

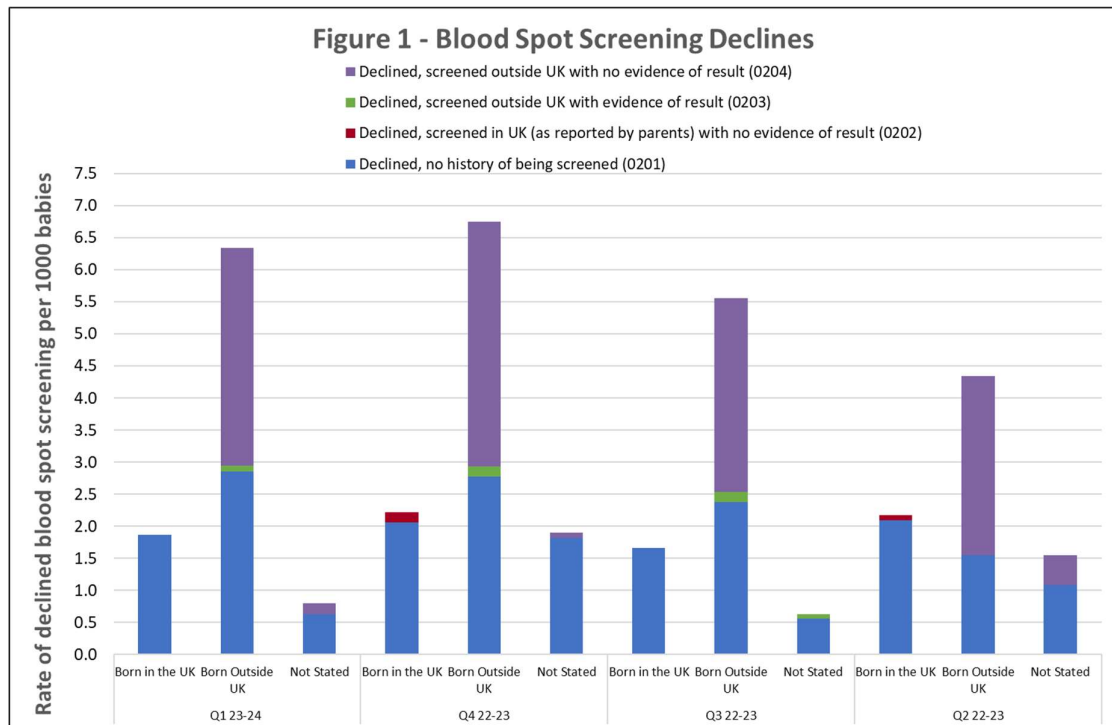
Manchester Newborn Screening Laboratory Quarterly Blood Spot Screening Report: Quarter 1 2023-24

Manchester Newborn Screening Laboratory, which serves babies born in Greater Manchester, Lancashire and South Cumbria, received 12763 blood spot samples between 1st April and 30th June 2023. 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 1 the laboratory received 109 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, 83.2% of samples received in quarter 1 of 2023/24 had a barcoded NHS number label, which is higher than the previous quarter (77.8%). Of the 11 maternity units, 4 met the standard with 1 meeting 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, 91.8% of samples received in quarter 1 of 2023/24 were collected on day 5, which is an improvement on the previous quarter (90.8%). 9 out of the 11 maternity units met standard 4, and 3 of these 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

