

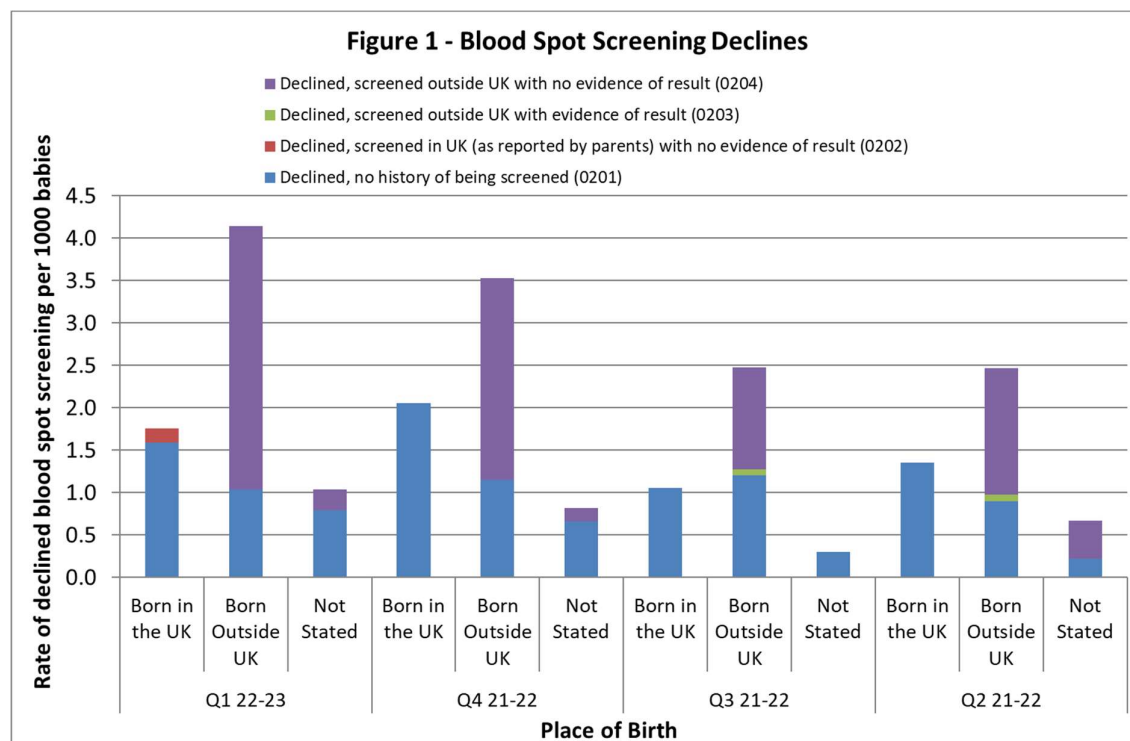
Manchester Newborn Screening Laboratory Quarterly Blood Spot Screening Report: Quarter 1 2022-23

Manchester Newborn Screening Laboratory, which serves babies born in Greater Manchester, Lancashire and South Cumbria, received 13393 blood spot samples between 1st April and 30th June 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. Overall, the maternity/ trust code was missing from 7 sample cards (0.05%).

Declines

In Quarter 1 the laboratory received 87 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: $\geq 90.0\%$ of blood spot cards are received by the laboratory with the baby's NHS number on a barcoded label.

Achievable: $\geq 95.0\%$ 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, 78.9% of samples received in quarter 1 of 2022/23 had a barcoded NHS number label, which is similar to the previous quarter (78.3%). Of the 12 maternity units, 4 met the standard.

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

Acceptable: $\geq 90.0\%$ of first blood spot samples are taken on day 5.

Achievable: $\geq 95.0\%$ 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 1 of 2022/23 were collected on day 5, which is similar to quarter 2 (91.5%). 11 out of the 12 maternity units met standard 4 (same as last Quarter).

