

# Blood Technology Modernisation

NHSBT Board Report – September 2021



# Programme Summary - September

Reporting date: 23/09/2021  
SRO: Wendy Clark  
Accountable Exec: Christie Ash



Blood and Transplant

Note from Programme Director

The programme objectives are to **Stabilise and Secure Blood Technology**.

RAG Status	
Previous	A
Current	A
Trend	

- We have made good progress with the Critical Delphi Backlog with the remaining release on track to go live on 26th Sep. This is a significant achievement for the programme as we'll have delivered the entire backlog of Pulse change (~3 years) inherited at the start of the programme. We have also completed the migration to our new Hyperflex environments provided by the SS&S programme, which allow us much more flexible and efficient ways of working.
- The delivery of the C# modernisation work continues to progress well and we are broadly on track to deliver our 15% accept and deploy target by the end of the year. However, the issues we encountered earlier this summer with testing resourcing, and ongoing issues with BA resources does mean that the Donor Management release and Discretionary Testing / Panel Management release are now forecast to go-live Feb '22 – a few weeks later than originally planned. This delay poses a knock-on risk to the fast-following releases delivering Hold, Pack Lot & Queue Job management and Lab Workload, Reference Data & User Management capabilities, which could see the go-live date slip from Mar '22 to early FY22/23.
- We have completed our planned review of our estimates and discovered that some elements of Pulse are more complex than initially thought (e.g.: Queue Jobs, Discretionary Testing, Hold Management), so whilst we are broadly on track to deliver what we set out to deliver this year, the percentage completed of the overall scope has decreased. However, we have also identified several opportunities to decrease scope and Discovery work is being planned in these areas to see what gains can be made. We recognise that our estimating process is still immature and based only on the first delivery - a complex part of Pulse - with a new team. We plan to revisit the estimates Q2 21/22 after more C# code has been delivered.
- We continue to mitigate the High Risk that other Strategic Change programmes will impact on BTM (e.g.: PFM, Our Future Health, Testing Development Programme etc.). We are working closely with the PFM Programme Team and finalising the Impact Assessments of their new change requests which are due to be released soon and may result in a Programme CR. We plan to further reduce this risk into 22/23 by increasing the capacity for non BTM work and are developing a capacity-based business case to access funding to support this.
- Programme finance continues to track a £53k overspend, which we expect to recover with cost measures. The % of scope delivered in-year is less than anticipated creating a risk that the duration and cost of the programme will increase, currently estimated to be within contingency.
- The planned Savant supplier audit has been complete with no significant issues identified. A Gate 0 Programme Assurance review has been scheduled for Nov '21.

Key Performance Indicators

Progress against plan			Budget/spend			Scope			Quality			Benefits			Leadership Continuity			Vendor Relationship			Engagement Scores											
Previous	Current	Trend	Previous	Current	Trend	Previous	Current	Trend	Previous	Current	Trend	Previous	Current	Trend	Previous	Current	Trend	Previous	Current	Trend	Engagement			Enablement								
G	A		G	G		G	G		G	A		G	G		G	G		G	G		G	G		G	G		G	G		G	G	
Critical Delphi Backlog delayed by 1-week; Donor Management, Discretionary Testing and Panel Management release delayed 3-5 weeks.												Benefits defined and baseline measurements taken			Several leadership vacancies			No concerns			April – 5.1 May – 4.7 August – 4.6 (out of 6)			April – 5.1 May – 5.0 August – 5.1 (out of 6)								

Risks and Issues

Type	ID	Description	Inherent Risk		Mitigation Actions / Resolutions	Residual Risk	Owner
			Impact	Likelihood			
R	Prg-070	All current Pulse change capacity is allocated to Blood Tech Modernisation. There is a risk that any new demand for product centre capacity i.e. PIM, Our Future Health, Testing Development Programme will impact programme timelines.	4	5	<ul style="list-style-type: none"> <li>Ensure compliance with agreed BTM processes; promote use of BTM Demand Management process to gain early visibility of potential new initiatives; complete impact assessments to inform prioritisation discussions; adopt formal change requests to manage use of BTM capacity.</li> <li>Create a capacity-based Business Case</li> </ul>	Very High	CA
R	Prg-119	There is a risk that the planned release containing Hold, Pack Lot, Queue Job Management, Lab Workload, Reference Data & User Management scheduled for Mar '22 (29.1) may be delayed as a consequence of the delay to the Donor Management, Discretionary Testing and Panel Management release date (27.1).	4	5	<ul style="list-style-type: none"> <li>Detailed re-planning exercises are in progress conducted with a Risk based assessment of required testing.</li> </ul>	Very High	CA
R	Prg-071	There is a risk that the programme is unable to deliver to plan caused by the unproven estimates produced for converting Pulse modules and new ways of working resulting in increased investment.	5	3	<ul style="list-style-type: none"> <li>First C# release will test assumptions built into estimates by Sept/Oct 2021. Following this, we will be able to assess the validity of remaining C# upgrade plan</li> </ul>	Very High	CA
R	Prg-074	There is a risk that C# design and build capacity may be insufficient to meet the projected BTM schedule resulting in a delay in the overall programme completion.	4	4	<ul style="list-style-type: none"> <li>Working closely with supplier to monitor and understand options to increase capacity</li> <li>Progressing initiatives to depress the overall volume of design &amp; build effort required</li> </ul>	Very High	CA
I	1029	There is an issue with achieving our planning estimates for requirements engineering. Plan to deliver around 4%, means delivering against 51 days of estimates per month. This has been impacted by a late withdrawal from a BA candidate.	4	5	<ul style="list-style-type: none"> <li>Working on securing interim cover through our suppliers.</li> <li>Increasing productivity in the team through CI Initiatives.</li> </ul>	Very High	CA