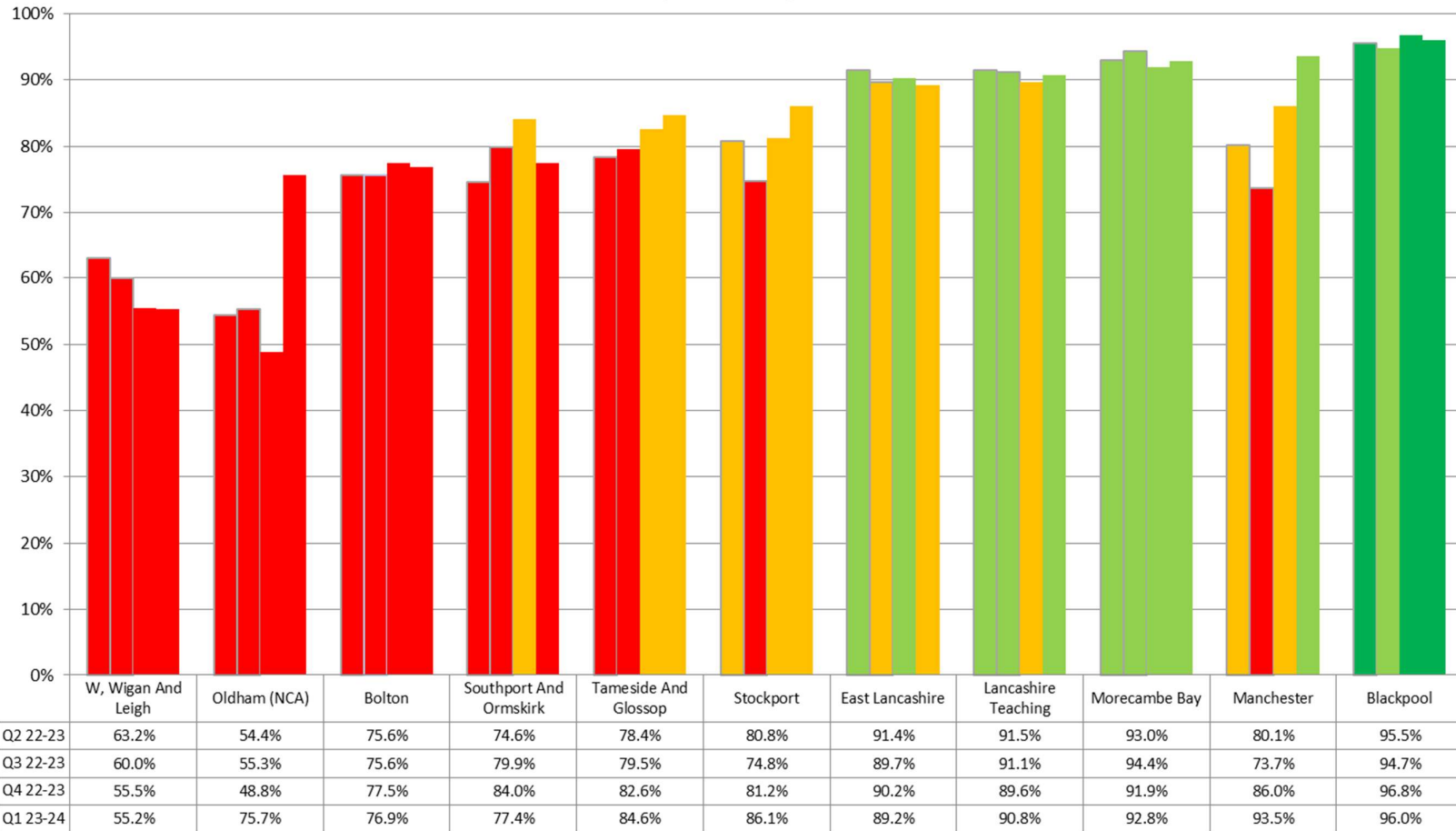


Figure 3: Standard 4 - The proportion of first blood spot samples taken on day 5

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.

Figure 4 displays performance against standard 5.

Overall, 97.9% samples were received within 3 working days. 9 Trusts met the standard, including 6 reaching the achievable threshold. Performance was similar to the previous quarter (98.1% 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 2.8%, which is an improvement on last quarter (3.6%). 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. Two 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 (2.8% in quarter 4) and 7.6% for samples collected from in-patients (8.8% 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