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

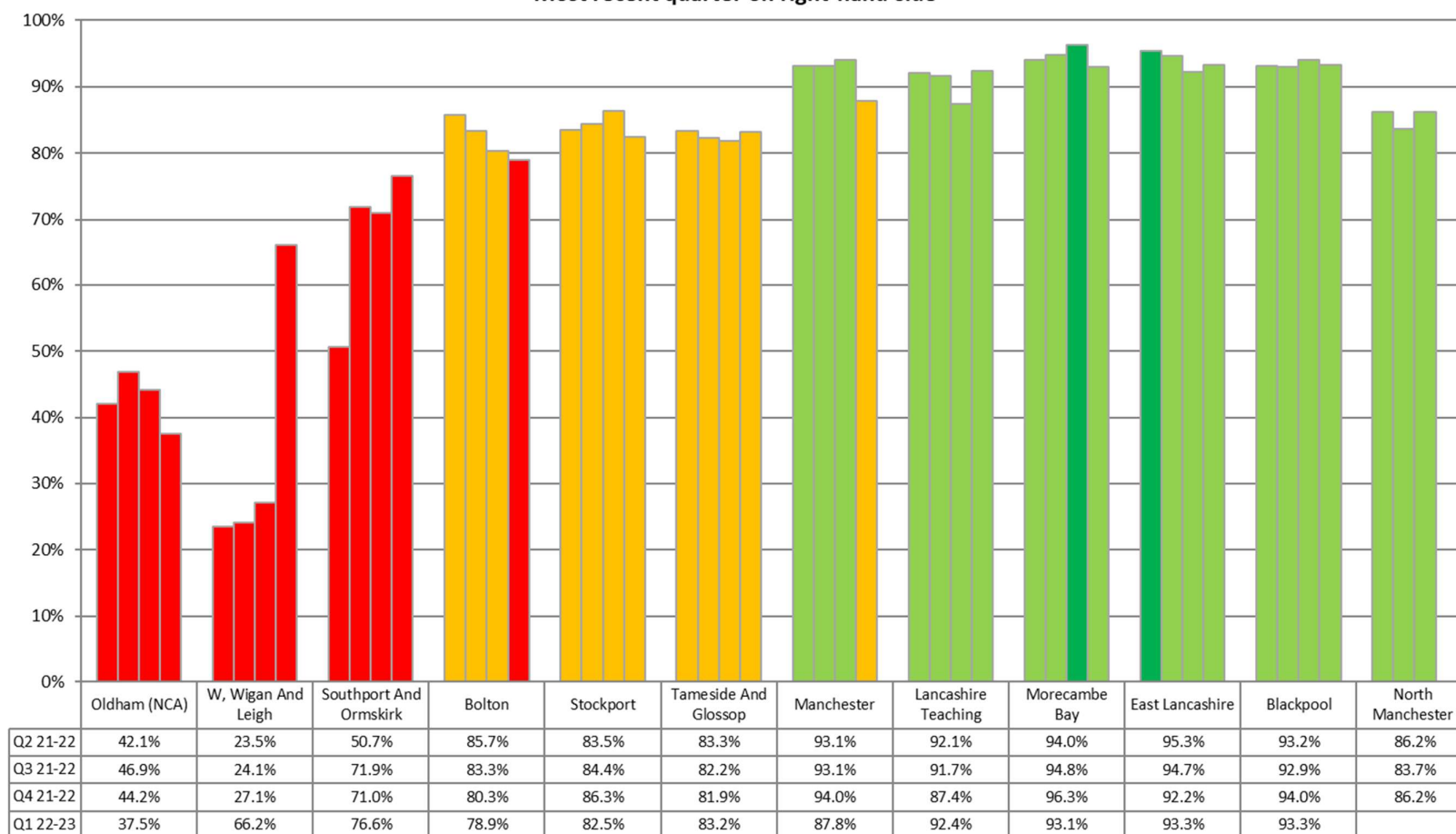
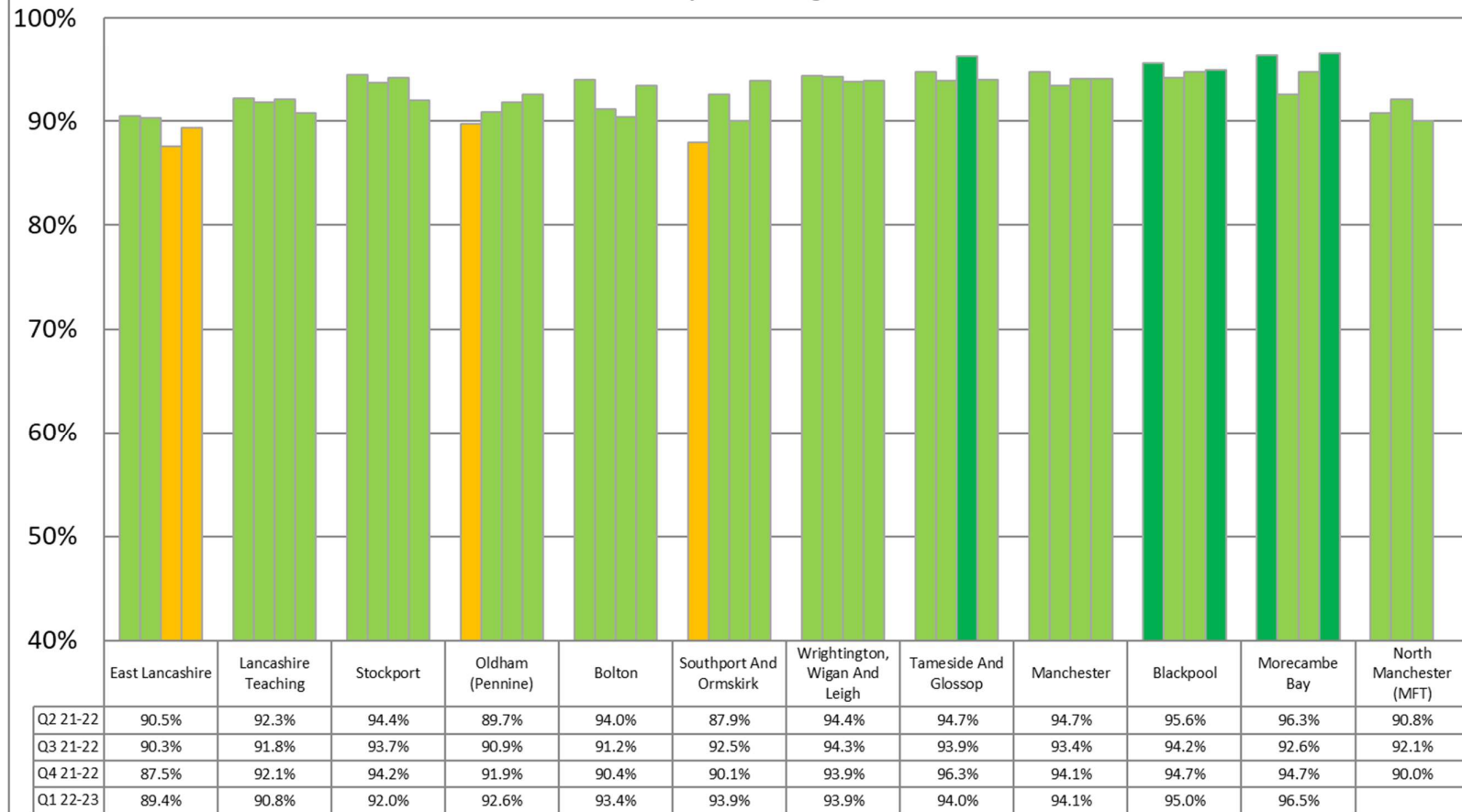


