

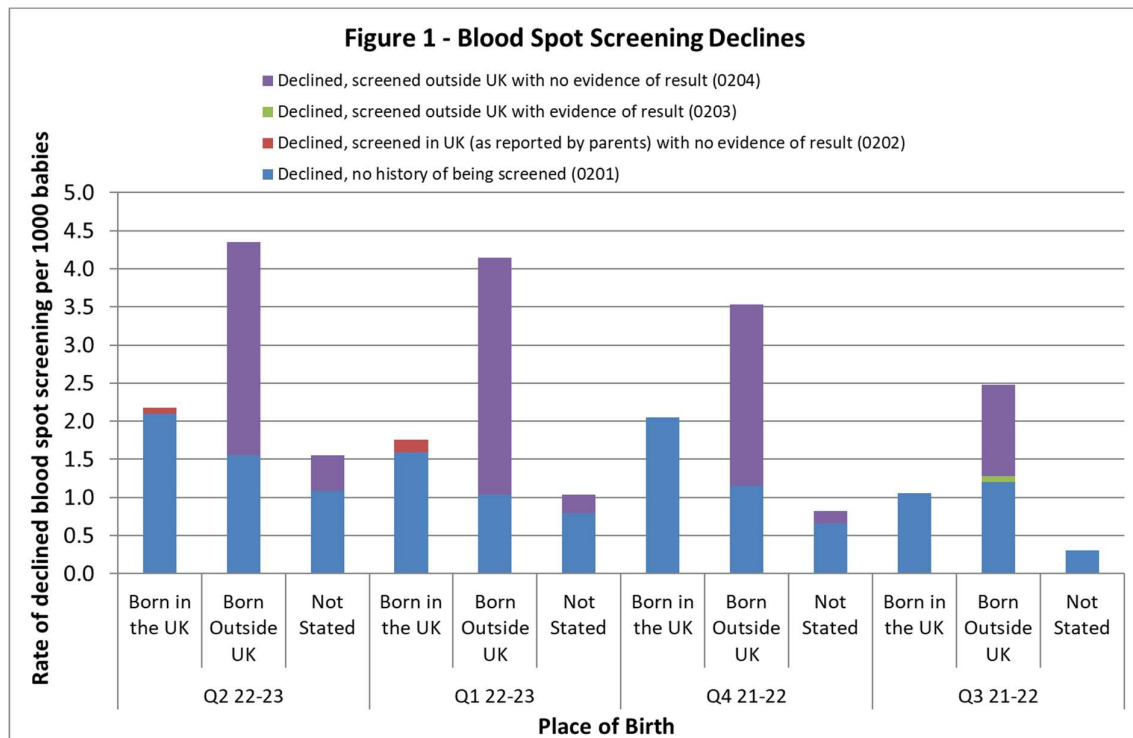
Manchester Newborn Screening Laboratory Quarterly Blood Spot Screening Report: Quarter 2 2022-23

Manchester Newborn Screening Laboratory, which serves babies born in Greater Manchester, Lancashire and South Cumbria, received 13714 blood spot samples between 1st July and 30th September 2022. This report describes performance against the NHS Newborn Blood Spot Screening Programme Standards. Full details of the standards including definitions and exclusions can be found at <https://www.gov.uk/government/publications/standards-for-nhs-newborn-blood-spot-screening>. The appendix of this document contains the data for standards 3-7 in table form.

The data for the laboratory reportable standards is presented by maternity unit/NHS trust of the sample taker. For accurate figures, please ensure the trust code is written/stamped on the blood spot card.

Declines

In Quarter 2 the laboratory received 104 notifications of declined blood spot screening. Figure 1 shows the trends in declined screens over the past year, by place of birth (born in UK or born outside of UK). The laboratory should be notified of all declines, including those for babies screened elsewhere, rather than directly notifying Child Health.



Key to colour coding

Met achievable threshold
Met acceptable threshold
Within 10% of acceptable threshold
More than 10% below acceptable threshold

Standard 3 – The proportion of blood spot cards received by the laboratory with the baby’s NHS number on a barcoded label

Acceptable: ≥ 90.0% of blood spot cards are received by the laboratory with the baby’s NHS number on a barcoded label.

Achievable: ≥ 95.0% of blood spot cards are received by the laboratory with the baby’s NHS number on a barcoded label.

Figure 2 displays performance against standard 3.

Overall, 78.1% of samples received in quarter 2 of 2022/23 had a barcoded NHS number label, which is similar to the previous quarter (78.9%). Of the 11 maternity units, 4 met the standard and one met the achievable threshold.