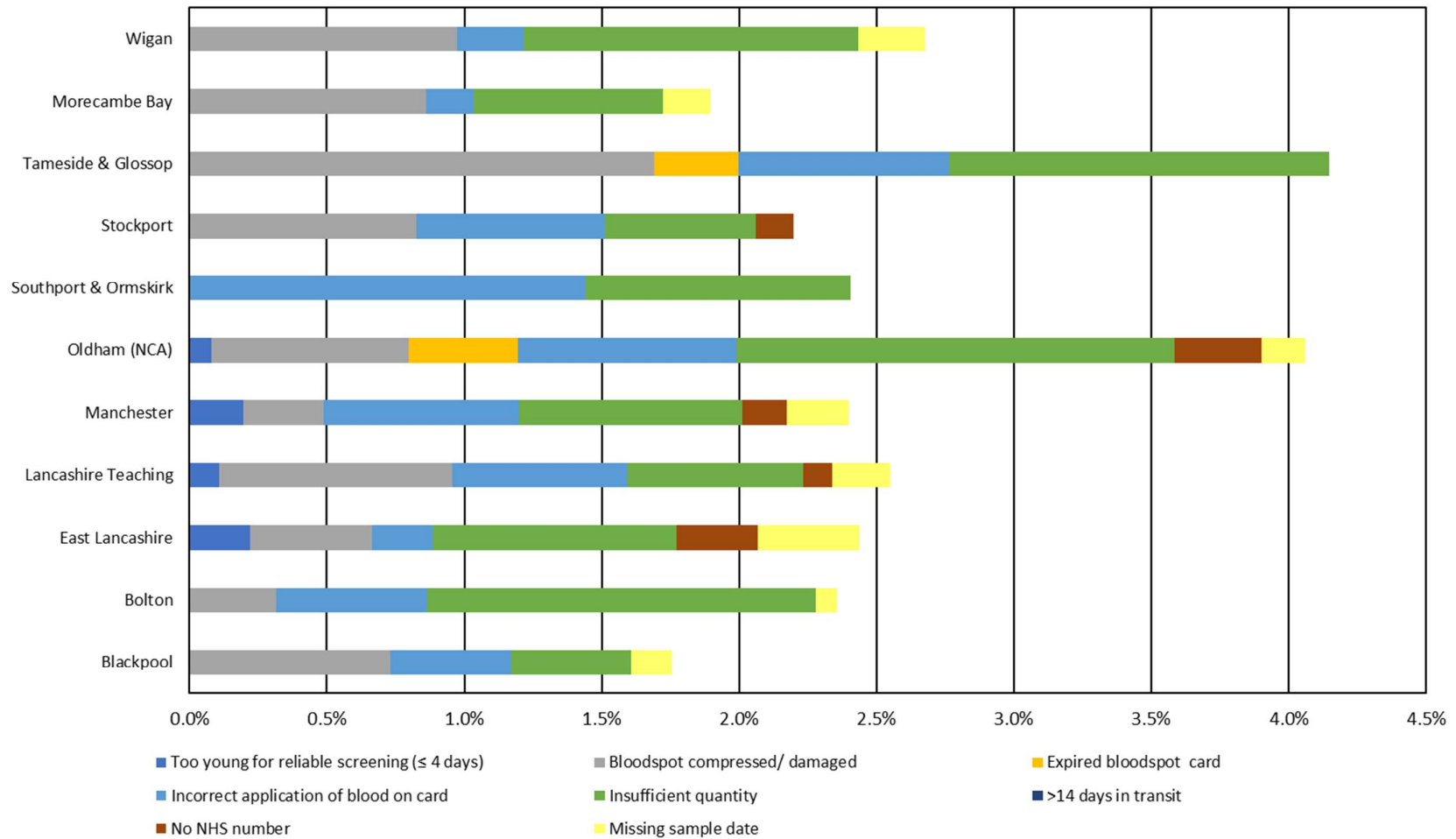
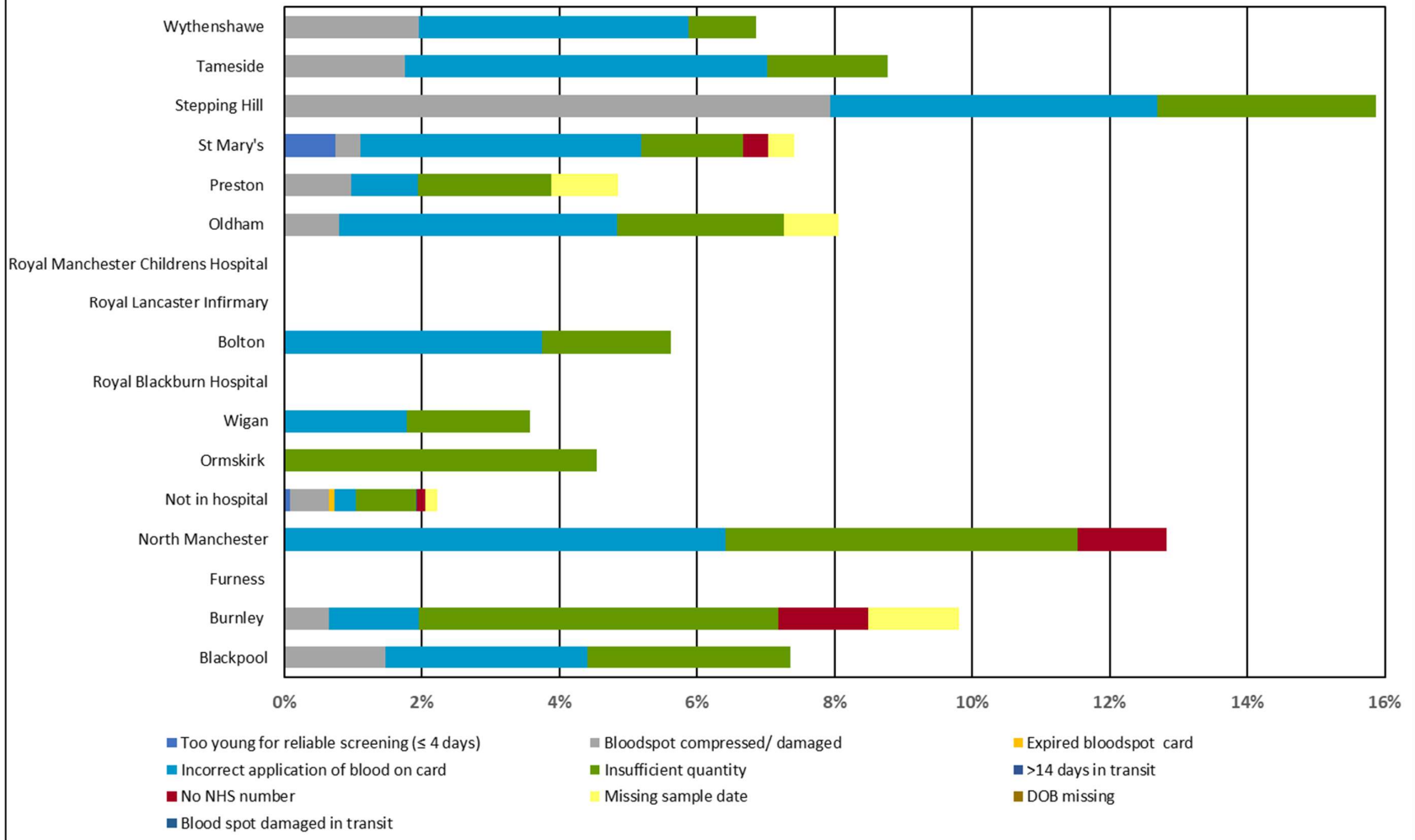