Figure 3: Standard 4 - The proportion of first blood spot samples taken on day 5

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, 97.7% samples were received within 3 working days. 11 Trusts met the standard, including 4 reaching the achievable threshold. Performance was similar to last quarter (97.5% 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 1 was 2.3%, which is higher than last quarter (1.8%). 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. Seven 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 1.8% for babies at home (1.4% in quarter 4) and 6.8% for samples collected from in-patients (4.7% in quarter 4).

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

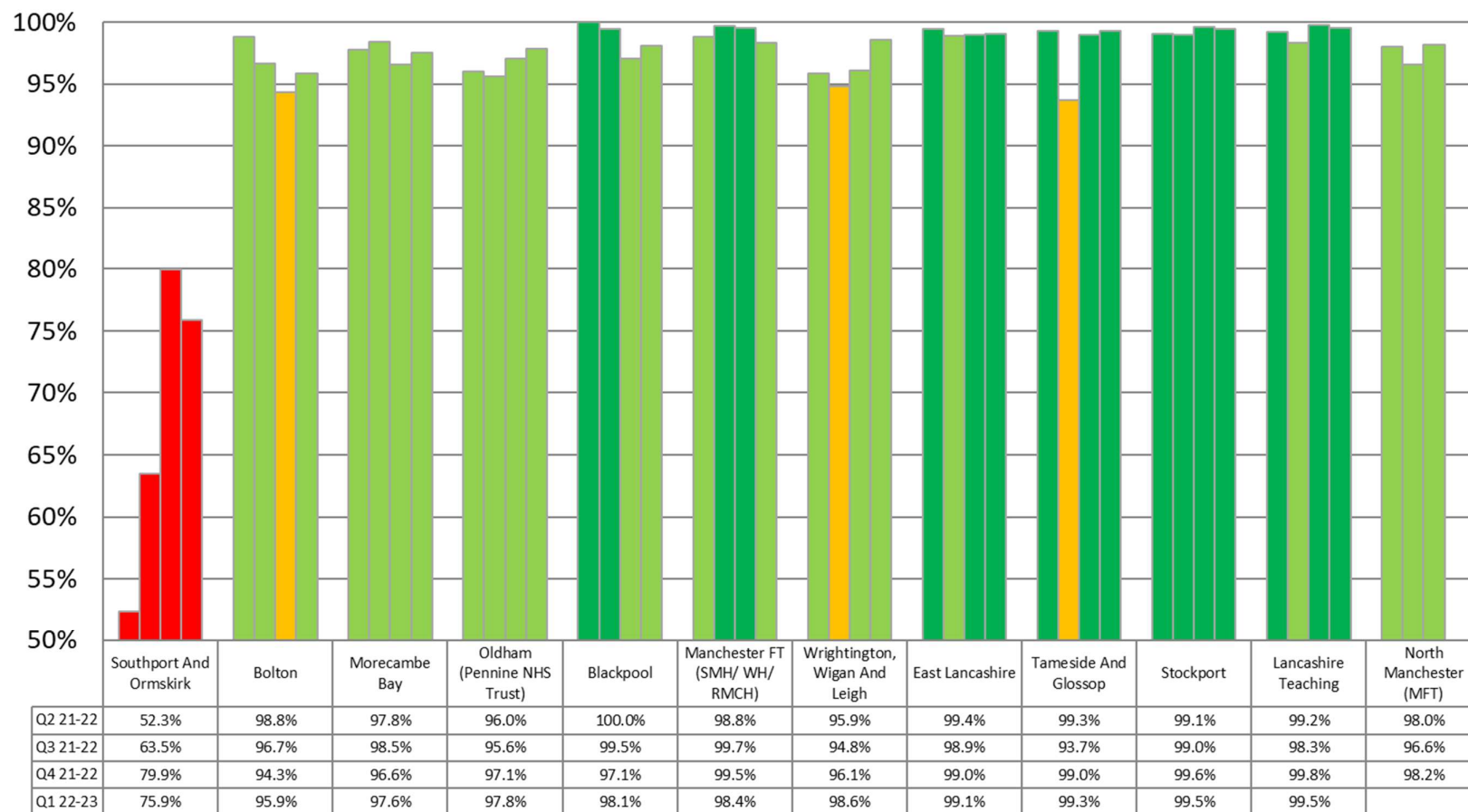
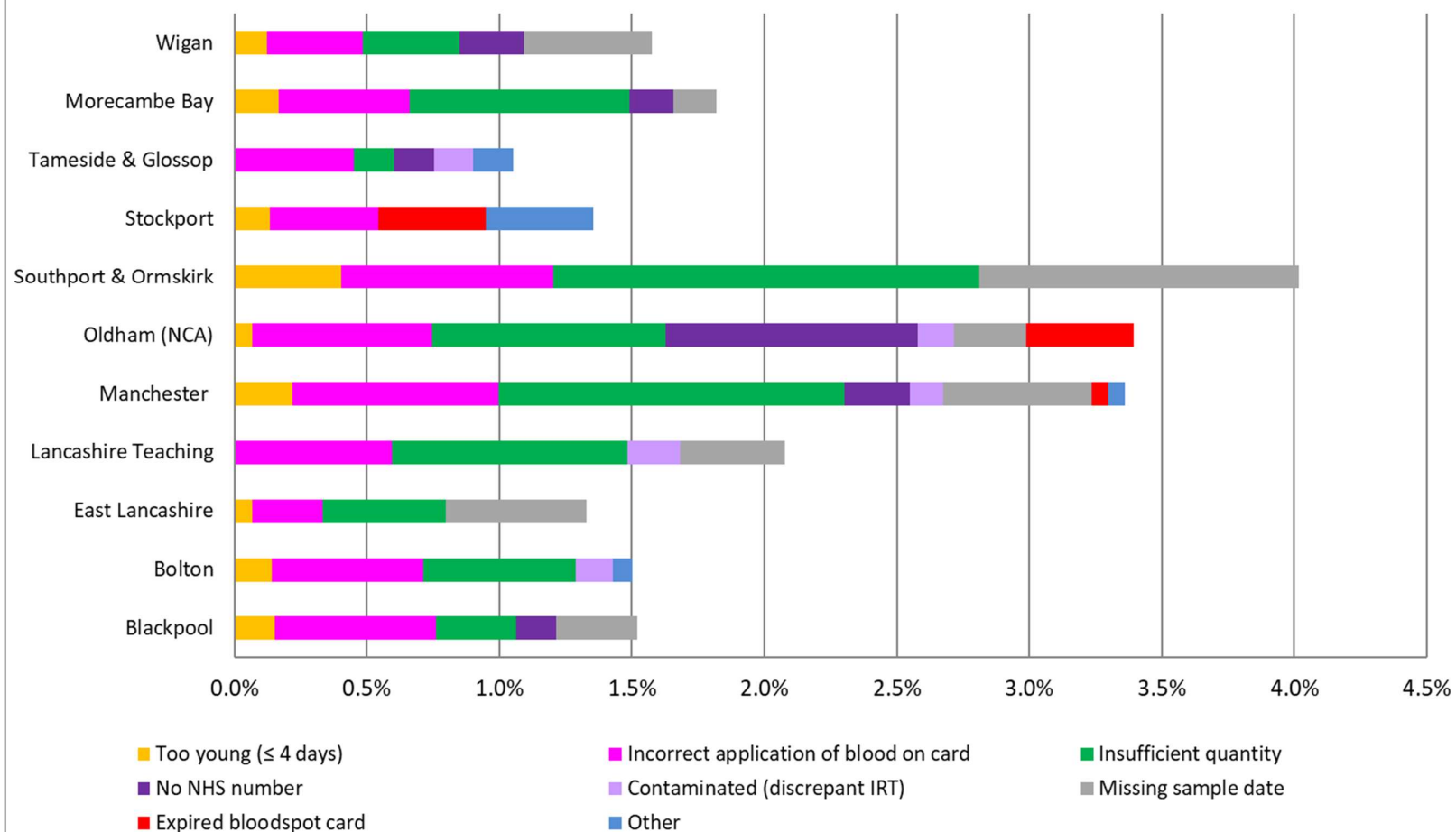
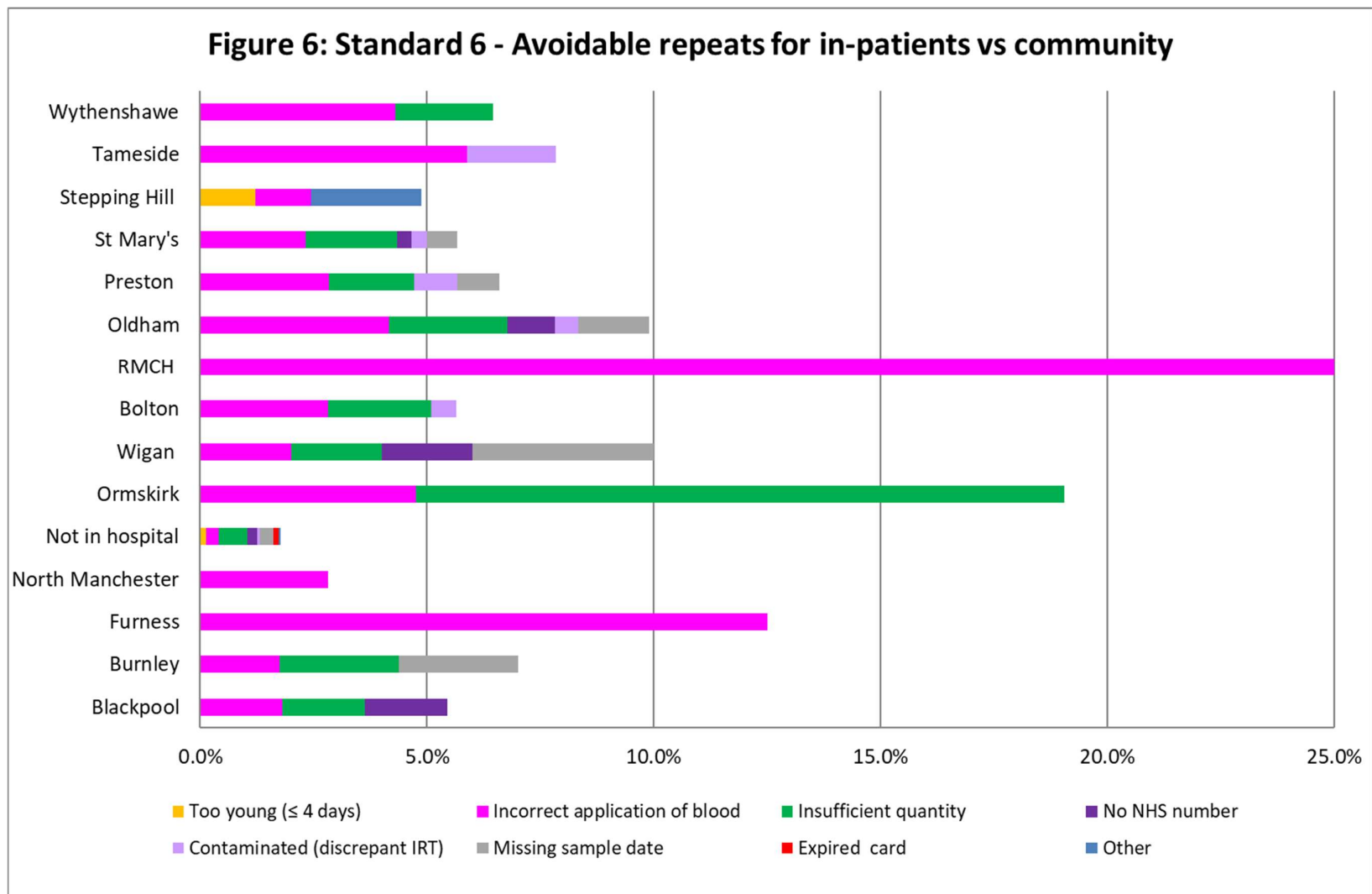