Standard 4 - The proportion of first blood spot samples taken on day 5

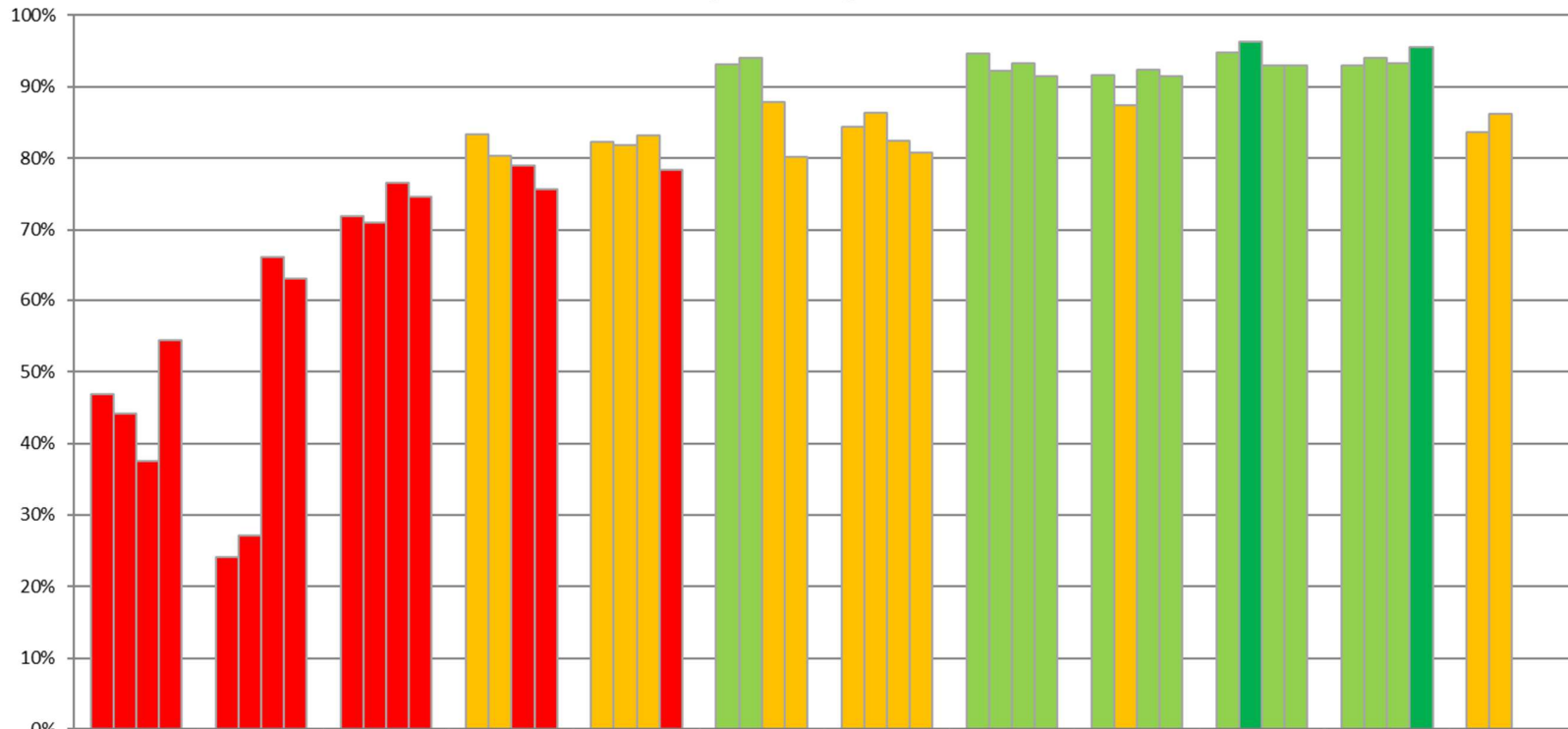
Acceptable: ≥ 90.0% of first blood spot samples are taken on day 5.

Achievable: ≥ 95.0% of first blood spot samples are taken on day 5.

Figure 3 displays performance against standard 4. Overall, 91.9% of samples received in quarter 2 of 2022/23 were collected on day 5, which is the same as quarter 1. 10 out of the 11 maternity units met standard 4, and 1 maternity unit met the achievable threshold.

Figure 2: Standard 3 – The proportion of blood spot cards received by the laboratory with the baby’s NHS number on a barcoded label

Most recent quarter on right-hand side



	Oldham (NCA)	W. Wigan And Leigh	Southport And Ormskirk	Bolton	Tameside And Glossop	Manchester	Stockport	East Lancashire	Lancashire Teaching	Morecambe Bay	Blackpool	North Manchester
Q3 21-22	46.9%	24.1%	71.9%	83.3%	82.2%	93.1%	84.4%	94.7%	91.7%	94.8%	92.9%	83.7%
Q4 21-22	44.2%	27.1%	71.0%	80.3%	81.9%	94.0%	86.3%	92.2%	87.4%	96.3%	94.0%	86.2%
Q1 22-23	37.5%	66.2%	76.6%	78.9%	83.2%	87.8%	82.5%	93.3%	92.4%	93.1%	93.3%	
Q2 22-23	54.4%	63.2%	74.6%	75.6%	78.4%	80.1%	80.8%	91.4%	91.5%	93.0%	95.5%	

Figure 3: Standard 4 - The proportion of first blood spot samples taken on day 5

Most recent quarter on right-hand side



Standard 5 - The proportion of blood spot samples received less than or equal to 3 working days of sample collection

Acceptable: $\geq 95.0\%$ of all samples received less than or equal to 3 working days of sample collection.

Achievable: $\geq 99.0\%$ of all samples received less than or equal to 3 working days of sample collection.

Performance against the transport standard (figure 4) was good. Overall, 97.6% samples were received within 3 working days. 10 Trusts met the standard, including 4 reaching the achievable threshold. Performance was similar to last quarter (97.7% samples received within 3 working days).

Standard 6 - The proportion of first blood spot samples that require repeating due to an avoidable failure in the sampling process

Acceptable: Avoidable repeat rate is $\leq 2.0\%$

Achievable: Avoidable repeat rate is $\leq 1.0\%$

The avoidable repeat rate for quarter 2 was 2.7%, which is higher than last quarter (2.3%). The main reason for an avoidable repeat was insufficient blood, followed by incorrect application of blood. The performance for each trust is displayed in figure 5. Four Trusts met the standard. Figure 6 compares the avoidable repeat rate for samples collected from in-patients with samples collected from babies at home/in the community. The rate was 2.2% for babies at home (1.8% in quarter 1) and 7.4% for samples collected from in-patients (6.8% in quarter 1).

Figure 4: Standard 5 - The proportion of blood spot samples received less than or equal to 3 working days of sample collection