Figure 6: Standard 6 - Avoidable repeats for in-patients vs community



Q1 23-24 Table 1 - Summary of performance				
Trust	Standard 3	Standard 4	Standard 5	Standard 6
Blackpool Teaching Hospitals NHS FT	96.0%	94.3%	99.1%	1.8%
Bolton NHS FT	76.9%	93.1%	98.7%	2.4%
East Lancashire Hospitals NHS Trust	89.2%	89.9%	99.7%	2.4%
Lancashire Teaching Hospitals NHS FT	90.8%	95.0%	99.4%	2.6%
Manchester University NHS FT - SMH, RMCH, WH & NMGH	93.5%	95.2%	98.2%	2.4%
Oldham (NCA)	75.7%	89.3%	95.6%	4.1%
Southport & Ormskirk Hospital NHS Trust	77.4%	92.8%	88.5%	2.4%
Stockport NHS FT	86.1%	94.2%	99.7%	2.2%
Tameside And Glossop Integrated Care NHS FT	84.6%	92.6%	99.3%	4.1%
University Hospitals of Morecambe Bay NHS FT	92.8%	97.8%	94.6%	1.9%
Wrightington, Wigan and Leigh NHS FT	55.2%	93.2%	99.2%	2.7%

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

During quarter 1 there were 5 repeats for raised IRT (CF inconclusive). Of these, 80% were collected on day 21-24. CF inconclusive repeats are performed by Screening Link Health Visitors. The data is presented by Maternity Unit in table 2.