Figure 5: Standard 6 - The proportion of first blood spot samples that require repeating due to an avoidable failure in the sampling process by Trust





There no avoidable repeats for Royal Blackburn Hospital and Royal Lancaster Infirmary.

Q1 22-23 Table 1 - Summary of performance				
Trust	Standard 3	Standard 4	Standard 5	Standard 6
Blackpool Teaching Hospitals NHS FT	93.3%	95.0%	98.1%	1.5%
Bolton NHS FT	78.9%	93.4%	95.9%	1.5%
East Lancashire Hospitals NHS Trust	93.3%	89.4%	99.1%	1.3%
Lancashire Teaching Hospitals NHS FT	92.4%	90.8%	99.5%	2.1%
Manchester FT (SMH/ WH/ RMCH/NMGH)	87.8%	94.1%	98.4%	3.4%
Oldham (Pennine Acute Hospitals NHS Trust)	37.5%	92.6%	97.8%	3.4%
Southport & Ormskirk Hospital NHS Trust	76.6%	93.9%	75.9%	4.0%
Stockport NHS FT	82.5%	92.0%	99.5%	1.4%
Tameside And Glossop Integrated Care NHS FT	83.2%	94.0%	99.3%	1.1%
University Hospitals of Morecambe Bay NHS FT	93.1%	96.5%	97.6%	1.8%
Wrightington, Wigan and Leigh NHS FT	66.2%	93.9%	98.6%	1.6%

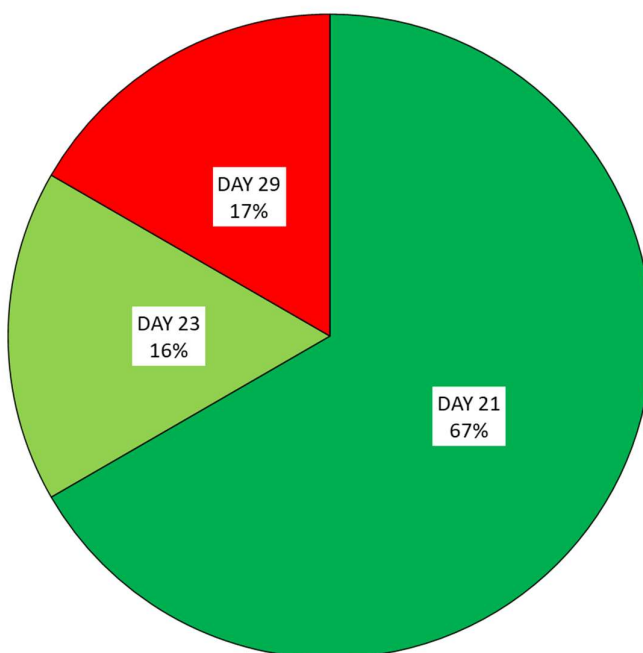
Standard 7a - The proportion of second blood spots for raised IRT taken on day 21 to day 24

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 1 there were 6 repeats for raised IRT (CF inconclusive). Of these, 83% (5) 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.