Most recent quarter on right-hand side

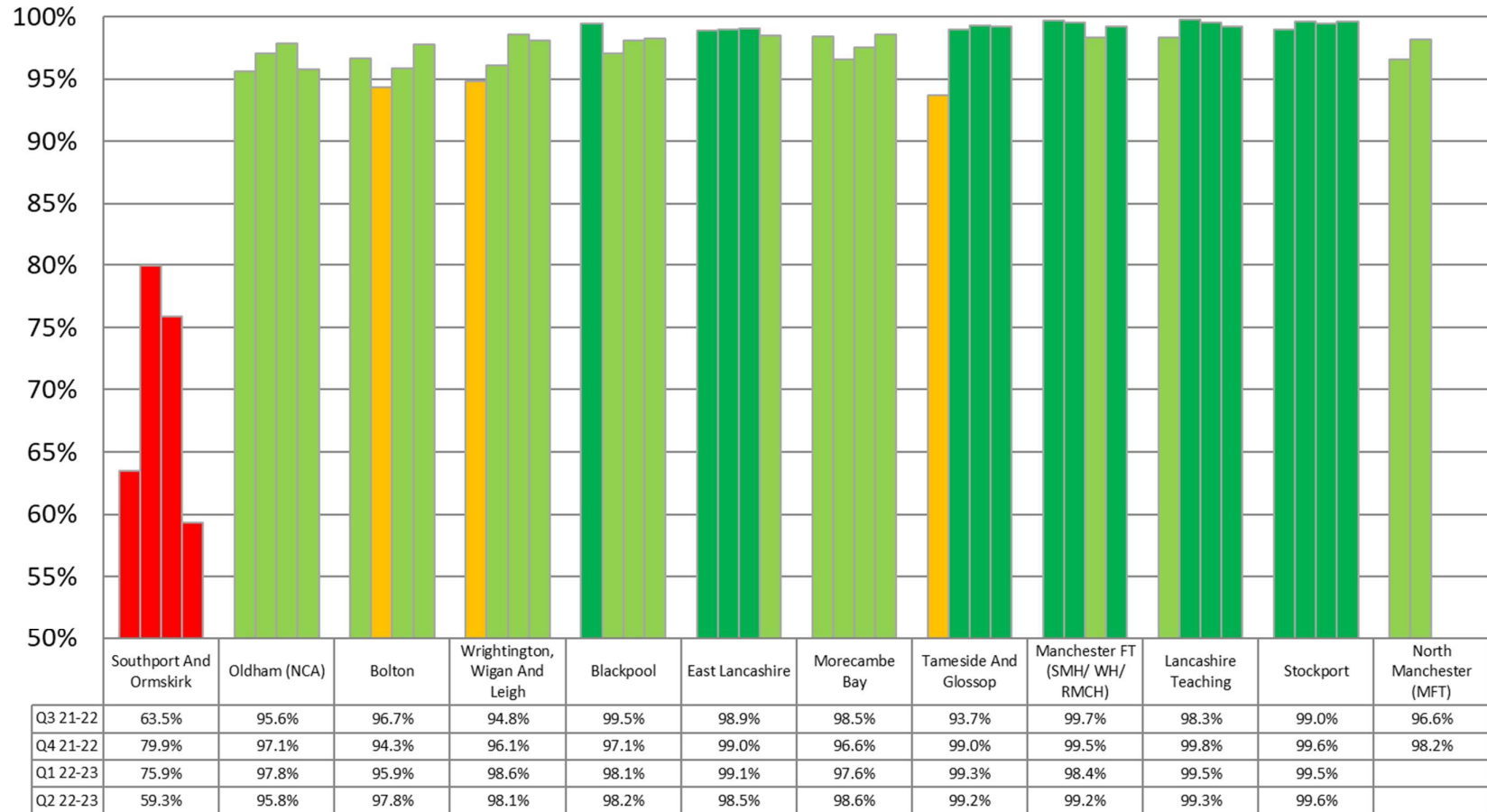


Figure 5: Standard 6 - The proportion of first blood spot samples that require repeating due to an avoidable failure in the sampling process by Trust