Q1 23-24 Table 2 - Standard 7a					
Maternity Unit	Age at Collection of CF Inconclusive Repeat (days)			Total	% collected day 21-24
	19	21	37		
Blackpool Teaching Hospitals NHS FT		1		1	100%
Lancashire Teaching Hospitals NHS FT		1		1	100%
Manchester University NHS FT - SMH, RMCH, WH & NMGH			1	1	0%
Southport & Ormskirk Hospital NHS Trust	1			2	50%
University Hospitals of Morecambe Bay NHS FT		1		1	100%
Total	1	3	1	5	80%

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

During quarter 1 there were 19 repeats for borderline TSH (CHT). Of these, 42% were collected 7-10 days after the original sample. Table 3 displays the information by Trust.

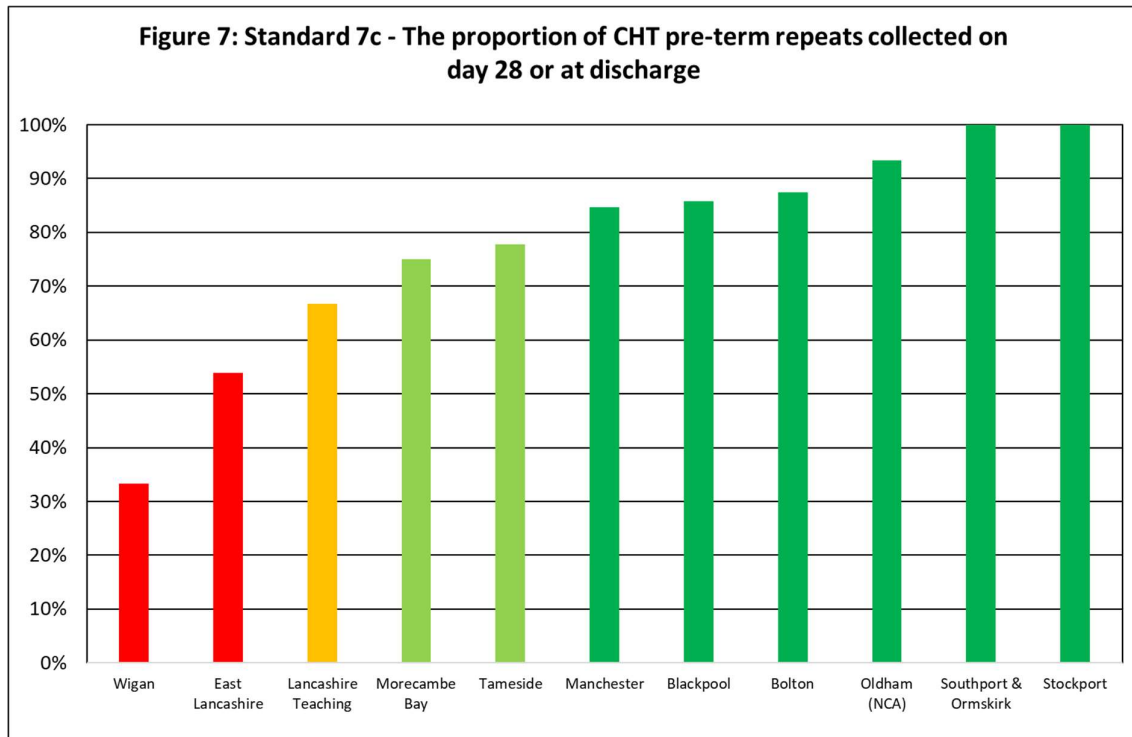
Q1 Table 3: Standard 7b											
Trust	Number of days between original sample and collection of repeat sample									Total	% collected 7-10 days after
	5	8	9	10	11	12	13	15	17		
Blackpool Teaching Hospitals NHS FT								1		1	0%
Bolton NHS FT			1				1			2	50%
East Lancashire Hospitals NHS Trust	1		1							2	50%
Lancashire Teaching Hospitals NHS FT						1				1	0%
Manchester University NHS FT - SMH, RMCH, WH & NMGH	1	2			2	1				6	33%
Oldham (NCA)			1							1	100%
Stockport NHS FT	1		1	1						3	67%
Wrightington, Wigan and Leigh NHS FT		1				1			1	3	33%
Grand Total	3	3	4	1	2	3	1	1	1	19	42%

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, 130 CHT pre-term repeats were received (avoidable repeats and duplicates excluded). Performance by trust is displayed in figure 7. 78% were collected on day 28 or at discharge, 20% were collected after day 28.