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



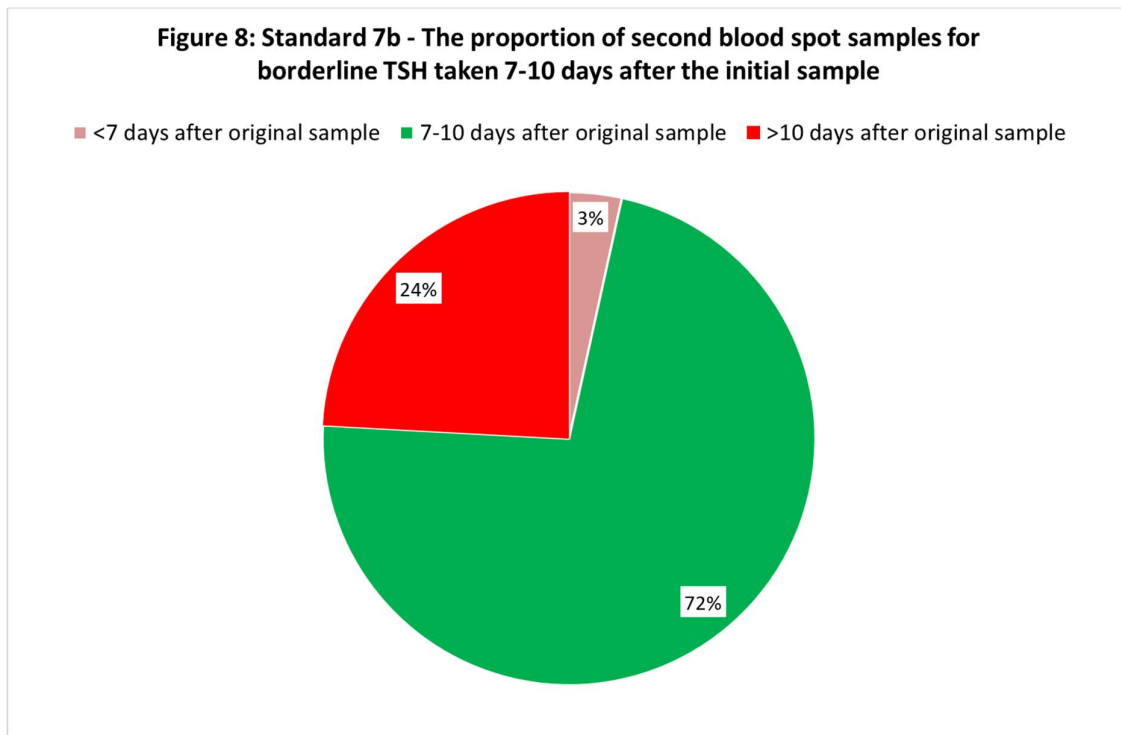
Q1 22-23 Table 2 - Standard 7a						
Child Health Department	Age at Collection of CF Inconclusive Repeat (days)			Grand Total	% collected day 21	% collected day 21-24
	21	23	29			
Salford	1			1	100%	100%
Tameside	1			1	100%	100%
Bolton	1	1		2	50%	100%
Bury			1	1	0%	0%
Birmingham Screening Lab	1			1	100%	100%
Grand Total	4	1	1	6	67%	83%

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: $\geq 80.0\%$ of repeat blood spot samples taken as defined

Achievable: $\geq 90.0\%$ 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.



Q1 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
	5	7	8	9	10	11	12	16	18		
Blackpool Teaching Hospitals NHS FT			1							1	100%
Bolton NHS FT			1	1	1			2	1	6	50%
East Lancashire Hospitals NHS Trust		1	1	1						3	100%
Lancashire Teaching Hospitals NHS FT				1						1	100%
Manchester University NHS FT - SMH, RMCH, WH & NMGH			2	2		1	1			6	67%
Oldham (NCA)		1	1	2	1	1	1			7	71%
Stockport NHS FT				1	1					2	100%
University Hospitals of Morecambe Bay NHS FT	1									1	100%
Wrightington, Wigan and Leigh NHS FT				2						2	100%
Grand Total	1	2	6	10	3	2	2	2	1	29	76%

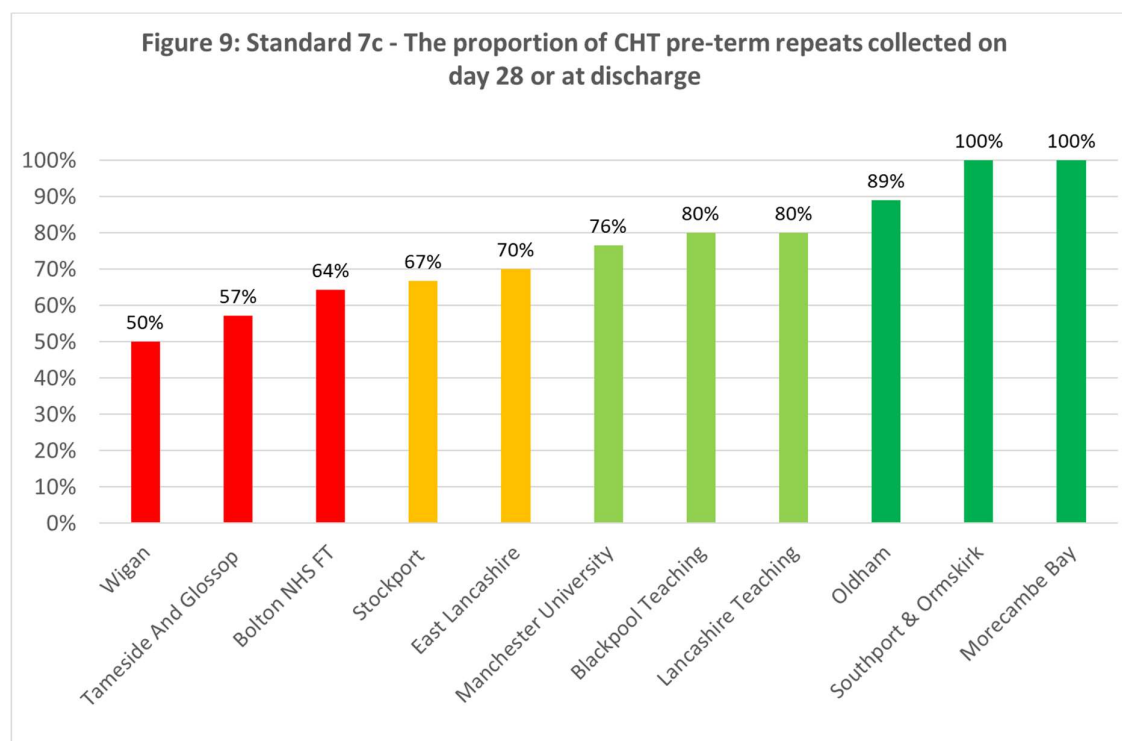
Standard 7c - The proportion of CHT pre-term repeats collected on day 28 or at discharge

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

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

During quarter 1, 145 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, 4% were collected too early (and required a further repeat) and 23% were collected after day 28.

