

Manufacturing & Logistics

Board Performance Review May 2018

1. Strategic Objectives
2. Directorate Overview
3. Performance Review
4. Deep Dives:
 - a) Ro Supply Challenge
 - b) Supply Chain Modernisation
5. Next Steps

STRATEGIC OBJECTIVES - Blood 2020

To ensure for all patients, including patients with complex needs, that the right blood components are available at the right time, and are supplied via an integrated, cost efficient and best in class supply chain and service.

Blood Collection

We will ensure a sustainable donor base underpinned by flexible collection and donor invitation processes; modern donor service, excellent session experience and high levels of collection productivity.

Supply Chain

Our supply chain will be hospital focused with high levels of safety, productivity, regulatory compliance and order fulfilment.

Customer Service

We will provide excellent customer service with a tailored, cost-effective offering and a modern interface with hospitals.

Integration

Integration of NHSBT's supply chain with key hospitals, and any related networks, to drive improved patient outcomes and reduce system costs through integration of blood supply from "vein to vein".

STRATEGIC OBJECTIVE - Blood 2020



Blood and Transplant

To ensure for all patients, including patients with complex needs, that the right blood components are available at the right time, and are supplied via an integrated, cost efficient and best in class supply chain and service.

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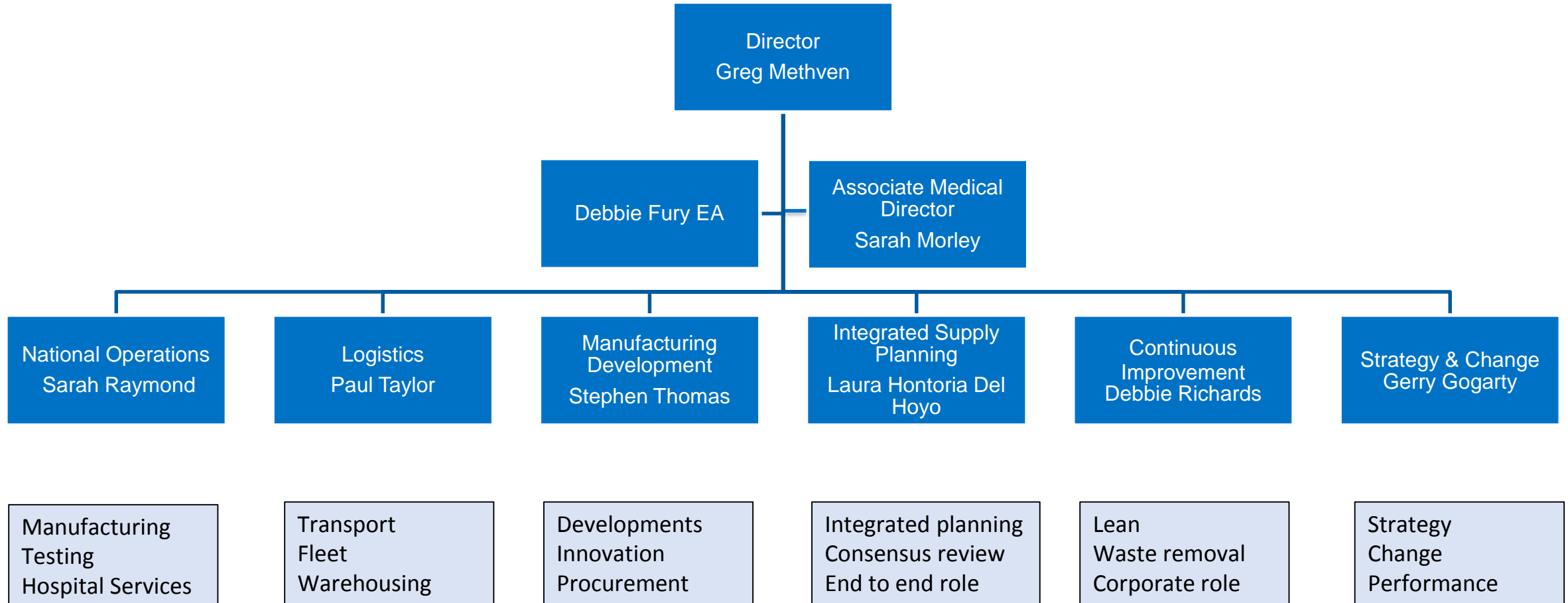
Events