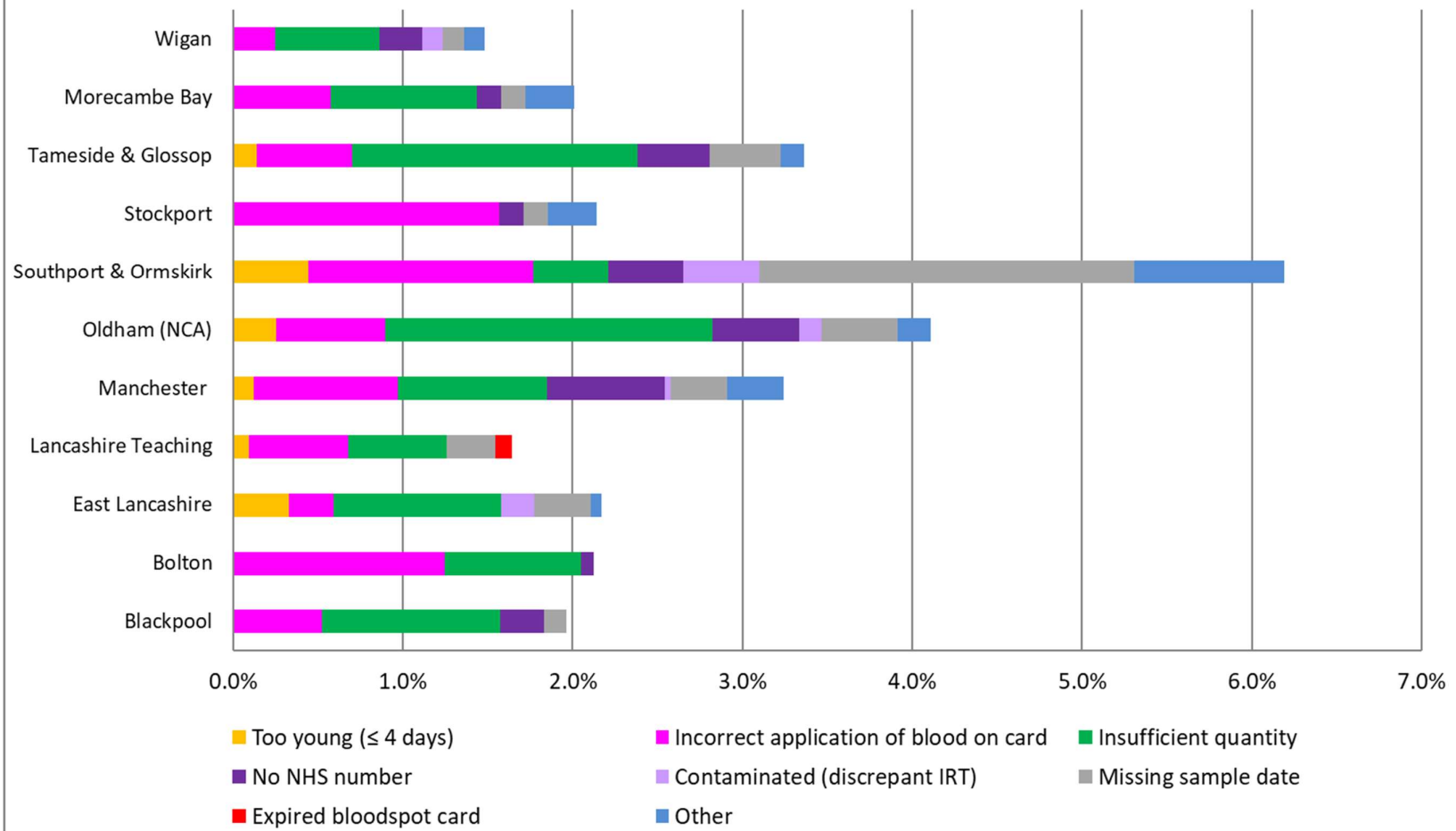
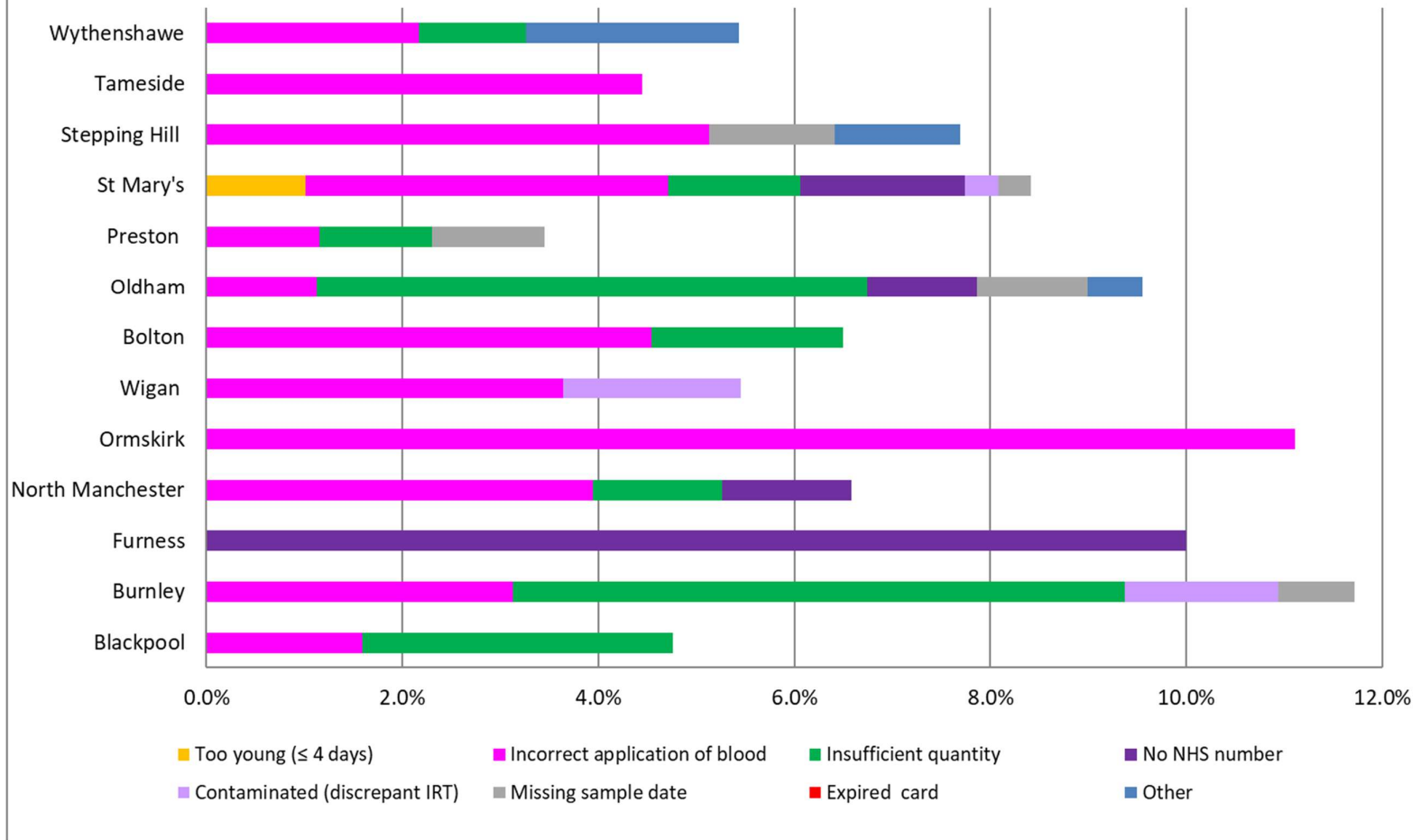


Figure 6: Standard 6 - Avoidable repeats for in-patients vs community



There are no avoidable repeats for Royal Blackburn Hospital and Royal Lancaster Infirmary. The avoidable repeat for RMCH was 25% (1/4 samples)