Of note, 8 out of 33 babies with samples collected after day 28 had transfusions on days 25-28, which could account for the delayed sampling.



Quarter 1 2022-23: Standard 7c					
Trust	Number of Pre-term CHT second samples collected:				% Prem repeats collected on day 28
	Early	On time	Late	Total	
Blackpool Teaching Hospitals NHS FT	2	8		10	80%
Bolton NHS FT	1	9	4	14	64%
East Lancashire Hospitals NHS Trust	1	14	5	20	70%
Lancashire Teaching Hospitals NHS FT		12	3	15	80%
Manchester University NHS FT - SMH, RMCH, WH & NMGH	1	26	7	34	76%
Oldham (Pennine Acute Hospitals NHS Trust)		16	2	18	89%
Southport & Ormskirk Hospital NHS Trust		1		1	100%
Stockport NHS FT		6	3	9	67%
Tameside And Glossop Integrated Care NHS FT		4	3	7	57%
University Hospitals of Morecambe Bay NHS FT		3		3	100%
Wrightington, Wigan and Leigh NHS FT	1	7	6	14	50%
Grand Total	6	106	33	145	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 18 screen positive samples for CHT and 5 for IMD in quarter 1, 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.

Table 5: Standard 11						
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%	5	5	100%	4 x PKU, 1 x IVA
CHT (suspected on first sample)	Attend first clinical appointment by 14 days of age	Acceptable: 100%	10	11	91%	1 baby seen on day 15
CHT (suspected on repeat following borderline TSH)	Attend first clinical appointment by 21 days of age	Acceptable: 100%	4	7	57%	1 - day 22 (delayed samples receipt due to Easter) 1 - day 25 (delay reporting initial sample due to 2 day bank holiday) 1 - day 46 (borderline result on premature repeat)
CF (2 CFTR mutations detected)	Attend first clinical appointment by 28 days of age	Acceptable: ≥ 95.0% Achievable: 100%	2	2	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	1	1	100%	
SCD	Attend first clinical appointment by 90 days of age	Attend first clinical appointment by 90 days of age	4	5	80%	One baby has not yet been seen according to the Newborn Outcomes website.

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 1 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	689	688	643	22	99.9%	93.3%	3.2%
Bolton NHS FT	1589	1589	1254	82	100.0%	78.9%	5.2%
East Lancashire Hospitals NHS Trust	1611	1611	1503	17	100.0%	93.3%	1.1%
Health Visitor	206	203	6	1	98.5%	2.9%	0.5%
Lancashire Teaching Hospitals NHS FT	1058	1058	978	18	100.0%	92.4%	1.7%
Manchester University NHS FT - SMH & RMCH & WH & NMGH	3470	3461	3047	73	99.7%	87.8%	2.1%
Not Stated	4	4	2	0	100.0%	50.0%	0.0%
Oldham (NCA)	1574	1558	590	26	99.0%	37.5%	1.7%
Southport & Ormskirk Hospital NHS Trust	261	261	200	5	100.0%	76.6%	1.9%
Stockport NHS FT	766	766	632	58	100.0%	82.5%	7.6%
Tameside And Glossop Integrated Care NHS FT	683	682	568	22	99.9%	83.2%	3.2%
University Hospitals of Morecambe Bay NHS FT	619	618	576	5	99.8%	93.1%	0.8%
Wrightington, Wigan and Leigh NHS FT	863	860	571	165	99.7%	66.2%	19.1%
Grand Total	13393	13359	10570	494	99.7%	78.9%	3.7%

Quarter 1 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	1	625	26	1	2	3	0.2%	95.0%	4.0%	0.2%	0.3%	0.5%
Bolton NHS FT	2	1309	60	9	8	13	0.1%	93.4%	4.3%	0.6%	0.6%	0.9%
East Lancashire Hospitals NHS Trust	1	1341	119	19	3	17	0.1%	89.4%	7.9%	1.3%	0.2%	1.1%
Health Visitor	0	5	0	0	0	148	0.0%	3.3%	0.0%	0.0%	0.0%	96.7%
Lancashire Teaching Hospitals NHS FT	0	914	64	15	2	12	0.0%	90.8%	6.4%	1.5%	0.2%	1.2%
Manchester University NHS FT - SMH, RMCH, WH, NMGH	5	3010	132	9	6	38	0.2%	94.1%	4.1%	0.3%	0.2%	1.2%
Oldham (NCA)	2	1360	78	8	6	15	0.1%	92.6%	5.3%	0.5%	0.4%	1.0%
Southport & Ormskirk Hospital NHS Trust	1	231	11	0	0	3	0.4%	93.9%	4.5%	0.0%	0.0%	1.2%
Stockport NHS FT	1	679	34	6	1	17	0.1%	92.0%	4.6%	0.8%	0.1%	2.3%
Tameside And Glossop Integrated Care NHS FT	0	624	27	8	1	4	0.0%	94.0%	4.1%	1.2%	0.2%	0.6%
University Hospitals of Morecambe Bay NHS FT	2	583	15	2	0	2	0.3%	96.5%	2.5%	0.3%	0.0%	0.3%
Wrightington, Wigan and Leigh NHS FT	1	770	39	2	1	7	0.1%	93.9%	4.8%	0.2%	0.1%	0.9%
Grand Total	16	11451	605	79	30	279	0.1%	91.9%	4.9%	0.6%	0.2%	2.2%
<i>Excludes samples with missing dates</i>												