Summary (Sep)	
Approved budget (£k)	£ 4,483
August Spend (£k)	£131
Cumulative Spend (£k)	£ 967
Forecast for this FY (£k)	£ 4,564
Status	On Track

- Green** On track with no major risks or issues
- Amber** On track but major risks
- Red** Issues impacting delivery
- Grey** Not commenced
- Blue** Complete

Budget Update

# Progress against Scope

The table below shows the % complete of total programme scope over time in each area. The last row of the table shows the % of total budget (excluding contingency) spent. Taken together, the table shows the % of budget spent to achieve a % of scope. The % complete takes account of the estimated effort involved, and the complexity of the work is a contributing factor in the estimating process. Estimates have been restated to reflect the **current forecast effort to completion**.

Tracking the Cumulative Delivery and Budget Over Time														
	FY20/21 Target	FY20/21 Actual	May '21 Actual	Jul '21 Actual	Sep '21 Forecast	Sep '21 Actual	Nov '21 Forecast	Jan '22 Forecast	Mar '22 Forecast	FY21/22 Target	FY22/23 Target	FY23/24 Target	FY24/25 Target	FY25/26 Target
Dev effort estimate (anticipated)	8.5K	8.5k	8.5K	8.5K	8.5K	13.5K	13.5K	13.5K	13.5K	13.5K	13.5K			
Product Centre Enablement	75%	75%	81%	84%	92%	92%	96%	100%	100%	100%				
Legacy Delphi Delivery	n/a	51%	51%	70%*	80%	80%	100%	100%	100%	100%				
C# Upgrade	- Requirements Definition	15%	13%	25%*	30%*	30%	tbc	tbc	tbc	50%	80%	95%	100%	
	- Design and build	5%	3.5%	6%*	9%*	9%	9%	12%	15%	25%	50%	75%	100%	
	- Test	0%	0%	1%*	3%*	3%	3%	6%	6%	12%	20%	45%	70%	100%
	- Accept and Deploy	0%	0%	0%	0%	0%	0%	0%	6%	12%	15%	40%	65%	100%
	- Decommission	5%	0%	0%	0%	0%	0%	0%	0%	3%	10%	30%	55%	80%
Data Ecosystem & Power BI	0%	0%	0%	1%	2%	2%	tbc	tbc	20%	20%	75%	100%		
Database Modernisation	0%	0%				1%				0%	5%	25%	50%	100%
Integration Modernisation	0%	0%	0%	1%	2%	3%	4%	4%	5%	5%	10%	25%	75%	100%
Budget % of overall (excl. VAT)	n/a	12%	15%	19%	22%	21%	26%	29%	31%	31%	47%	64%	80%	98%

(\*) = delivery progress includes work-in-progress, subject to milestone approval

## Key Delivery Milestones

Workstream	Milestone Description	Baseline Date	Forecast Date	RAG	Commentary
Legacy Delphi Delivery	25.4 Go Live	19/09	26/09	A	Anticipate 1-week delay to go-live due to resource constrains
C# Upgrade	Donor Management (R28) Build Complete	30/09	30/09	G	

1. We have identified additional work that needs to be done to deliver the programme scope. Also, some work is expected to be more complex than originally anticipated. The % complete is therefore lower than expected.
2. Delays in the recruitment of Business Analysts is impacting the % of requirements complete mitigating action is in progress.
3. Test forecast is c8% below target. This is attributable to both the additional work required and a delay in the mobilisation of test resource.
4. To mitigate risk, we have decided not to decommission code until later than originally planned. This has no impact on overall programme cost/effort.

# Challenges and Opportunities to Get Back on Plan

■ **Oct '20.** The Strategic Outline Case estimated that the C# conversion would require **c8.5k** development days to complete; as the estimate was a rough order of magnitude, appropriate contingency was included within the SOC.