NHS
Blood and Transplant



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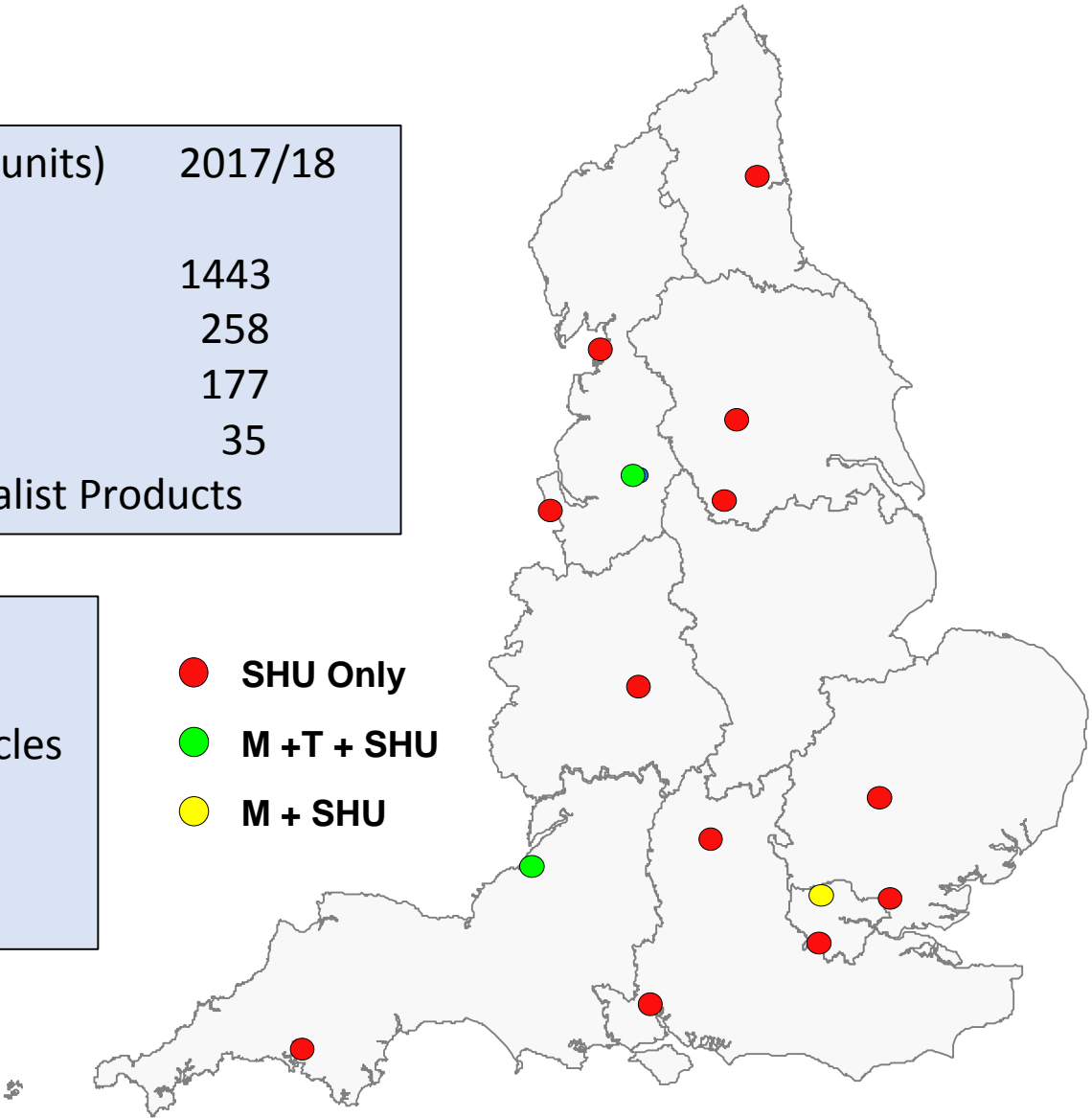
Directorate structure



Components (000's units)	2017/18
• Red Cells	1443
• Platelets	258
• FFP	177
• Cryo	35
• + Range of Specialist Products	

Logistics
• 340 liveried vehicles
• 5.3M miles pa
• 4 warehouses

- SHU Only
- M +T + SHU
- M + SHU



Operations Configuration		
	2008	2018
• Manufacturing	11	3
• Testing	10	2
• Stock Holding Units	15	15

Workforce
• 1046 WTE's
Budget
• £83,992,000

Key trends and factors impacting M&L planning

Key Trends

Demand for red cells has declined and forecasts indicate the trends will continue

Demand from black patients for Ro red cells has increased, and is expected to continue.

There is an increasing imbalance between supply and demand at blood group level.



Key Factors

Recent advances in genomic capability brings the technology into our planning horizon.


A review of plasma restrictions has potential to increase NHSBT product lines and income.

A small number of blood services are making heavy investments in automation.

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Update on Key Business Plan Commitments

Objective	Update
Supply Chain Modernisation	<ul style="list-style-type: none">• Consolidation of processing at Newcastle & Sheffield into Manchester.• Major change initiative delivered successfully on time and to budget.
Core Systems Modernisation	<ul style="list-style-type: none">• Provide Manufacturing, Testing & Hospital Services team to drive development of the ERP solution.• Supported the Business Change workstream at programme level.
Blood Pack Contract	<ul style="list-style-type: none">• Large scale procurement exercise to negotiate new contract for blood packs.• Major implementation - delivered on time and budget.
HEV Universal Blood & non-blood Testing	<ul style="list-style-type: none">• New safety intervention in response to emerging infection, also developed national policy.• Delivered to aggressive timelines.
Warehouse Consolidation	<ul style="list-style-type: none">• Closure of warehouses in Newcastle, Sheffield and Leeds• Delivered successfully - £268k pa benefit
Whole Blood & Platelet Containers	<ul style="list-style-type: none">• Ensure quality of platelets and whole blood donations• Already demonstrated value with extreme hot and cold weather conditions



