NHS Blood and Transplant

NHSBT Board
July 2019

Pricing Proposals for 2019-20 and 2020-21

1. Status – Official

2. Executive Summary

This paper summarises the pricing proposals for NHSBT's blood components and Diagnostic and Therapeutic Services for 2020-21 and proposes a potential adjustment to the prices already agreed with the NCG for 2019-20. Following approval by the Board, these will be discussed with the National Commissioning Group (NCG) in September 2019, with a view to implementation in 2020-21.

We expect that demand for red cells will continue to decline for the next 5 years, rather than flattening as was previously assumed due to changing demographics. Managing demand at these reducing levels is creating significant supply challenges due to the unequal decline in individual blood groups. There is also a need to markedly increase Ro donor numbers to support increasing demand from patients with sickle cell disease, which will substantially increase marketing costs.

Our pricing proposals for 2020/21 will result in an increase in the NHS's expenditure on blood, driven by a combination of higher costs across the blood supply chain, pay inflation, an increase in employers' pension contribution and further lost contribution from reducing demand. We are proposing an increase in the red cell price of 7.0%, i.e. from £133.44 to £142.71. Approximately half of the price increase is related to the increase in pension costs, for which hospitals are funded. When demand reduction is taken into account, this results in an overall increase in NHS expenditure on blood of 6.8%. Including Diagnostic and Therapeutic Services, the total change in cost to the NHS will be a rise of 6.1%.

The ability to remove cost to keep pace with reducing red cell demand is becoming more challenging, particularly given the marked reduction in the demand for blood and the significant costs (£95m) already removed from the blood supply chain over the last 7 years. We have reviewed our cost base for 2020/21 and are implementing a cost reduction plan of £3.7m. Overall, however, our plans require investment to ensure that our blood collection capacity is maintained at an adequate level, and to allow us to build the donor base for O D negative and Ro blood. Despite this, NHSBT remains one of the lowest cost blood services in the world.

We anticipate a significant change to the UK plasma market in 2019. The Advisory Committee on the Safety of Blood, Tissues and Organs (SaBTO) has reviewed the risk assessment on transmission of variant Creutzfeld-Jacob disease (vCJD), and the guidance that that patients born after 1995 should be treated with non-UK derived plasma is expected to be withdrawn. The recommendation to use platelets collected by apheresis for post-1995 patients will also be withdrawn. Revised guidance is now expected in late 2019, subject to approval from Ministers. This is likely to alter demand for plasma products from late 2019 and require an associated change in pricing. A plan for a return to domestic plasma has been produced and will be reviewed at the September Board.

3. Action Requested

The Board is asked to approve the final red cell pricing proposals for 2020/21 and the potential amendments to plasma and platelet pricing for 2019/20.

4. Update on 2019/20 pricing: potential changes in plasma guidance

We continue to anticipate changes to clinical guidance regarding the use of imported plasma and apheresis platelets for patients born after 1995. Currently, UK plasma is excluded from the manufacture of Fresh Frozen Plasma (FFP) and cryoprecipitate for such patients. Plasma is imported from low risk countries and treated with methylene blue (MB) to reduce pathogen transfer risk. We now expect the revised guidance to be effective from late 2019.

A return to the use of domestic plasma would require a number of changes to blood collection and donor marketing activity, capacity to manufacture to higher demand levels, and the development of processes associated with potential requirements to pathogen inactivate UK plasma components.

We have worked through the implications of revised guidance and estimate there to be a financial risk with hospitals moving to UK sourced plasma and pooled platelets during the latter part of 2019/20. This could result in a lost contribution of £3-4m. There are various alternatives being considered to mitigate the financial risk, including an adjustment to our prices during 2019/20.

- Establishing a single (i.e. volume weighted) price for platelets and removing the separate prices for apheresis and pooled platelets. This change would mitigate against a potential £1m contribution loss. Should the SaBTO guidance not change, we would also revert to a common price for both platelet forms for operational reasons, from 2020/21.
- In 2019/20, we would expect there to be a mixed usage of MB-FFP and FFP, as demand stabilises. In this situation, we considered establishing a single (i.e. averaged) price for FFP products, with the average being set at a level to recover all or part of the excess costs of the ongoing importation of the Polish supply. There is, however, a risk that adopting this approach may stimulate a legal challenge by other manufacturers. We therefore recommend retaining separate prices for 2019/20 and mitigating the loss from the demand reduction reserve. In 2020/21, only one form of FFP

would prevail and pricing would be developed based upon relevant volumes and costs.

In the event that the recommendation is to continue importing plasma, we would need to determine whether supply will become unsustainable in the mid- to long-term given growing demand. In such circumstances, NHSBT would need to consider what practical steps could be taken to maintain a sufficient supply of lower-vCJD risk plasma components. One option might be to include withdrawing from routine supply of non-UK FFP (where there is an alternative medicinal product) and a diversion of plasma to manufacture non-UK cryoprecipitate, where no realistic alternative exists.

