

Bitesize Project

Mixed Issue Policy

Explore and make recommendations on the possibility of the NBS implementing a mixed issue policy when the NBS inventory climbs above the normal threshold. e.g. issue a mixture of fresher and older blood in one delivery



A. Harper - Issue Manager

Exploring and making recommendations on the possibility of the NBS implementing a mixed issue policy.

Stock Issue Models

- Current FIFO policy
- Selection across age range
- Selection from young and old stock
- LIFO



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To see the possible effects different issue policies might have on both NBS stock and stock issued to hospitals a desktop exercise was carried out using 4 different models

FIFO = oldest units issued except for neonates, some phenotyped units, irradiated units etc.

Selection across age range = hospitals requesting stock would receive a proportion from across the date range

Selection from young and old stock = hospitals requesting stock would receive half from the oldest stock and half from the freshest

LIFO = hospitals receive all their blood from the freshest stock for each exercise the starting point was actual A Pos stock at one NBS centre

the model assumes constant supply and demand i.e. 240 units in and out

the model does not take into consideration inter-centre movements or fresh units taken for irradiation, neonatal or from the phenotype bank

Results

- FIFO
 - Issued units within 2 days shelf life
- Selection across age range
 - Day 13 NBS start to expire units
 - Both NBS and Hospitals have stock management issues requiring resources



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FIFO - issued units are within 2 days shelf life during the period when model was run this was 24 and 25 days to expiry. However, this of course is dependent on NBS stock levels

Selection across age range - at day 13 the NBS started to remove units below the SLA which inevitably results in expiries. Note this exercise was one group at one site so expiries could potentially be high.

main issue is the stock management procedures.

to implement this the NBS would need more storage space, storage trays/crates and staff.

it would also impact on hospitals staff as they would be receiving units with multiple expiry dates

Results

- Selection from young and old stock
 - Slow downward trend possibly leading to expiries
- LIFO
 - Previously shown not to be a viable option due to large expiries within the NBS



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Selection from young and old stock - showed a slow downward trend towards the SLA, which would eventually lead to expiries, but more importantly the stock from the oldest age range would always be close to the SLA minimum (in this exercise the units were 8 days older than when using the FIFO policy) although this is compensated for by half the stock being very fresh

LIFO - previously shown to be not a viable option due to large number of unit expiries at the NBS

RECOMMENDATIONS

- FIFO
 - Need to keep NBS stock at a manageable level
- Selection across age ranges
 - Resources needed to implement
- Selection from young and old stock
 - Could be used for small usage hospitals when NBS stock rise above the norm



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