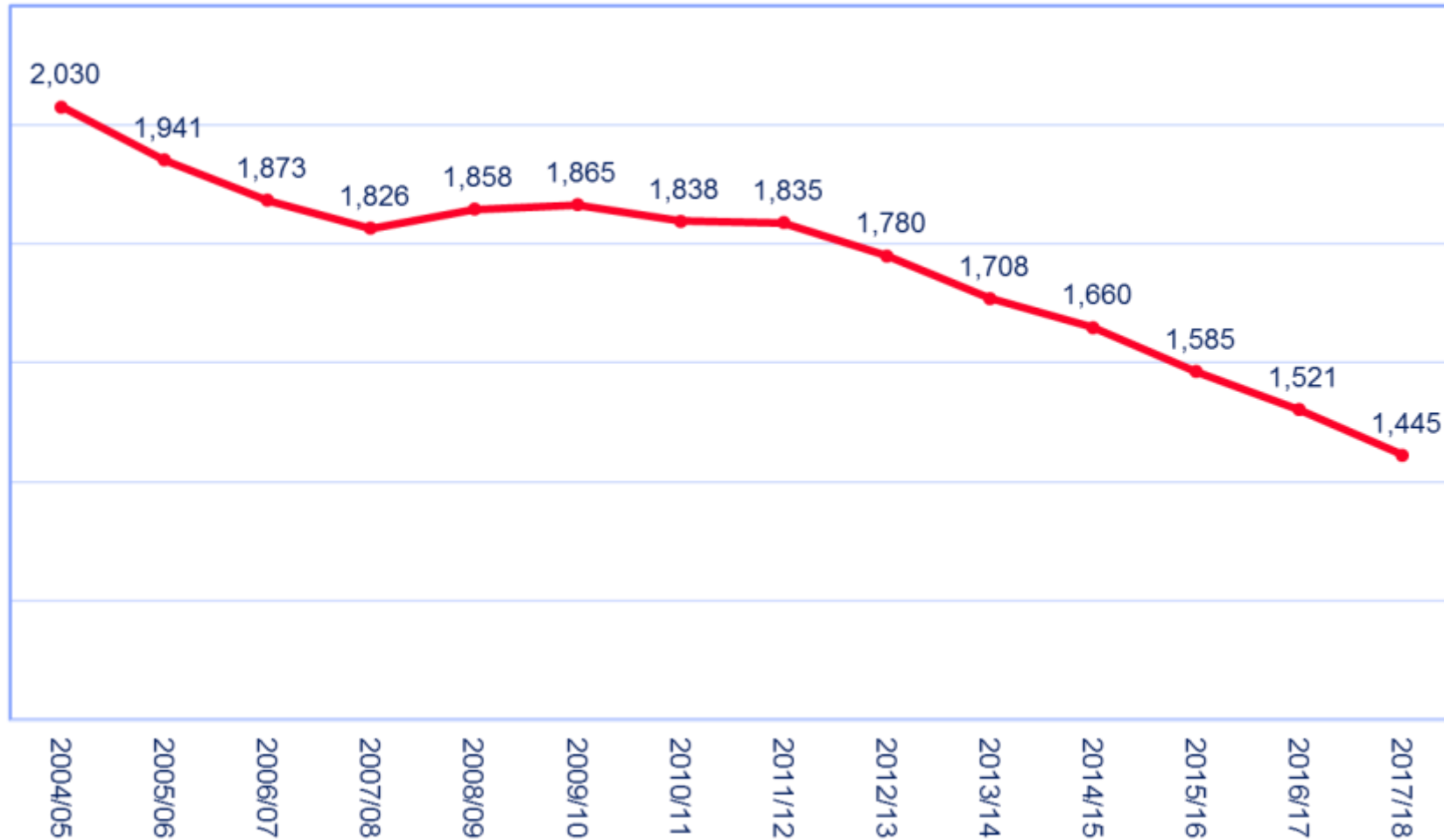
Priority Projects

Key M&L Performance Indicator Summary

Key metrics	Target	2017/18 Actual	RAG
% Products Issued On-Time-In-Full	97%	97%	
% A+ Ro Issued On-Time-In-Full	75%	76%	
Hospital Services Customer Satisfaction	70%	71%	
Processing Productivity (units per WTE)	10,300	10,077	
Testing Productivity (units WTE)	29,700	29,824	
Hospital Services Productivity	34,074	36,070	
No. of Critical Reg. Non Compliances	0	0	
No. SABRE Reportable Events	<60	24	
No. Near Misses Reported	>72	131	
% Red Blood Cells Produced Not Issued (Blood Supply)	4.8%	5.92%	
% Sickness	4.8%	3.9%	

NB Red Cells Not Issued: M&L 2.3%, BD 2.4%; Expiry: 1.2%

The demand for red cell continues to decline (‘000 units issued)



- Improvements in clinical practices continue to drive a reduction in demand for blood.
- Demand is much lower than envisaged at the start of the 2020 strategic plan.
- Original forecast for demand in 2019/20 was 1.528M – forecast now adjusted down to 1.333M.

Every opportunity to lower costs explored

	Variable	Pay	Transport	Equipment	Other	Total
Logistics		11,852	7,106	243	937	20,139
Manufacturing	28,373	29,610	59	3,901	1,910	63,854
M&L Total	28,373	41,462	7,166	4,144	2,810	83,992

Major Cost Pressures Absorbed

Universal HEV. £1.5M p.a.
Platelet Pooling £1.5M p.a.
NPT Packs £0.5M p.a.

+ Cryo, Meth Blue & Granulocytes

Non Pay Reduced since 2013

Serology -28%. £1.1M p.a.
NAT -41%. £1.4M p.a.
Blood Packs -15%. £1.7M p.a.
Filters -39%. £0.8M p.a.