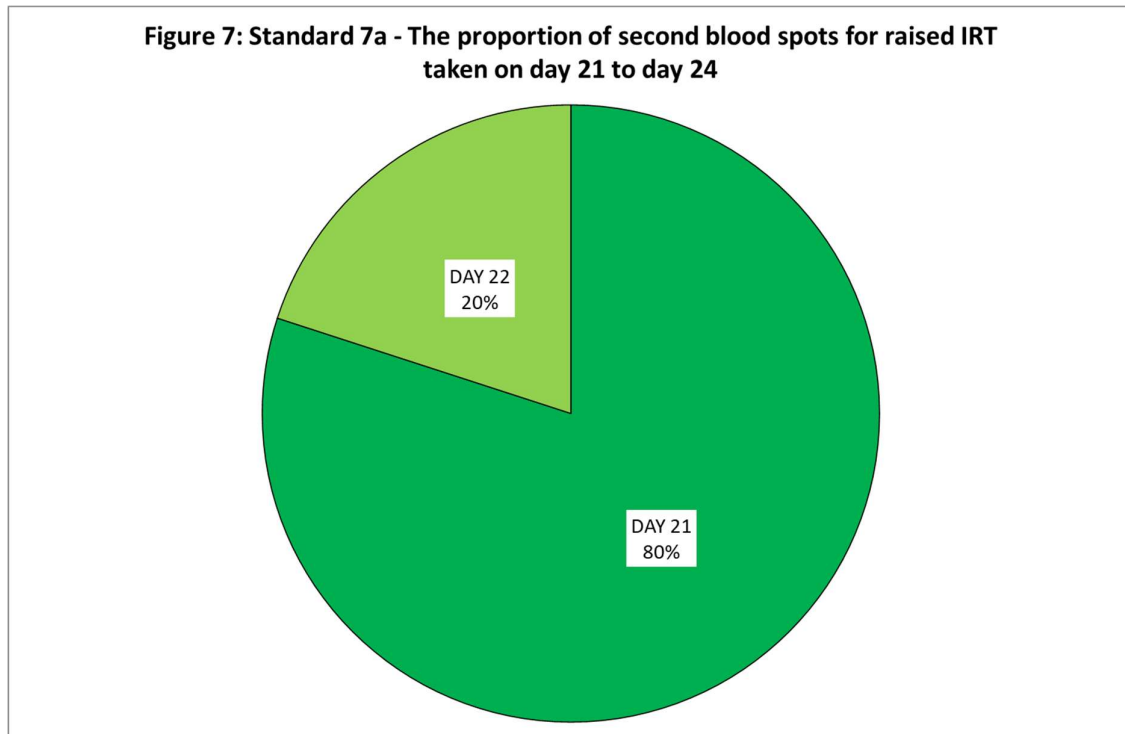
Q2 22-23 Table 1 - Summary of performance				
Trust	Standard 3	Standard 4	Standard 5	Standard 6
Blackpool Teaching Hospitals NHS FT	95.5%	93.3%	98.2%	2.0%
Bolton NHS FT	75.6%	92.2%	97.8%	2.1%
East Lancashire Hospitals NHS Trust	91.4%	89.4%	98.5%	2.2%
Lancashire Teaching Hospitals NHS FT	91.5%	92.0%	99.3%	1.6%
Manchester FT (SMH/ WH/ RMCH/ NMGH)	80.1%	93.5%	99.2%	3.2%
Oldham (NCA)	54.4%	93.1%	95.8%	4.1%
Southport & Ormskirk Hospital NHS Trust	74.6%	94.6%	59.3%	6.2%
Stockport NHS FT	80.8%	94.0%	99.6%	2.1%
Tameside And Glossop Integrated Care NHS FT	78.4%	93.4%	99.2%	3.4%
University Hospitals of Morecambe Bay NHS FT	93.0%	96.6%	98.6%	2.0%
Wrightington, Wigan and Leigh NHS FT	63.2%	92.7%	98.1%	1.5%

Standard 7a - The proportion of second blood spots for raised IRT taken on day 21 to day 24

Acceptable: ≥ 80% of second blood spot samples taken on day 21 to day 24

Achievable: ≥ 90% of second blood spot samples taken on day 21 to day 24

Overall, standard 7a was met. During quarter 2 there were 5 repeats for raised IRT (CF inconclusive). Of these, 100% were collected on day 21-24. CF inconclusive repeats are performed by Screening Link Health Visitors. The data is presented in figure 7 and by local Child Health Records Department, in table 2.



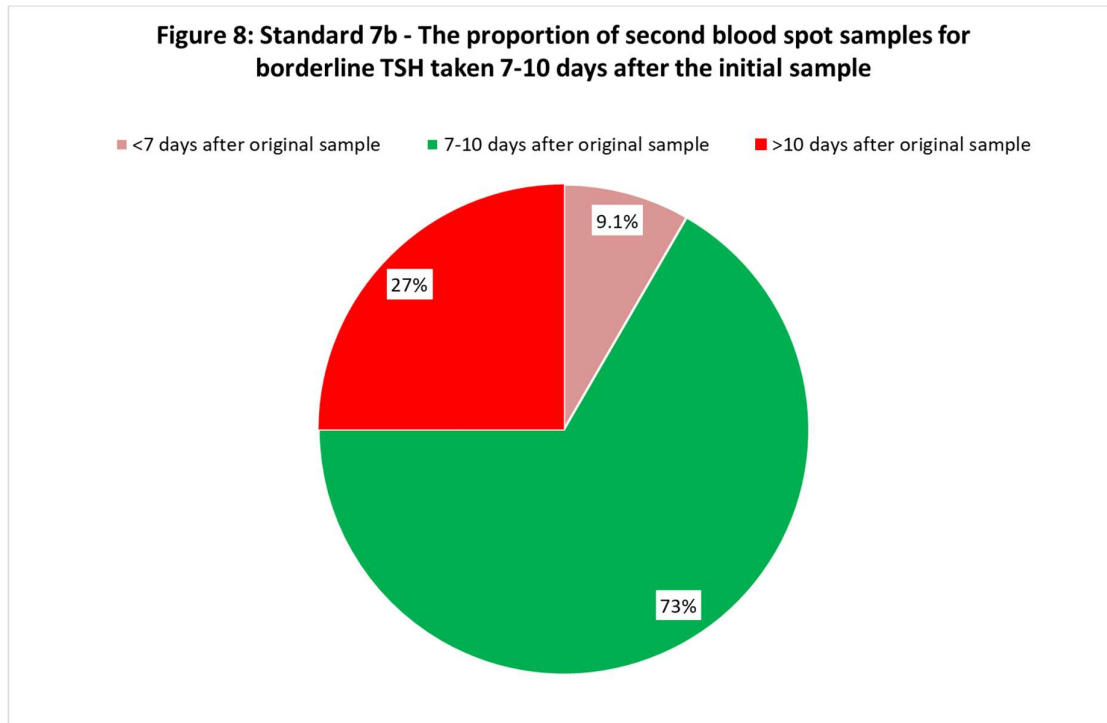
Q2 22-23 Table 2 - Standard 7a				
Child Health Department	Age at Collection of CF Inconclusive Repeat (days)		Grand Total	% collected day 21-24
	21	22		
Stockport	1		1	100%
Central Lancs	2	1	3	100%
Oldham	1		1	100%
Grand Total	4	1	5	100%

Standard 7b - The proportion of second blood spot samples for borderline TSH taken between 7 and 10 calendar days after the initial borderline sample

Acceptable: ≥ 80.0% of repeat blood spot samples taken as defined

Achievable: ≥ 90.0% of repeat blood spot samples taken as defined

Overall, standard 7b was not met. Figure 8 displays the proportion collected 7-10 days after the initial sample and table 3 displays the information by Trust.