Quarter 1 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	669	682	98.1%
Bolton NHS FT	1410	1471	95.9%
East Lancashire Hospitals NHS Trust	1531	1545	99.1%
Health Visitor	139	161	86.3%
Lancashire Teaching Hospitals NHS FT	1045	1050	99.5%
Manchester University NHS FT - SMH & RMCH & WH & NMGH	3302	3357	98.4%
Not Stated	0	2	0.0%
Oldham (NCA)	1526	1560	97.8%
Southport & Ormskirk Hospital NHS Trust	195	257	75.9%
Stockport NHS FT	760	764	99.5%
Tameside And Glossop Integrated Care NHS FT	675	680	99.3%
University Hospitals of Morecambe Bay NHS FT	602	617	97.6%
Wrightington, Wigan and Leigh NHS FT	843	855	98.6%
Grand Total	12697	13001	97.7%
<i>Excludes day 0 'pre-transfusion' samples and samples with missing date of collection</i>			

Quarter 1 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	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)	1	2	1	0	0	7	1	1	1	0	1	1	16
0302: too soon after transfusion (<72 hours)	0	2	5	0	3	6	3	0	0	0	0	0	19
0303: insufficient sample	2	8	7	4	9	42	13	4	0	1	5	3	98
0304: unsuitable sample (blood quality): incorrect blood application	4	8	4	1	6	25	10	2	3	3	3	3	72
0305: unsuitable sample (blood quality): compressed/damaged	0	1	0	0	0	2	0	0	3	1	0	0	7
0306: Unsuitable sample: day 0 and day 5 on same card	0	0	0	0	0	0	0	0	0	0	0	0	0
0307: unsuitable sample for CF: possible faecal contamination	0	2	0	0	2	4	2	0	0	1	0	0	11
0308: unsuitable sample: NHS number missing/not accurately recorded	1	0	0	1	0	8	14	0	0	1	1	2	28
0309: unsuitable sample: date of sample missing/not accurately recorded	2	0	8	1	4	18	4	3	0	0	1	4	45
0310: unsuitable sample: date of birth not accurately matched	0	0	0	0	0	0	0	0	0	0	0	0	0
0311: unsuitable sample: expired card used	0	0	0	2	0	2	6	0	3	0	0	0	13
0312: unsuitable sample: >14 days in transit, too old for analysis	0	0	0	0	0	0	0	0	0	0	0	0	0
0313: unsuitable sample: damaged in transit	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Avoidable Repeat Requests	10	21	20	9	21	108	50	10	10	7	11	13	290
Number of first samples received/ babies tested	658	1399	1504	127	1011	3215	1473	249	738	665	604	824	12467
Avoidable Repeat Requests Rate	1.5%	1.5%	1.3%	7.1%	2.1%	3.4%	3.4%	4.0%	1.4%	1.1%	1.8%	1.6%	2.3%
Transfusion Repeats are not included in the Avoidable Repeat calculation													

Quarter 1 2022-23: Standard 6 by Current Hospital																		
Status code and description of avoidable repeat	Blackpool Victoria Hospital	Burnley General Hospital	Furness General Hospital	North Manchester General Hospital	Not in hospital	Ormskirk & District General	Royal Albert Edward Infirmary	Royal Blackburn Hospital	Royal Bolton Hospital	Royal Lancaster Infirmary	Royal Manchester Childrens Hospital	Royal Oldham Hospital	Royal Preston Hospital	St Mary's Hospital, Manchester	Stepping Hill Hospital	Tameside General Hospital	Wythenshawe Hospital	Grand Total
0301: too young for reliable screening (≤ 4 days)	0	0	0	0	15	0	0	0	0	0	0	0	0	0	1	0	0	16
0302: too soon after transfusion (<72 hours)	0	5	0	0	0	0	0	0	2	0	0	3	3	6	0	0	0	19
0303: insufficient sample	1	3	0	0	71	3	1	0	4	0	0	5	2	6	0	0	2	98
0304: unsuitable sample (blood quality): incorrect blood application	1	2	2	2	30	1	1	0	5	0	2	8	3	7	1	3	4	72
0305: unsuitable sample (blood quality): compressed/damaged	0	0	0	0	5	0	0	0	0	0	0	0	0	0	2	0	0	7
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	0	0	0	0	6	0	0	0	1	0	0	1	1	1	0	1	0	11
0308: unsuitable sample: NHS number missing/not accurately recorded	1	0	0	0	23	0	1	0	0	0	0	2	0	1	0	0	0	28
0309: unsuitable sample: date of sample missing/not accurately recorded	0	3	0	0	34	0	2	0	0	0	0	3	1	2	0	0	0	45
0310: unsuitable sample: date of birth not accurately matched	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0311: unsuitable sample: expired card used	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	13
0312: unsuitable sample: >14 days in transit, too old for analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	3	8	2	2	197	4	5	0	10	0	2	19	7	17	4	4	6	290
Number of first samples received/ babies tested	55	114	16	71	11093	21	50	1	177	37	8	192	106	300	82	51	93	12467
Avoidable Repeat Requests Rate	5.5%	7.0%	12.5%	2.8%	1.8%	19.0%	10.0%	0.0%	5.6%	0.0%	25.0%	9.9%	6.6%	5.7%	4.9%	7.8%	6.5%	2.3%
Transfusion Repeats are not included in the Avoidable Repeat calculation																		