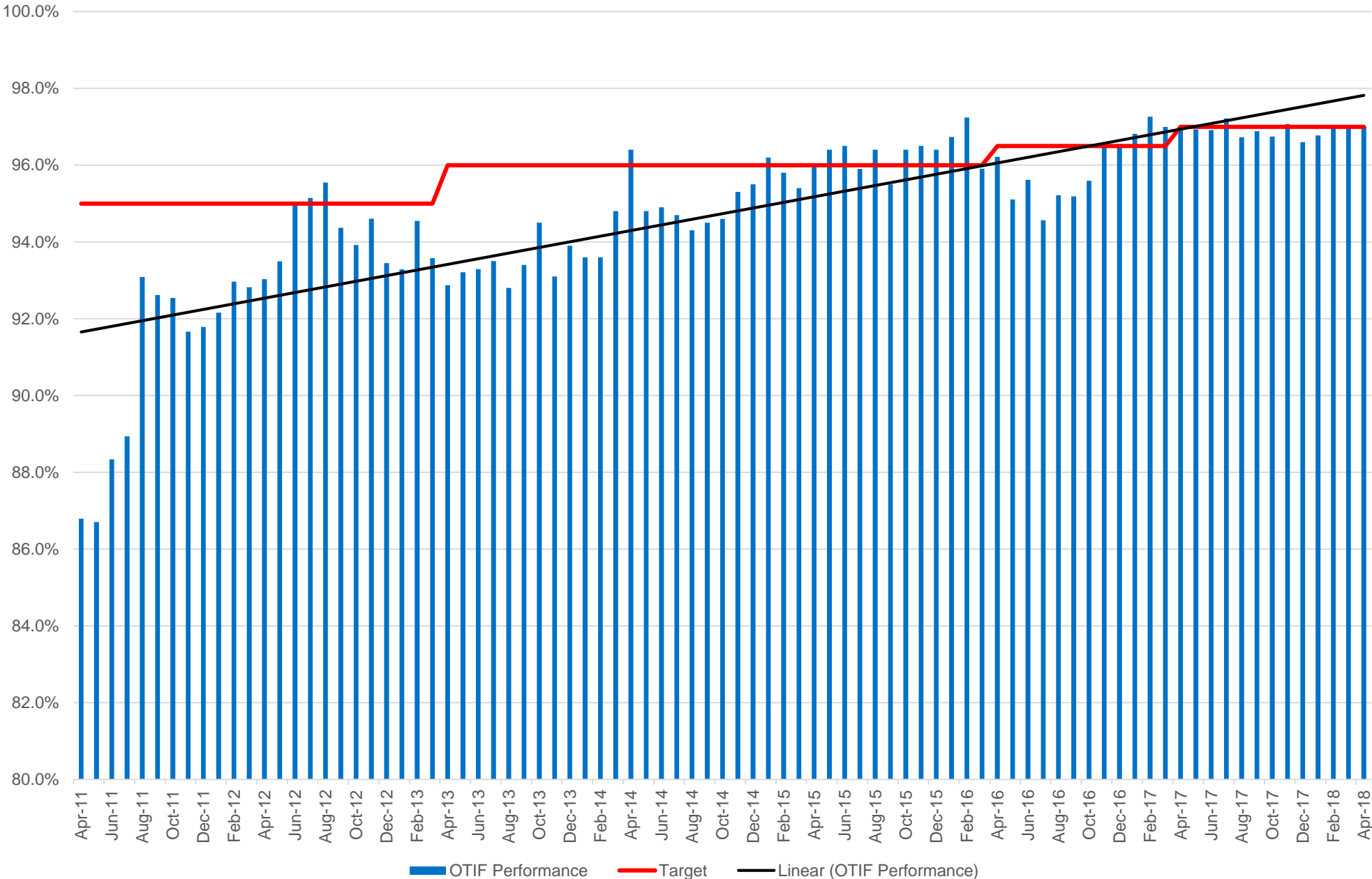


The drive to improve productivity has been matched by an ambition:

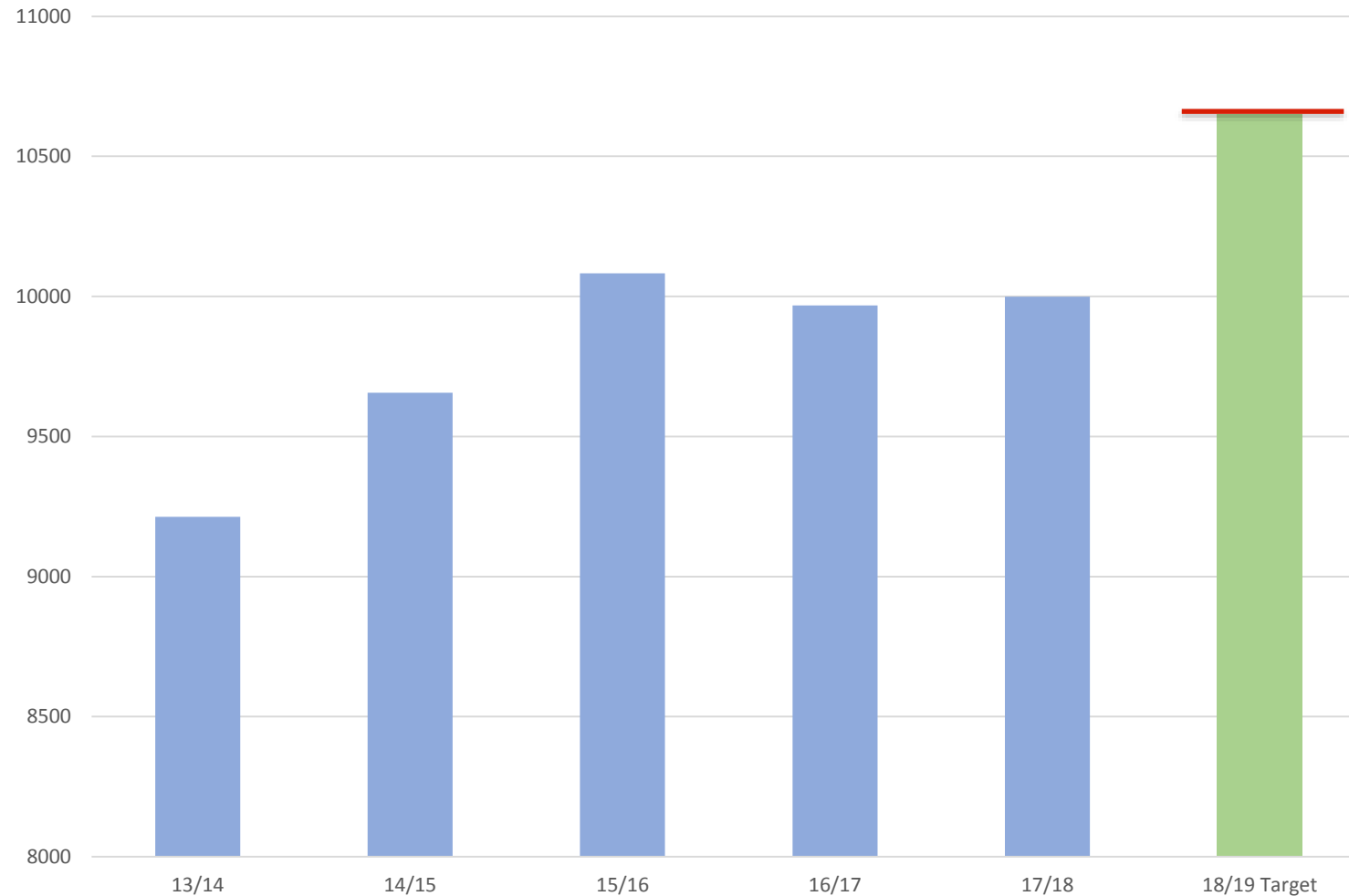
- to absorb new work and developments within existing headcount;
- to constantly focus on reducing non-pay costs.