## ■ Known Challenges.

- As build and development has progressed, new work has been identified increasing effort estimates further. **The current forecast is 13.5k to complete the programme**; confidence in the estimates is still low since the modules converted first (that have driven increased estimates for those that follow) are expected to be amongst the most complex to be converted and not representative of the whole programme. We expect the effort estimate to decrease over time.

## ■ Known Opportunities.

- There are opportunities to simplify and improve the Session, Donor, Stock and Donation Testing functionality. Discoveries are planned to determine the associated cost and benefit of each of the proposed changes.
- We expect team performance will improve as new members knowledge of Pulse and NHSBT processes increases and existing team members experience of C# development increases – further reducing effort required.
- Subject to capacity availability, **we plan to accelerate a series of discoveries to firm up estimates relating to our known improvement opportunities.**

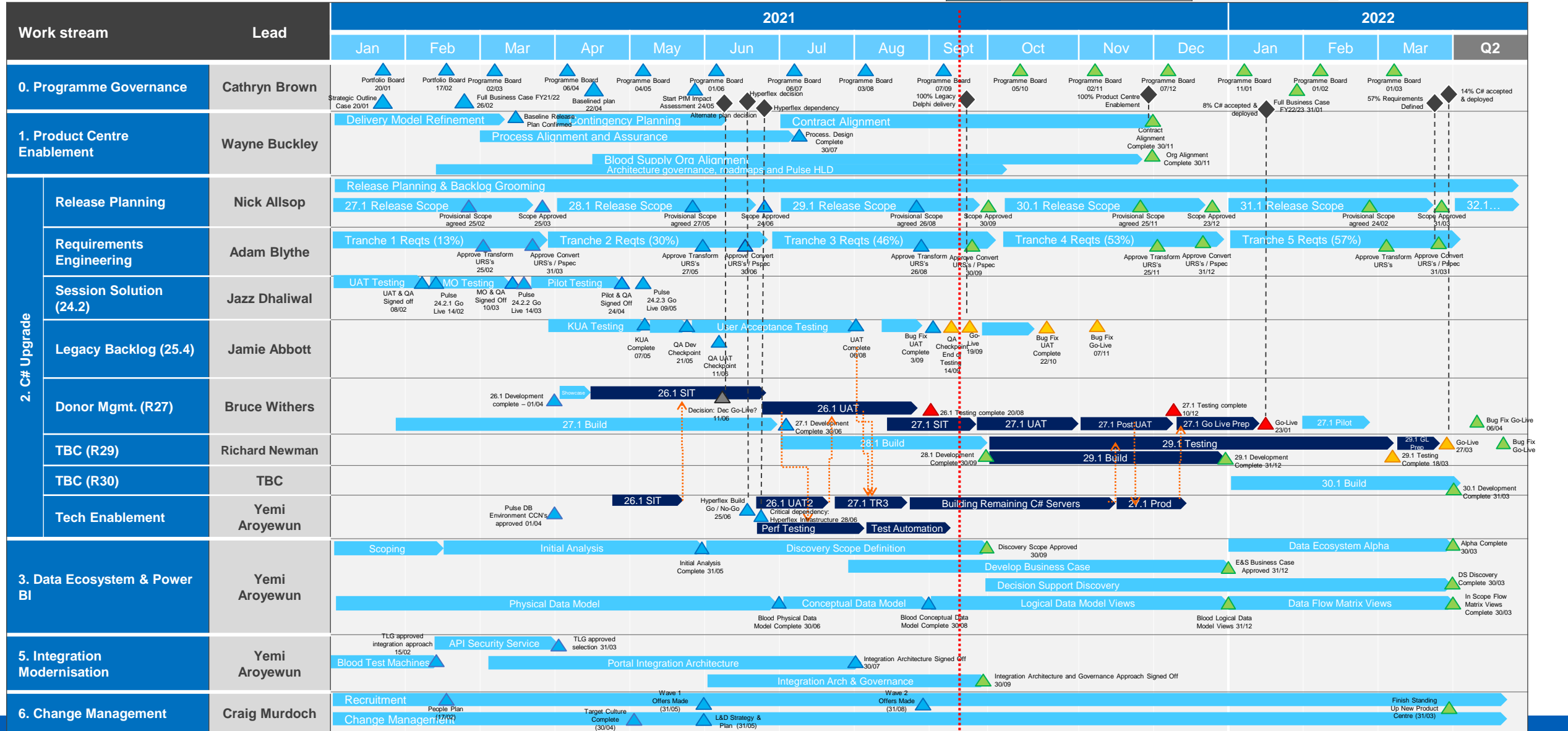


## ■ Forecast.

- If the known opportunities are proven to be valid, we will be able to adjust the overall effort estimate to **c9.7k**. Our estimates remain volatile. We plan to revisit estimates again when we have completed more analysis, design and build.
- If we are unable to mitigate the increased development effort then the duration and/or cost of the programme will increase. We expect any increase to be within the planned contingency threshold.