Q2 Table 3: Standard 7b												
Trust	Number of days between original sample and collection of repeat sample									Grand Total	% collected 7-10 days after original sample	
	3	4	7	8	9	11	12	14	15			
Blackpool Teaching Hospitals NHS FT				1	2						3	100%
East Lancashire Hospitals NHS Trust			3								3	100%
Lancashire Teaching Hospitals NHS FT				1	1						2	100%
Manchester University NHS FT - SMH, RMCH, WH & NMGH	1	1		1	1			1			5	40%
Oldham (NCA)				4							4	100%
University Hospitals of Morecambe Bay NHS FT			1								1	100%
Wrightington, Wigan and Leigh NHS FT						1					1	0%
Tameside And Glossop Integrated Care NHS FT				1			1	1		1	3	33%
Grand Total	1	1	4	8	4	1	1	1	1	1	22	73%

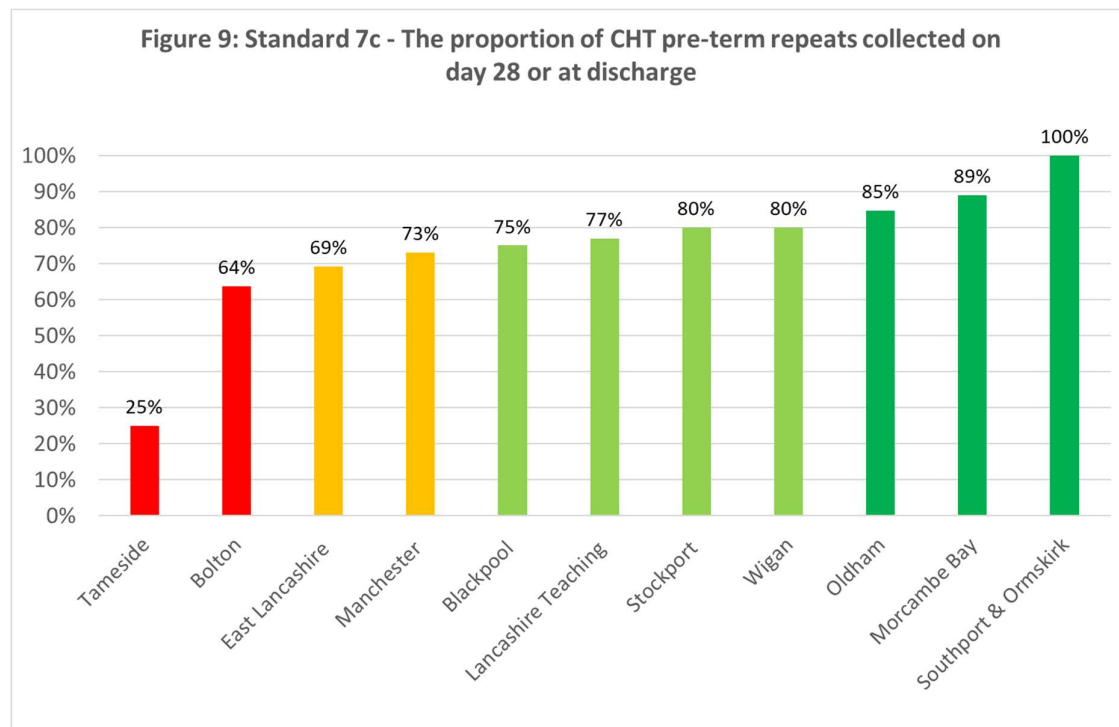
Standard 7c - The proportion of CHT pre-term repeats collected on day 28 or at discharge

Acceptable: ≥ 75.0% of repeat blood spot samples taken as defined

Achievable: ≥ 85.0% of repeat blood spot samples taken as defined

During quarter 2, 128 CHT pre-term repeats were received (avoidable repeats and duplicates excluded). Performance by trust is displayed in figure 9. 73% were collected on day 28 or at discharge, 27% were collected after day 28.

Of note, 8 out of 34 babies with samples collected after day 28 had transfusions on days 25-28, which could account for the delayed sampling.



Quarter 2 2022-23: Standard 7c				
Trust	Number of Pre-term CHT second samples collected:			% Prem repeats collected on day 28 or at discharge
	On-time	Late	Total	
Blackpool Teaching Hospitals NHS FT	6	2	8	75%
Bolton NHS FT	14	8	22	64%
East Lancashire Hospitals NHS Trust	9	4	13	69%
Lancashire Teaching Hospitals NHS FT	10	3	13	77%
Manchester University NHS FT - SMH, RMCH, WH & NMGH	22	8	30	73%
Oldham (NCA)	11	2	13	85%
Southport & Ormskirk Hospital NHS Trust	1	0	1	100%
Stockport NHS FT	8	2	10	80%
Tameside And Glossop Integrated Care NHS FT	1	3	4	25%
University Hospitals of Morecambe Bay NHS FT	8	1	9	89%
Wrightington, Wigan and Leigh NHS FT	4	1	5	80%
Grand Total	94	34	128	73%

Standard 9 - Timely processing of CHT and IMD (excluding HCU) screen positive samples

Acceptable: 100% of babies with a positive screening result (excluding HCU) have a clinical referral initiated within 3 working days of sample receipt

There were 13 screen positive samples for CHT and 2 for IMD in quarter 2, all were referred within 3 working days of sample receipt.

Standard 11 - Timely entry into clinical care

Data for standard 11 is displayed in table 5.