OTIF – 97% is world class performance



Processing productivity



— EBA Top Quartile

Processing productivity increased by 82% since 2009.

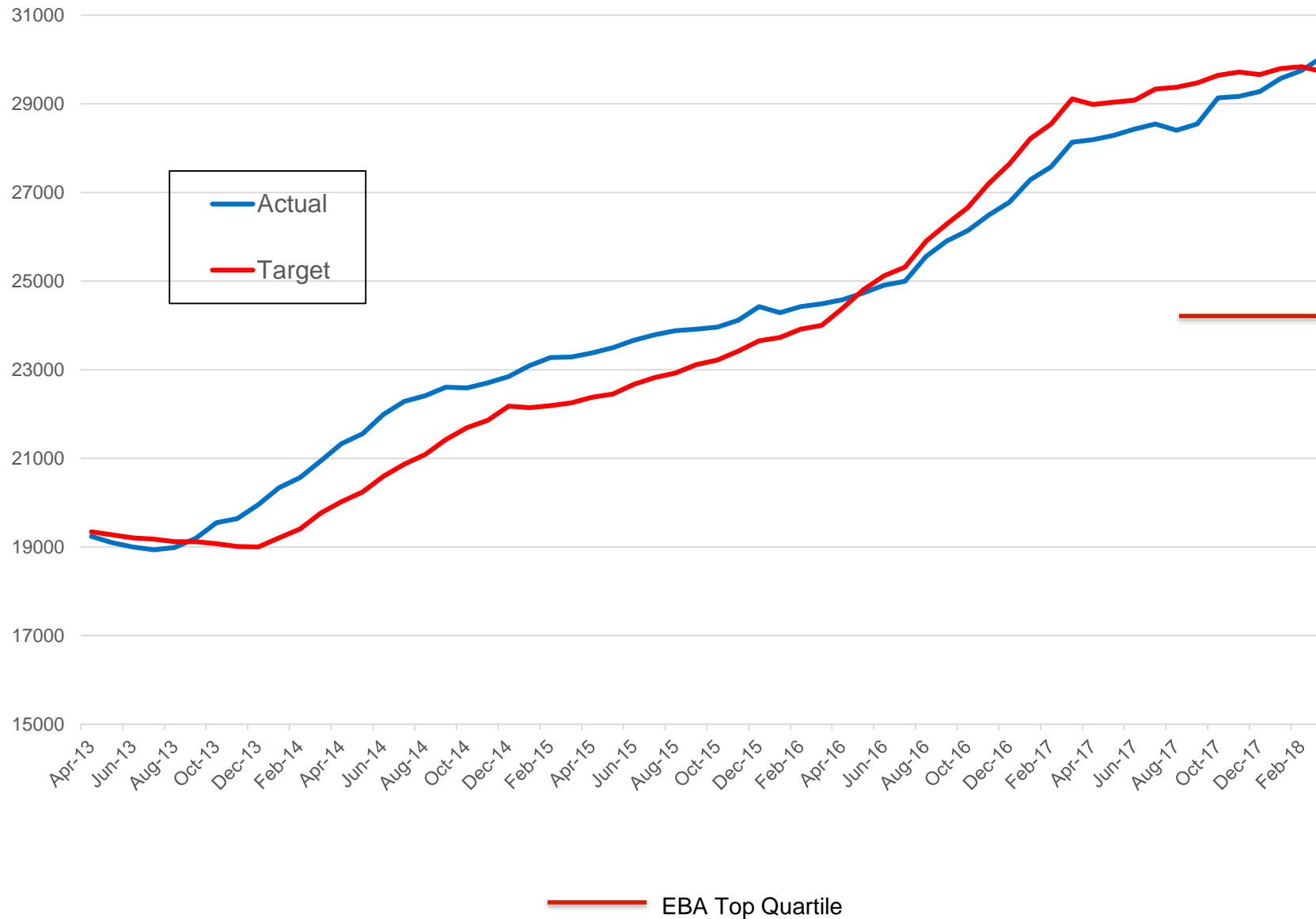
Reviewed quarterly in light of updated demand and demand forecasts.

Consolidation and Lean the key levers.

Major change over last 24 months – double running as Sheffield & Newcastle consolidated into Manchester.