5. Purpose

5.1 Background: red blood cell and platelet demand

Demand for red cells has declined steadily over the last 5 years, driven by a combination of medical advances such as laparoscopic surgery, pharmacological developments and educational initiatives such as NHSBT's "patient blood management" (PBM) programme which encourages the safe and appropriate use of blood. Publications in medical journals have also demonstrated that patients can have a better outcome when less blood is used. Despite an increase in the population over 60 years old (i.e. the age group which uses most blood), blood usage continues to decline.

Since the end of 2009/10, NHSBT has seen a 37% reduction in the demand for blood. In the same period, the NHS's expenditure on blood (and hence NHSBT's income) has reduced from £317m in 2009/10 to £264m in 2019/20, while the unit price of red cells has remained broadly flat (£133.19 to £133.44) despite increasing levels of safety and availability. The latest demand figures are suggesting a red cell forecast for 2020/21 of 1.345m units. This is 1% lower than the plan originally agreed for this year with the NCG (1.360m units).

In contrast, following a period of decline, demand for platelets has stabilised at c.0.250m, which is marginally higher than the 0.249m agreed with the NCG for 2019/20. The forecast for 2020/21 indicates that the demand for platelets will continue to remain broadly flat versus the current plan.

Description	Original NCG Plan 2019/20	Revised Demand 2019/20	NCG Plan 2020/21	+ / (-) NCG Plan to Plan
Red Cells	1.360m	1.385m	1.345m	-0.015m
Platelets	0.249m	0.252m	0.249m	-
Plasma Components	0.357m	0.347m	0.340m[1]	-0.017m

[1] TBC pending revised guidance

NHSBT has implemented substantial cost reduction programmes (£95m since 2011/12), which have included the rationalisation of manufacturing and testing facilities and a reduction in blood collection capacity leading to substantial decreases in headcount. NHSBT has recently faced significant operational challenges, the foremost being maintaining red cell stocks at agreed safety

levels and in particular, the need to address the decline in the donor base for O D negative blood donors. Although stocks are stable, achieving this has resulted in significant increases in our cost base.

The plan for 2020/21 also includes significant cost pressures over which NHSBT has no control, e.g. staff grade increment increases, enhanced holiday pay entitlement, capital charge adjustments etc.), inflation (prospective pay award 2.5%; increased Employers' Pension Contribution and Treasury GDP Deflator 2.0%) and lost contribution through reduced demand for red cells and frozen products. The aggregate of all these pressures will result in NHSBT's cost for its blood components in 2020/21 rising by 6.8%.

A review of costs has been undertaken to identify further potential short-term savings that could be delivered in addition to the baseline £1.2m cost improvement plan. This identified potential savings of around £2.5m which would provide an opportunity to reduce the increase in the red cell price to 5.8%. However, a range of further cost pressures were also identified which the organisation will face next year, including investments related to cybersecurity, the High Court ruling on holiday pay (the Flowers case) and the in vitro device directive. We therefore determined that it would not be appropriate to offer further overall savings for next year.

Category	**Blood £m**	**DTS £m**	**Total £m**
Opening position (closing NCG position 2019/20)	***264.2***	***67.2 (i)***	***331.4***
2020/21 Product and Service Demand Impact (at 2019/20 prices)	-4.3	1.9	-2.4
Revised baseline	**259.9**	**69.1**	**329.0**
2020/21 Cost Reduction Programme	-3.7	-0.5	-4.2
2020/21 Cost Pressures and Developments	15.3	1.2	16.5
2020/21 Inflation funding increase (Pay; Employers' Superannuation; Non-pay)	6.1	1.8	7.9
Total Impact	***17.7***	***2.4***	***20.2***
2020/21 Revised Position	***277.6***	***71.6***	***349.2***
Percentage increase vs Revised baseline	***6.8%***	***3.5%***	***6.1%***

Note:

i) DTS closing NCG position adjusted for finalised demand assumptions for 2019/20 (£64.9m + £2.3m = £67.2m).

5.2 Pricing: Red Cells

In this context the most realistic approach is to recommend a price of £142.71 per unit for 2020/21. The NHS's expenditure on blood will in overall terms increase for next year by 6.8%.

5.3 Blood Component Trends

Demand for O D negative units has flattened during the current year at c.12% of total demand, compared with prevalence in the donor population of 8%. Issues of this group are higher, however, at around 14% of total issues. This largely reflects the need to substitute Ro units with O D negative units. We are continuing to recruit the additional donors that will be necessary to meet the demand, and our cost base includes £2m to pay for this activity in 2020/21.

Demand for group A D negative platelets continues to remain high at c.15%, albeit that it has stabilised at this level since late 2015. Meeting demand at these levels continues to be challenging and is increasing our costs, with issues of this group higher still at c. 18%. At a hospital level, there continues to be evidence of differing ordering practices. In response, we continue to work with hospitals to influence the usage of universal blood groups through PBM routes. There are though no plans to differentially price O D negative red cells or A D negative platelets, given previous feedback that this would not change ordering behaviour and would be extremely unpopular with customers.