Condition	Criteria	Thresholds	Number of babies seen by specialist services by condition specific standard	Number of babies referred	Percentage seen by specialist services by condition specific standard	Comments
IMDs (excluding HCU)	Attend first clinical appointment by 14 days of age	Acceptable: 100%	2	2	100%	1 x MCADD, 1 x IVA
CHT (suspected on first sample)	Attend first clinical appointment by 14 days of age	Acceptable: 100%	4	4	100%	1 baby excluded as detected prior to screening
CHT (suspected on repeat following borderline TSH)	Attend first clinical appointment by 21 days of age	Acceptable: 100%	5	7	71%	1 baby seen at day 22 (repeat collected at day 16) and another at day 23 (repeat collected at day 20)
CF (2 CFTR mutations detected)	Attend first clinical appointment by 28 days of age	Acceptable: ≥ 95.0% Achievable: 100%	7	7	100%	
HCU	Attend first clinical appointment by 28 days of age	Acceptable: ≥ 95.0% Achievable: 100%	-	-	-	
CF (1 or no CFTR mutation detected)	Attend first clinical appointment by 35 days of age	Attend first clinical appointment by 35 days of age	3	3	100%	
SCD	Attend first clinical appointment by 90 days of age	Attend first clinical appointment by 90 days of age	3	6	50%	8 babies have been excluded as they have not yet reached 90 days of age

Incidents

Details of incidents at level 3 or above, either detected by the laboratory or occurred at MFT

Incident Number	Incident Date	Incident Severity	Incident Harm	Summary of incident	Further details	MFT or external	Lab/ Ward/ Maternity Unit	Local Area Team	QA informed
2276754	03/05/22	3 - moderate	2 - slight	Blood spot labelling error: handwritten NHS number belonging to another baby (other demographic details correct)	Different baby's NHS number handwritten on card	External	Wigan NNU	Greater Manchester	Yes
2289534	14/01/22	3 - moderate	1 - no harm	Blood spot labelling error: another baby's bar-coded demographic sticker and reported against wrong baby.	Discrepancy identified between sickle screening results and diagnostic results on a set of twins.	MFT	Ward 66. SMH	Greater Manchester	Yes
2293646	20/06/22	3 - moderate	1 - no harm	Blood spot labelling error: another baby's bar-coded demographic sticker and reported against wrong baby.	Two samples received with same demographic sticker, error noticed when second arrived as Hb % was different.	External	Blackpool Maternity Unit	Lancashire	Yes
2294757	30/06/22	3 - moderate	1 - no harm	Blood spot collection error: missed CF screening due to failure to collect a satisfactory sample before 8 weeks of age (excluding "movers in")	First sample collected on day 62	External	Lancashire Teaching Maternity Unit	Lancashire	Yes

Appendix

Quarter 2 2022-23: Standard 3							
Trust	Number of all samples (including repeats)	Number of blood spot cards including baby's NHS number	Number of blood spot cards including ISB label barcoded baby's NHS number	Unreadable Barcodes	Percentage of all blood spot cards including babies' NHS number	Percentage of all blood spot cards including ISB bar-coded babies' NHS number	Percentage of all Unreadable Barcodes
Blackpool Teaching Hospitals NHS FT	795	794	759	10	99.9%	95.5%	1.3%
Bolton NHS FT	1538	1537	1163	0	99.9%	75.6%	0.0%
East Lancashire Hospitals NHS Trust	1631	1631	1491	5	100.0%	91.4%	0.3%
Health Visitor	180	176	5	0	97.8%	2.8%	0.0%
Lancashire Teaching Hospitals NHS FT	1080	1080	988	0	100.0%	91.5%	0.0%
Manchester University NHS FT - SMH & RMCH & WH & NMGH	3553	3526	2846	35	99.2%	80.1%	1.0%
Not Stated	3	3	1	0	100.0%	33.3%	0.0%
Oldham (NCA)	1666	1657	907	7	99.5%	54.4%	0.4%
Southport & Ormskirk Hospital NHS Trust	236	235	176	0	99.6%	74.6%	0.0%
Stockport NHS FT	729	728	589	12	99.9%	80.8%	1.6%
Tameside And Glossop Integrated Care NHS FT	746	743	585	3	99.6%	78.4%	0.4%
University Hospitals of Morecambe Bay NHS FT	726	725	675	0	99.9%	93.0%	0.0%
Wrightington, Wigan and Leigh NHS FT	831	829	525	23	99.8%	63.2%	2.8%
Grand Total	13714	13664	10710	95	99.6%	78.1%	0.7%

Quarter 2 2022-23: Standard 4												
Trust	Number of first samples taken on or before day 4	5	6	7	8	9+	4 or earlier	5	6	7	8	9 or later
Blackpool Teaching Hospitals NHS FT	0	711	33	2	2	14	0.0%	93.3%	4.3%	0.3%	0.3%	1.8%
Bolton NHS FT	0	1261	72	20	2	12	0.0%	92.2%	5.3%	1.5%	0.1%	0.9%
East Lancashire Hospitals NHS Trust	6	1355	107	19	12	17	0.4%	89.4%	7.1%	1.3%	0.8%	1.1%
Health Visitor	0	3	0	0	0	128	0.0%	2.3%	0.0%	0.0%	0.0%	97.7%
Lancashire Teaching Hospitals NHS FT	1	952	60	9	2	11	0.1%	92.0%	5.8%	0.9%	0.2%	1.1%
Manchester University NHS FT - SMH, RMCH, WH, NMGH	8	3079	127	27	13	39	0.2%	93.5%	3.9%	0.8%	0.4%	1.2%
Not Stated	0	3	0	0	0	0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
Oldham (NCA)	4	1449	69	12	2	20	0.3%	93.1%	4.4%	0.8%	0.1%	1.3%
Southport & Ormskirk Hospital NHS Trust	1	209	4	0	1	6	0.5%	94.6%	1.8%	0.0%	0.5%	2.7%
Stockport NHS FT	0	658	35	1	3	3	0.0%	94.0%	5.0%	0.1%	0.4%	0.4%
Tameside And Glossop Integrated Care NHS FT	1	663	28	4	2	12	0.1%	93.4%	3.9%	0.6%	0.3%	1.7%
University Hospitals of Morecambe Bay NHS FT	0	674	21	2	0	1	0.0%	96.6%	3.0%	0.3%	0.0%	0.1%
Wrightington, Wigan and Leigh NHS FT	2	749	39	3	1	14	0.2%	92.7%	4.8%	0.4%	0.1%	1.7%
Grand Total	23	11766	595	99	40	277	0.2%	91.9%	4.6%	0.8%	0.3%	2.2%