April 2018: 11,081 – new national record.

Testing productivity



Testing productivity increased by 250% since 2010.

Consolidation and Lean the key levers

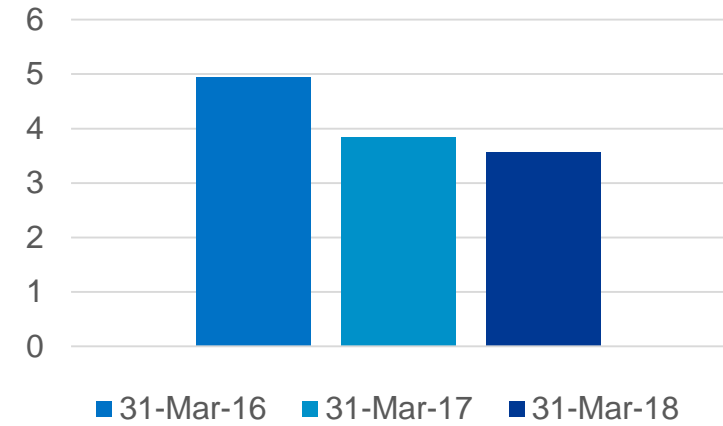
Immediate challenge to maintain productivity as demand declines.

Genomic technology has potential to deliver a step change in testing performance.

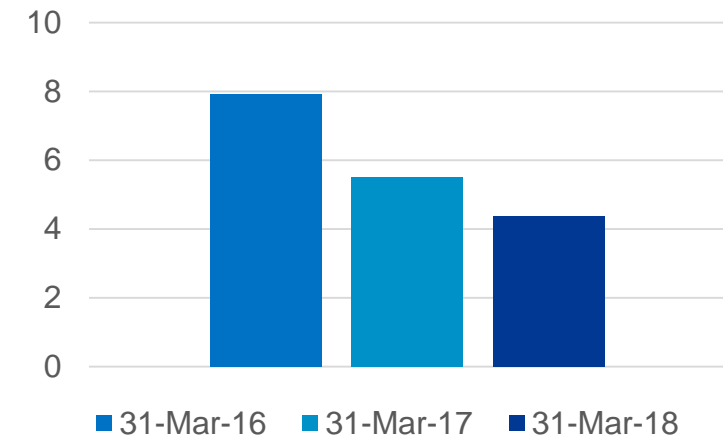
April 2018: 38,069 – a new national record.

- Improving absence rates has been a core M&L workforce objective.
- There has been a continuous improvement in absence rates in M&L over the last 3 years.
- The number of long term absence cases continue to be closely monitored with the length of absences reducing overall.
- Continuous Improvement is a key vehicle for involving people in planning the work that effects them.
- Line of Sight – aligning all across the supply chain in pursuit of a common goal.

M&L



Logistics



% Sickness Absence (rolling
12 month avg.)

Incident reporting

Incidents are being reported in a timely manner allowing greater visibility and implementation of actions in order to mitigate risk to product quality and patient safety.

Application of the Quality Management System

Improvements have been made in the culture across M&L. Application of the QMS has improved further to recent MHRA findings – shared learning has been fed into both QA Ops and Operational depts.

Supply Chain Modernisation (SCM)

The SCM change was managed effectively by both M&L and QA and commended by the MHRA. Lessons Learned from the SCM project have been shared nationally.

Process Quality

The ongoing CI, standardisation and human factors work re: M&L processes has enabled benchmarking and improvements to quality and safety.

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Ro – we identified we were not meeting patient need

Problem

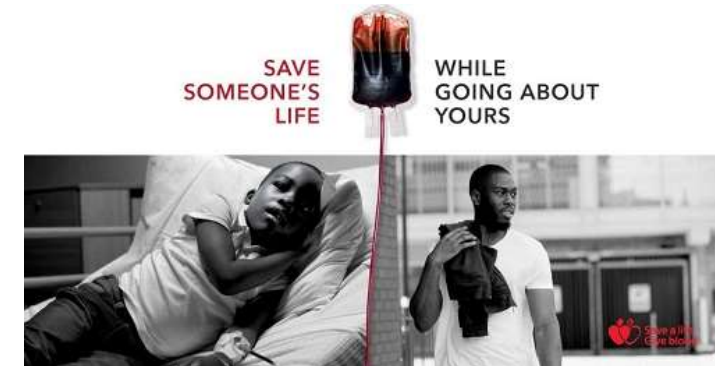
- In 2014 it was recognised that we were not meeting demand for Ro units in particular from sickle cell patients.
- and that this could be negatively impacting the health of multi transfused patients.

Challenge

- At the time demand was averaging 2000 units a month.
- We were fulfilling 43% of demand (975 units).
- No processes in place to optimise supply.

Approach

- Make the best use of every valuable donation bled.
- Enhance processes, secure engagement internally and externally.
- Ensure a relentless focus on our performance.



Ro – aim to ensure no opportunity is missed

Process

Pulse development – units now visible.
Developed Ro substitution matrix.
Developed new SOP.
All lapsed Ro donors were contacted.
Separate Pulse location for Ro units.
Collection teams label units.
Units fast tracked through M&L.
Inventory rebalanced to hold stock at the optimum Stock Holding Units.

Engagement

Presentation to all staff involved.
Worked with RCI to release units not required.
Worked with clinicians/ sickle cell clinics to understand future demand.
Worked with Hospitals to secure a notice period.
Presentation on work of Ro group at Blood Stock Management Scheme roadshows.
Developed specific Ro leaflets and letters to inform Ro donors how special they are.

Focus

Review of Ro performance at SMT and in operational performance meetings.