5.4 Long term demand: red cells and platelets

Demand for red cells continues to be difficult to predict. We anticipate continued red cell decline over the next 5 years; we had previously assumed a flattening of demand in the outer years due to changing demographics, which has not occurred. The latest forecast for 2020/21 is suggesting a demand of 1.345m, which is a further reduction of c. 15k units compared with the 1.360m agreed with the NCG for 2019/20. This also impacts on the demand trajectory of the following years.

The increasing decline in demand combined with a potential increase in costs, has major implications for NHSBT's financial situation in terms of the consequent requirement for cost savings. Removing further capacity and cost in line with the demand forecast is also particularly challenging given the need for sustained investments for blood donor recruitment and collection capacity. Operational efficiencies also need to be balanced with maintaining security of supply and the ability to respond if demand were to increase.

Year	2018/19 actual	2019-20 plan	2019/20 forecast	2020-21 forecast	2021-22 forecast	2022-23 forecast	2023-24 forecast
Red cell issues (million)	1.417	1.360	1.385	1.345	1.305	1.271	1.243
% change vs 2017/18	-	-4.0%	-2.3%	-5.1%	-7.9%	-10.3%	-12.3%

Following a period of decline, demand for platelets has stabilised at c. 250k units. We plan to continue with the production of apheresis platelets at 48% of overall issues, albeit that actual demand for apheresis platelets is c. 26%.

There are, however, hospitals which continue to order a disproportionate number of platelets collected by apheresis.

A price differential for platelets was introduced in 2017/18 to reflect the cost of manufacture and to influence hospitals toward adhering to the guidance on ordering. The price differential disadvantages those hospitals with a disproportionate requirement to order these products. It is therefore proposed that we return to a single price for these products in 2020/21. Were there to be a SaBTO led change preceding this, we would seek to mitigate against the contribution risk in 2019/20, which would then remove the requirement for this change in 2020/21.

Year	2018/19 actual	2019/20 plan	2019/20 forecast	2020/21 forecast	2021-22 forecast	2022-23 forecast	2023/24 forecast
Platelet issues (million)	252.8	248.5	252.0	248.5	245.8	243.9	239.5
% change vs 2017/18	**-**	-1.7%	-0.3%	-1.7%	-2.8%	-3.5%	-5.3%

6. Diagnostic and Therapeutic Services Pricing

DTS is a varied directorate containing several strategic operating units. Each area has a strategy intended to establish NHSBT as a preferred supplier within the NHS. The overall increase in price for DTS is 3.5%, driven by a combination of Agenda for Change and employee pension contributions.

The Tissue and Eye Services (TES) business unit operates in a competitive commercial environment, and during the current financial year has seen its market share across several product areas come under pressure. We have also seen significant increases in consumable costs which have been absorbed in year. This results in TES continuing to make a significant deficit. We are developing plans to improve the financial position and are examining several options for improving demand for our products. In overall terms our intention is to have an inflationary rise for 2020/21, although we will respond to evolving market conditions and consumable costs and adjust individual products accordingly.

During 2020, it is planned to move Histocompatibility and Immunogenetics (H&I), Cellular and Molecular Therapies (CMT) and Red Cell Immunohaematology (RCI) operations from the Leeds and Sheffield Blood Centres to the new centre at Barnsley. This move will provide state-of-the-art laboratory accommodation over the coming years as well as providing additional capacity for the manufacture of advanced cell therapies.

Our RCI service continues to explore opportunities to improve services to customers through the incremental introduction of shift-working and an extended service offering. During 2020/21, we plan to roll out shift working at our two busiest laboratories - Colindale and Barnsley. We will continue to

promote NHSBT's comprehensive antenatal screening service supported by fully automated test requesting and reporting.

Having completed the roll-out of patient-facing next-generation sequencing across our H&I laboratories, we will monitor the impact of this new technology on costs and referral practices. During 2020/21, this platform will be used to support new matching algorithms for the provision of HLA-selected platelets.

Within our CMT business, the storage of patient-derived stem cells continues to increase despite NHSBT's policy of encouraging physicians to identify donations which might be discarded. In the absence of new guidance from commissioners, we will continue to take steps to optimise the use of our cryogenic storage facilities.

7. NHSBT Transport and Logistics Arrangements

NHSBT continues to improve the efficiency of the fleet, including the introduction of broader delivery windows (90 minutes before pre-agreed delivery time and 30 minutes afterwards) linked to a review of contracted an in-house provision. This will result in significant increases in fleet productivity and efficiency. The revised timings will not change hospital order cut off times or operating hours. The intention remains to deploy these proposed changes with hospitals in 2019/20. The current price (£52.15) for ad-hoc and emergency deliveries, regardless of distance from the supplying blood centre, will be uplifted by inflation.

8. Summary

NHSBT continues to face a challenging financial situation, with declining demand, a significant increase to our cost base and uncertainty over the future provision of plasma products. It is in this context that we are recommending a 7% price rise for red cells in 2020-21. A plan for a return to domestic plasma has been produced and will be reviewed at the September Board.

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