# Integrated Programme Plan (Level 2)

<b>Green</b>	On track with no major risks or issues	<b>Triangle</b>	Milestone	<b>Key</b>
<b>Amber</b>	On track but major risks	<b>Arrow</b>	Activity	
<b>Red</b>	Issues impacting delivery	<b>Thick Arrow</b>	Critical path	
<b>Grey</b>	Not commenced	<b>Dashed Arrow</b>	Key dependency	
<b>Blue</b>	Complete			



# Supporting slides

# A1: Key performance indicators explained

KPI	Measure	Green	Amber	Red
<b>Progress against plan</b>	Milestone progress against plan	No significant issues or delays with delivery and acceptance of milestones/deliverables. Confidence of Level 1 milestones/deliverables delivery and acceptance on time >80%.	Minor delays, significant issues require short term attention, milestones/deliverables may miss target. Confidence of Level 1 milestones/deliverables delivery and acceptance on time 60-80%.	Major issues / delays, require immediate attention, will not meet target for milestones/deliverables. Confidence of Level 1 milestones/deliverables delivery and acceptance on time <60%.
<b>Budget/spend</b>	Budget remaining vs. forecast to end of FY	Finances are under control and within tolerances set. <b>Under-spend:</b> If no tolerances set, then any favourable variance is within 90 -100% of Budget.	<b>Over-spend (forecast or actual):</b> Finances require attention and may exceed tolerances set. There are issues but these can be resolved with short term action. Formal application for draw-down of any contingency fund will be required. <b>Under-spend:</b> If no tolerances set, then any favourable variance forecast is between 85% & 90% of Budget.	<b>Over-spend (forecast or actual):</b> Financial viability of the programme is under question and requires significant attention. Forecast to exceed contingency fund identified in the Business Case. If forecast spend is in excess of the lower of 10% or 100k of budget, then the business case must be revisited: additional funding is required subject to relevant approval. <b>Under-spend:</b> If no tolerances set, then any favourable variance forecast is below 85% of Budget or £100K under-spend whichever is smaller.
<b>Scope</b>	No. of major and minor CRs in last year	Scope is under control with only minor changes to a limited number of deliverables, which do not affect time, cost and required outcomes of the programme.	Changes or additional deliverables have been requested which will negatively impact time and cost or delivery of other deliverables. There is a risk that "scope creep" may threaten the programme. Formal Change Control is underway.	Changes or additional deliverables have been requested which will impact time and cost or delivery of other deliverables. These will significantly impact time and cost and other indicators beyond agreed tolerances.
<b>Quality</b>	Delivery to Customer's Quality expectations (including GMP & MHRA requirements)	Customer Quality requirements are clear and milestones/deliverables delivered to customer are meeting or will meet customer quality requirements	Some Customer Quality requirements are unclear or there is pushback on the quality of some milestones/deliverables, but these can be rectified without impacting overall programme delivery.	Potentially serious regulatory / quality issues which would prevent programme outcomes becoming accepted into service. Customer is pushing back on the quality of milestones/deliverables being delivered or Customer Quality requirements are unclear. This will severely impact the overall programme delivery and customer acceptance.
<b>Benefits</b>	Benefits progress against plan	No significant issues or delays in realising benefits - will hit or exceed the target.	Minor delays or minor reduction is expected against the benefits defined in the business case. If no tolerance set, then will be within 5% of Business Case.	Viability of the programme is under question from a benefits delivery perspective. Major delays in delivery or significant reduction in expected benefit - reduction in benefit is greater than 5%.
<b>Leadership continuity</b>	% change in leadership in last quarter – includes SRO and product centre LT	No or minor leadership changes	Several leadership changes over short period of time, which can be mitigated through thorough handovers. New leaders continue programme delivery as per Business Case and plans.	Leadership changes without thorough handovers, leading to loss of expertise. New leaders alter programme course, impacting on programme delivery.
<b>Vendor relationship</b>	Vendor relationship as scored by SRO and AD	No concerns or minor concerns.	Diversion of opinion on some topics and/or strained communications, which can be addressed without impacting overall programme delivery.	Significant diversion of opinion and strained communications, which will severely impact the overall programme delivery.
<b>Engagement scores</b>	Monthly programme engagement score metrics on knowledge and engagement	Good engagement scores (4.5 to 6 out of 6).	Mediocre engagement scores (3 to 4.5 out of 6) or sudden drop in scores.	Poor engagement scores (0 to 3 out of 6) or sudden large drop in scores.