Excludes samples with missing dates

Quarter 2 2022-23: Standard 5			
Maternity Unit	Number of samples received in 3 or fewer working days of sample being taken	Total number of samples received	Percentage of samples received by laboratories in 3 or fewer working days of sample being taken
Blackpool Teaching Hospitals NHS FT	777	791	98.2%
Bolton NHS FT	1393	1425	97.8%
East Lancashire Hospitals NHS Trust	1539	1562	98.5%
Health Visitor	122	138	88.4%
Lancashire Teaching Hospitals NHS FT	1066	1074	99.3%
Manchester University NHS FT - SMH & RMCH & WH & NMGH	3412	3439	99.2%
Not Stated	3	3	100.0%
Oldham (NCA)	1572	1641	95.8%
Southport & Ormskirk Hospital NHS Trust	137	231	59.3%
Stockport NHS FT	722	725	99.6%
Tameside And Glossop Integrated Care NHS FT	736	742	99.2%
University Hospitals of Morecambe Bay NHS FT	711	721	98.6%
Wrightington, Wigan and Leigh NHS FT	812	828	98.1%
Grand Total	13002	13320	97.6%
<i>Excludes day 0 'pre-transfusion' samples and samples with missing date of collection</i>			

Quarter 2 2022-23: Standard 6 by Trust														
Status code and description of avoidable repeat	Blackpool Teaching Hospitals NHS FT	Bolton NHS FT	East Lancashire Hospitals NHS Trust	Health Visitor	Lancashire Teaching Hospitals NHS FT	Manchester University NHS FT - SMH & RMCH & WH & NMGH	Not Stated	Oldham (NCA)	Southport & Ormskirk Hospital NHS Trust	Stockport NHS FT	Tameside And Glossop Integrated Care NHS FT	University Hospitals of Morecambe Bay NHS FT	Wrightington, Wigan and Leigh NHS FT	Grand Total
0301: too young for reliable screening (≤ 4 days)	0	0	5	0	1	4	0	4	1	0	1	0	0	16
0302: too soon after transfusion (<72 hours)	0	1	2	0	0	5	0	2	0	0	0	0	0	10
0303: insufficient sample	8	11	15	2	6	29	0	30	1	0	12	6	5	125
0304: unsuitable sample (blood quality): incorrect blood application	4	17	4	4	6	28	0	10	3	11	4	4	2	97
0305: unsuitable sample (blood quality): compressed/damaged	0	0	1	1	0	11	0	3	1	2	1	2	0	22
0306: Unsuitable sample: day 0 and day 5 on same card	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0307: unsuitable sample for CF: possible faecal contamination	0	0	3	0	0	1	0	2	1	0	0	0	1	8
0308: unsuitable sample: NHS number missing/not accurately recorded	2	1	0	0	0	23	0	8	1	1	3	1	2	42
0309: unsuitable sample: date of sample missing/not accurately recorded	1	0	5	0	3	11	0	7	5	1	3	1	1	38
0310: unsuitable sample: date of birth not accurately matched	0	0	0	0	0	0	0	0	0	0	0	0	1	1
0311: unsuitable sample: expired card used	0	0	0	0	1	0	0	0	0	0	0	0	0	1
0312: unsuitable sample: >14 days in transit, too old for analysis	0	0	0	0	0	0	0	0	1	0	0	0	0	1
0313: unsuitable sample: damaged in transit	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Avoidable Repeat Requests	15	29	33	7	17	107	0	64	14	15	24	14	12	351
Number of first samples received/ babies tested	763	1366	1519	101	1035	3299	2	1558	226	701	713	697	809	12789
Avoidable Repeat Requests Rate	2.0%	2.1%	2.2%	6.9%	1.6%	3.2%	0.0%	4.1%	6.2%	2.1%	3.4%	2.0%	1.5%	2.7%

Transfusion Repeats are not included in the Avoidable Repeat calculation

Quarter 2 2022-23: Standard 6 by Current Hospital																		
Status code and description of avoidable repeat	Burnley General Hospital	Royal Bolton Hospital	Blackpool Victoria Hospital	Furness General Hospital	North Manchester General Hospital	Not in hospital	Ormskirk & District General	Royal Albert Edward Infirmary	Royal Blackburn Hospital	Royal Lancaster Infirmary	Royal Manchester Childrens Hospital	Royal Oldham Hospital	Royal Preston Hospital	Stepping Hill Hospital	St Mary's Hospital	Tameside General Hospital	Wythenshawe Hospital	Grand Total
0301: too young for reliable screening (≤ 4 days)	0	0	0	0	0	13	0	0	0	0	0	0	0	0	3	0	0	16
0302: too soon after transfusion (<72 hours)	2	1	0	0	0	0	0	0	0	0	0	2	0	0	5	0	0	10
0303: insufficient sample	8	3	2	0	1	94	0	0	0	0	1	10	1	0	4	0	1	125
0304: unsuitable sample (blood quality): incorrect blood application	4	7	1	0	3	56	2	2	0	0	0	2	1	4	11	2	2	97
0305: unsuitable sample (blood quality): compressed/damaged	0	0	0	0	0	18	0	0	0	0	0	1	0	1	0	0	2	22
0306: Unsuitable sample: day 0 and day 5 on same card	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0307: unsuitable sample for CF: possible faecal contamination	2	0	0	0	0	4	0	1	0	0	0	0	0	0	1	0	0	8
0308: unsuitable sample: NHS number missing/not accurately recorded	0	0	0	1	1	33	0	0	0	0	0	2	0	0	5	0	0	42
0309: unsuitable sample: date of sample missing/not accurately recorded	1	0	0	0	0	32	0	0	0	0	0	2	1	1	1	0	0	38
0310: unsuitable sample: date of birth not accurately matched	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
0311: unsuitable sample: expired card used	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
0312: unsuitable sample: >14 days in transit, too old for analysis	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
0313: unsuitable sample: damaged in transit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Avoidable Repeat Requests	15	10	3	1	5	253	2	3	0	0	1	17	3	6	25	2	5	351
Number of first samples received/ babies tested	128	154	63	10	76	11460	18	55	2	42	4	178	87	78	297	45	92	12789
Avoidable Repeat Requests Rate	11.7%	6.5%	4.8%	10.0%	6.6%	2.2%	11.1%	5.5%	0.0%	0.0%	25.0%	9.6%	3.4%	7.7%	8.4%	4.4%	5.4%	2.7%