Twice weekly audits of Ro donations (not in Ro Pulse location) and to identify any not yet validated

Audits of tagging of known donor Ro's (3 completed).

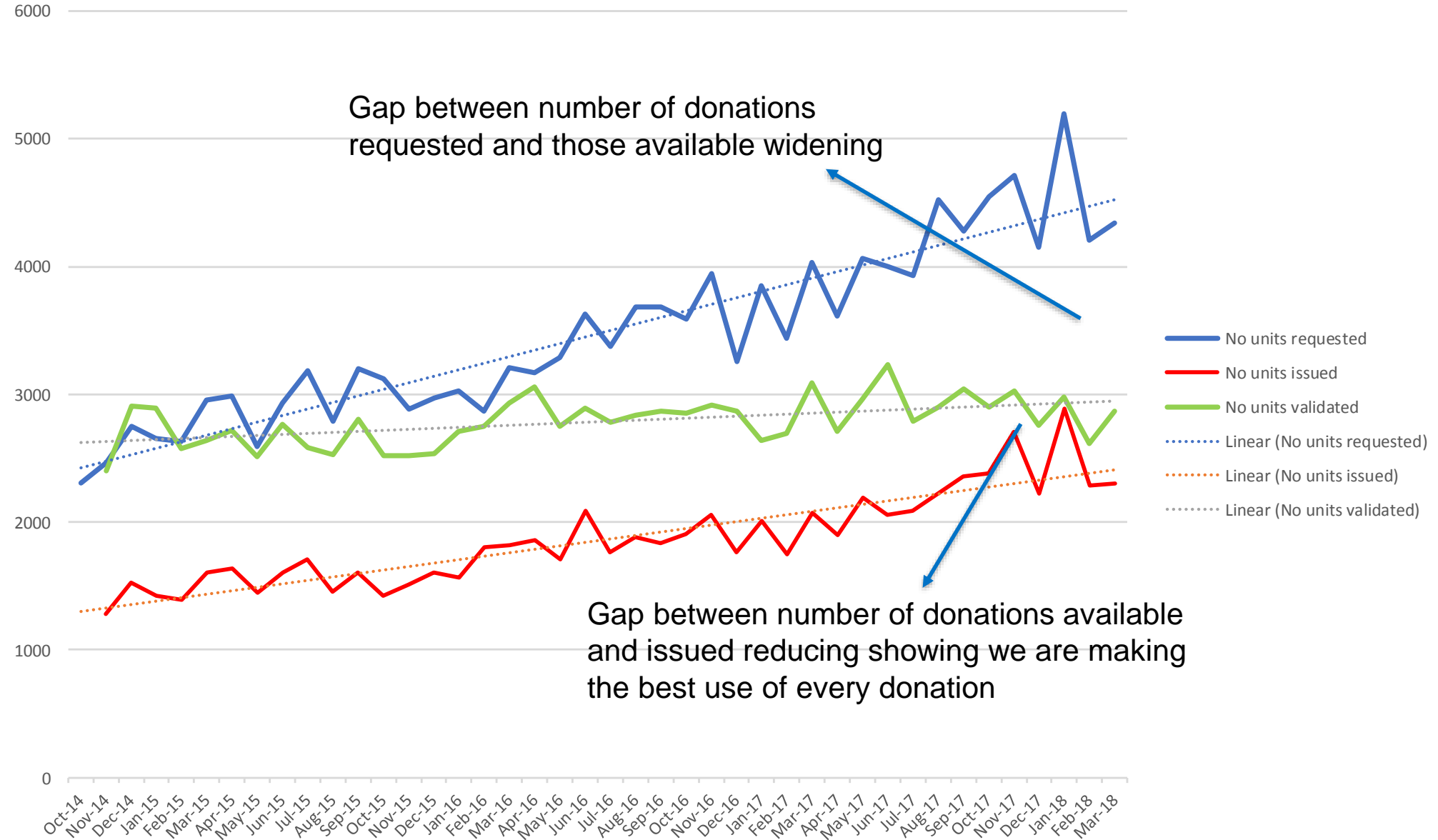
Audits of Ro's bled on a certain date to track their fate (4 completed).



