause hesitation and therefore delay.

Other Factors to Consider

Who would incur the additional cost of a LV unit if a standard adult unit would have sufficed?

Donors view point on wastage… if part of their donation is used for a baby, would they view the remaining unit wastage in the same way they would view a full unit being wasted?

Urgent situations can be very stressful, is changing protocols surrounding urgent situations wise when it could further increase staff anxiety?

Could this increase the likelihood of a neonate being exposed to multiple donors?

176 neonatal units is 29.3 donations.

Conclusions

Not a ‘one size fits all’ situation.

Depends on labs proximity to local NHS BT.

Depends on number of paediatrics and paediatric transfusions.

Figures for this Trust suggest using LV units might reduce neonatal wastage. Neonatal split packs could be ordered from local NHS BT as required. A LV unit could be on stand by for any emergency situations which may arise where the neonatal transfusion cannot wait until blood can be sourced from NHS BT. When the LV unit is approaching expiry the unit could be redistributed into routine adult stock.

Changes made in light of Conclusion

Our reserved paediatric emergency stock has been reduced to 3 paediatric packs per hospital site.

Only one site now has paediactric units available as routine stock.

Units are not replaced until their expiry date.

Hopefully this years wastage figures will show a huge improvement.

Thank You