University Hospital Southampton NHS Foundation Trust

NHS Blood and Transplant

Optimising appropriate O negative stockholding and use at Southampton General Hospital (September 2019 – February 2020)

BACKGROUND

In the UK, the stability of the blood supply depends on availability of donors to donate. Typically, 7% of the population in the UK are group O negative (O neg), yet this blood group makes up more than 13% of hospital requests. This is mainly due to it long being considered the 'universal donor', the blood group which is safest to give in an emergency where the blood group unknown. Maintaining adequate supplies of O neg blood to meet demand is a constant challenge, often becoming more challenging during summer and winter months where donor availability is reduced.

University Hospital Southampton NHS Foundation Trust provides care to a population of nearly 1.9 million, offering complex services for adults and children across South Hampshire. Central to much of this work is the Transfusion Laboratory at the main site, the acute Southampton General, a large teaching hospital with approximately 1300 beds. The lab provides blood component cover on-site for a wide range of specialities from oncology, haematology, transplantation, cardiac and vascular surgery, as well as providing transfusion services for maternity, off-site community hospitals and blood cover for both air and road ambulances. It is no surprise to hear then that Southampton General Hospital falls into the 'Very High User' category of blood use by NHS Blood and Transplant (NHSBT) and on average, more than 1500 units of red cells and 250 O neg units are issued to the hospital every month.

Summer of 2019 presented a particular challenge with the supply of O neg blood. O neg task groups were subsequently set up between NHSBT with the representatives from the highest users of O neg to understand drivers of demand and to identify opportunities to optimise practice.

AIMS OF Southampton General Hospital O neg Task Group

1) Identify factors which drive the demand for O neg

2) Understand how drivers affect stockholding

3) Review wastage reduction strategies and trending data

4) Review practice in line with NBTC O neg recommendations

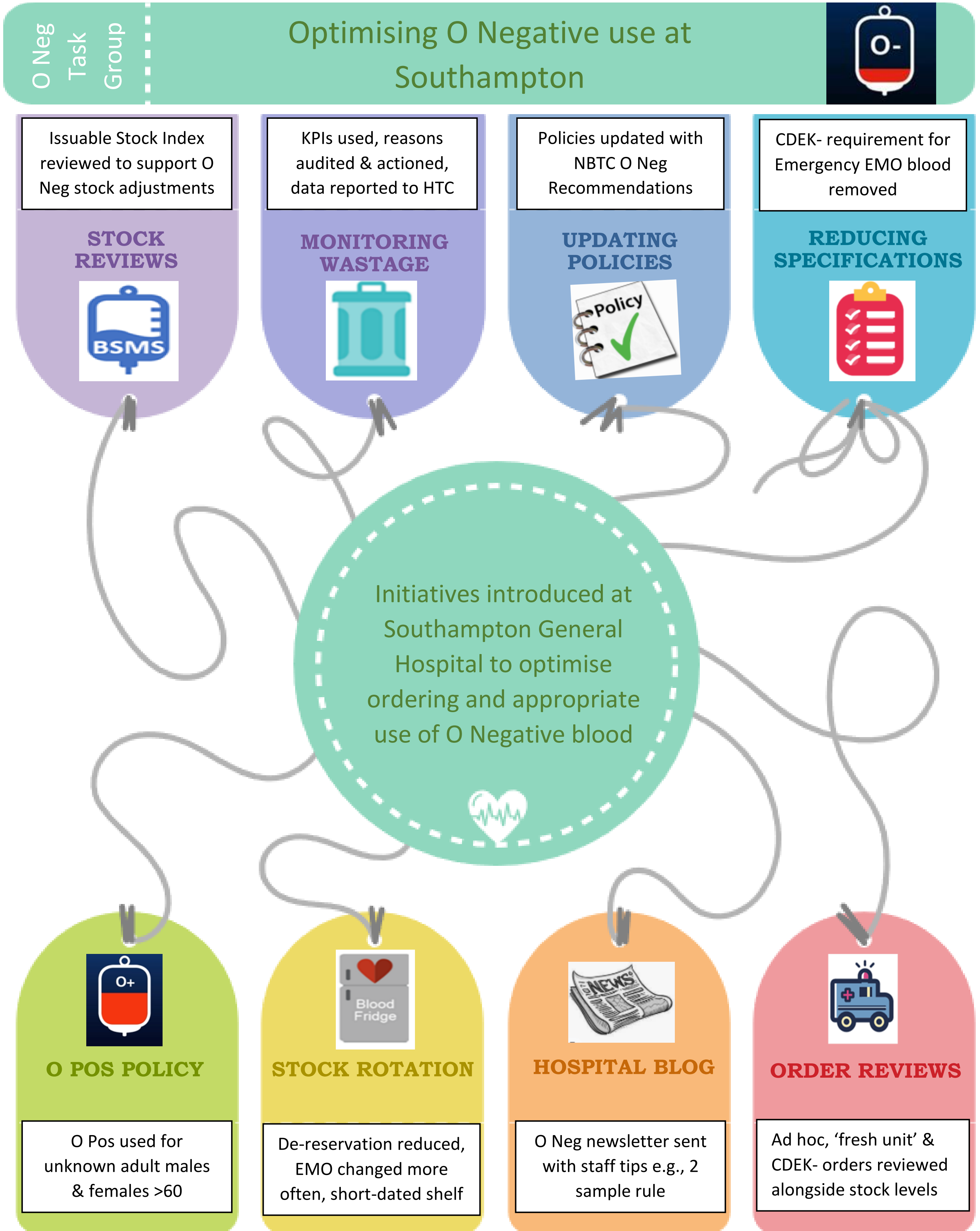
5) Explore any opportunities to implement changes to optimise stockholding and appropriate use.

FINDINGS OF TASK GROUP: (Opportunities for review underlined):

1) **Factors identified which affect O neg demand:** Hospital Size: Large hospital with complex specialities/surgeries with high demand for blood/blood cover; Remote fridges with emergency blood: 8 on/off site; Emergency blood group held in fridges? :O+ for males/O- for females; Supplier of blood to emergency services? Yes, air and road ambulance; Proximity to blood centre: Close (next door)
2) **Drivers affecting stockholding:** Provision of blood: Electronic issue in place; Stock de-reservation period: 72 hours; Specificity of emergency units: O neg, cde & K neg; Frequency of emergency unit rotation: 14 days; O neg Issuable stock index (ISI): Above target of 3-4 days
3) **Wastage reduction strategies**: Formal process to identify short-dated units? No; Wastage pattern? Largely split between out of temperature control outside laboratory (OTCOL) and time expiry in lab (TIMEX); In-house Wastage KPI? Yes, KPI (<5%) in place & incident raised for non-conformities; Wastage data shared with HTC? No
4) **NBTC recommendations:** Largely adopted except for use of O neg for female patients > 50 years old in an emergency

OUTCOMES:

5) **Implementing changes:** Reviewing local practice and understanding which different drivers could be influenced allowed several adjustments to be made to policies and protocols. The number of routine O neg units held was reduced by 8 units (approximately 20%). Adopting a 'just in time' approach optimises stockholding and avoids wastage. Several changes introduced ensure that opportunities to use emergency O neg appropriately are maximised by avoiding units being 'tied up'; reducing specifications allows more flexibility of use; and trending of data allows a better understanding of how practice is performing against protocol. A list of initiatives introduced at Southampton General Hospital are shown overleaf.



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