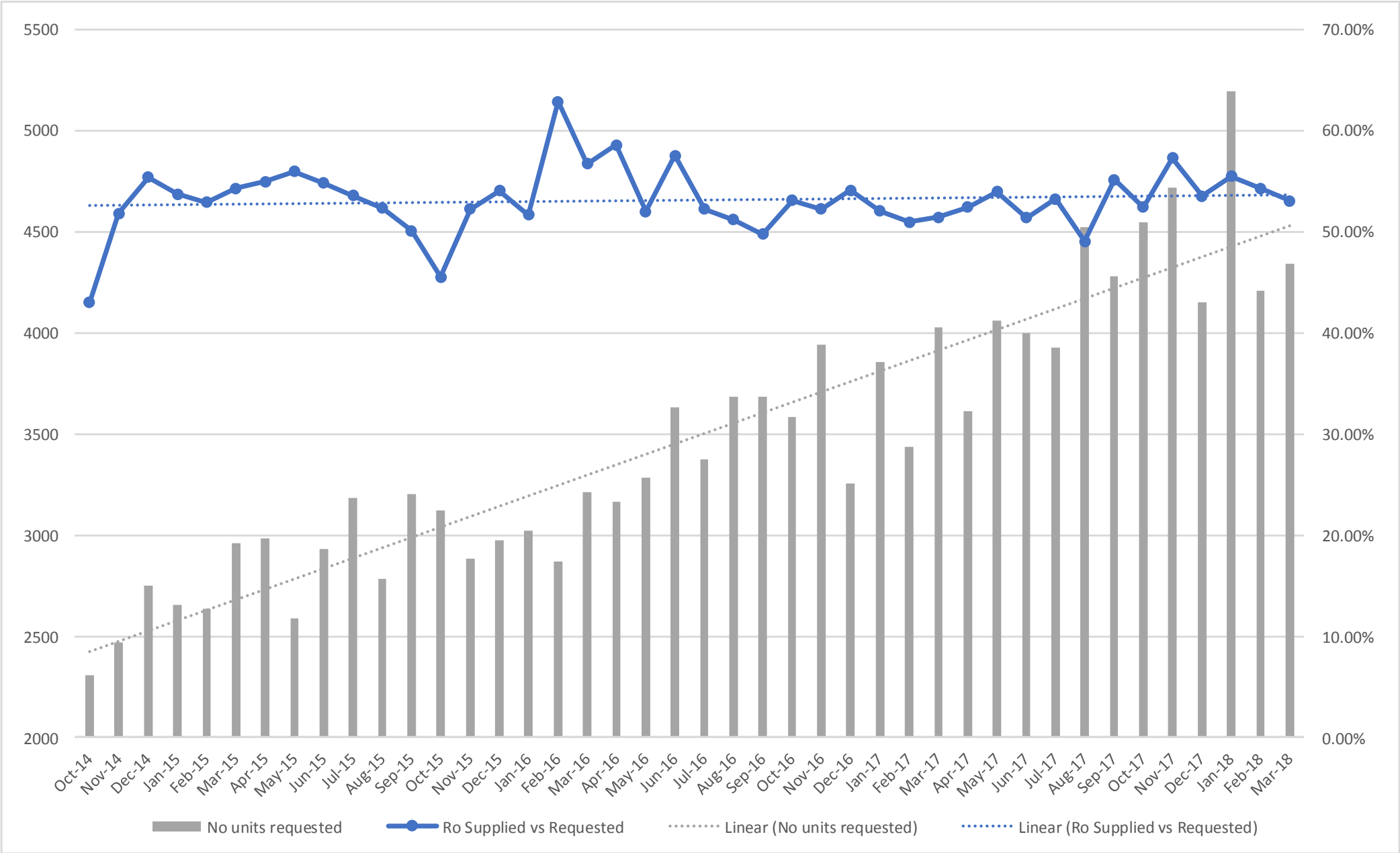
Figure 1: The Plan-Do-Check-Act Cycle



Ro in March 2018, we issued 54% of requests for O Ro with 56% of demand available.



Ro Demand – Supplied vs Requested since October 2014





Demand is increasing and will continue to do so due to:

- increase in the number of sickle cell patients;
- increase in those undergoing automated sickle exchanges- 8-12 donations transfused at a time.

We have developed improved internal process to ensure NHSBT make best use of Ro donations and:

- we need many more especially BAME donors who exactly match the antigen profile of the patients (to prevent patients developing antibodies);
- we are also reliant on our white Ro donors (approx. 80% of our current Ro donor base are white).

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Purpose

- Respond to declining demand
- Modernise Manchester facility
- Recurring savings: £1.42m
- Improve productivity



4 Workstreams Established

- Support for impacted staff
- Stakeholder engagement
- Communications
- Development of Manchester

Scope

- Transfer Manufacturing from Newcastle and Sheffield to Manchester.
- Closure of Sheffield and Newcastle Manufacturing departments
- Changes to Hospital Services in Newcastle, Sheffield and Manchester
- Major refurbishment in Manchester to support the transfer of Manufacturing activity
- Introduction of 24/7 shifts @ Manchester
- Manage within project budget of £6.1m

Best practice change management demonstrated

External Stakeholders

- Regular updates at hospital user groups and Regional Transfusion Committees.
- Individual hospital visits held with key hospital customers in the region.
- Clinical Risk assessment written to identify specific components to ensure continuity of supply.
- External communications to key stakeholders including MPs.
- Establishment of a dedicated area of Hospitals and Science website.

Staff Focused

- Formal Consultation process.
- Regular meetings with impacted staff.
- Redeployment group established.
- Support provided inc: CV Writing, Interview Skills, Pre-retirement, Basic Introduction to Transfusion Science, IBMS, ILM, ECDL, Basic ICT, NEBOSH National Certificate.
- 104 Staff placed on redeployment register (28 redeployed within NHSBT).
- HR redeployment leads employed at Newcastle and Sheffield.

Clear Communications

- All communications coordinated by a Communications Sub group.
- Dedicated in box set up for staff email queries.
- Regular staff newsletters and FAQ issued.
- Regular calls with staff side to keep them informed of progress and to give them an opportunity to discuss any concerns.
- Summaries of fortnightly calls held with Managers issued to staff to keep all informed.
- Management of responses to queries from Media especially in Sheffield.

Positive outcomes achieved



Budget	£6.1M	✓
Savings	£1.42M p.a.	✓
Capital Costs Avoided:	£2.8M	✓

Timeline	Met	✓
Staff redeployed	28	✓
Facility	Modernised	✓



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Next Steps



Review

- Assess impact of CSM and consider new or amended resourcing requirements



Strategic Roadmap

- Bottom-up blood strategic review
- Develop new 5 year roadmap



Deliver Plan

- Logistics Review Programme. One of the largest change initiatives undertaken.
- Automation – microbiology screening.
- Hospital Services Productivity.
- Hospital Services- close Leeds and Sheffield, open Barnsley.
- Processing Productivity.
- Testing – explore step change in performance.
- Align supply with demand across the organization

World Class Benchmarks Achieved

Processing

Testing

OTIF

Savings



Focus: Planning & Delivery



Back - Up

Overdue Trend by Site