Quarter 1 2023-24: Standard 7c					
Trust	Number			Total	% Prem repeats
	EARLY	ON-TIME	LATE		
Blackpool Teaching Hospitals NHS FT	1	6	0	7	86%
Bolton NHS FT	0	14	2	16	88%
East Lancashire Hospitals NHS Trust	1	7	5	13	54%
Lancashire Teaching Hospitals NHS FT	0	10	5	15	67%
Manchester University NHS FT - SMH, RMCH, WH & NMGH	0	33	6	39	85%
Oldham (NCA)	0	14	1	15	93%
Southport & Ormskirk Hospital NHS Trust	0	2	0	2	100%
Stockport NHS FT	0	4	0	4	100%
Tameside And Glossop Integrated Care NHS FT	0	7	2	9	78%
University Hospitals of Morecambe Bay NHS FT	0	3	1	4	75%
Wrightington, Wigan and Leigh NHS FT	0	2	4	6	33%
Grand Total	2	102	26	130	78%

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 9 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%	2 x PKU, 3 x MCAD
CHT (suspected on first sample)	Attend first clinical appointment by 14 days of age	Acceptable: 100%	6	6	100%	
CHT (suspected on repeat following borderline TSH)	Attend first clinical appointment by 21 days of age	Acceptable: 100%	3	3	100%	
CF (2 CFTR mutations detected)	Attend first clinical appointment by 28 days of age	Acceptable: $\geq 95.0\%$ Achievable: 100%	0	0	0%	
HCU	Attend first clinical appointment by 28 days of age	Acceptable: $\geq 95.0\%$ 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	2	2	100%	
SCD	Attend first clinical appointment by 90 days of age	Attend first clinical appointment by 90 days of age	11	12	92%	One baby seen at 105 day old

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
2375351	11/04/23	3 - moderate	1 - no harm	Blood spot collection error: delay/ failure to collect screening sample	Repeat sample not collected.	External	Bolton Health Visitors	Greater Manchester	Yes
2382566	27/04/23	3 - moderate	1 - no harm	Blood spot labelling error: another baby's bar-coded demographic sticker, detected prior to reporting		External	Lancashire Teaching Maternity Unit	Lancashire	Yes
2392839	29/05/23	3 - moderate	1 - no harm	Blood spot labelling error: manually labelled with another baby's demographic details	2 samples received labelled with the same babies details	External	Pennine Maternity Unit	Greater Manchester	Yes
2392967	05/05/23	3 - moderate	1 - no harm	Lab reporting error: result incorrectly reported by laboratory	CF Genetics reported as Notmal in error as baby had 2 mutations. Baby referred 10 days later due to persistantly raised IRT. No significant delay in treatment,	MFT	NBS Lab	Lancashire	Yes
2399093	27/06/23	3 - moderate	1 - no harm	Blood spot collection error: delay/ failure to collect screening sample	Repeat NBS sample not collected	External	Pennine Health Visitors	Greater Manchester	Yes
2406706	20/06/23	4 - major	3 - moderate	Late referral for treatment of a screen positive baby due to a failing anywhere in the pathway	CHT result incorrectly reported as Not Suspected instead of Suspected. Incident resulted in a delay of treatment by 3 weeks.	MFT	NBS Lab	Greater Manchester	Yes

Appendix

Quarter 1 2023-24: 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	704	704	676	8	100.0%	96.0%	1.1%
Bolton NHS FT	1480	1479	1138	82	99.9%	76.9%	5.5%
East Lancashire Hospitals NHS Trust	1486	1482	1326	24	99.7%	89.2%	1.6%
Health Visitor	285	280	8	2	98.2%	2.8%	0.7%
Lancashire Teaching Hospitals NHS FT	996	995	904	14	99.9%	90.8%	1.4%
Manchester University NHS FT - SMH & RMCH & WH & NMGH	3301	3295	3087	41	99.8%	93.5%	1.2%
Not Stated	15	14	6	1	93.3%	40.0%	6.7%
Oldham (NCA)	1377	1372	1042	16	99.6%	75.7%	1.2%
Southport & Ormskirk Hospital NHS Trust	217	217	168	5	100.0%	77.4%	2.3%
Stockport NHS FT	747	746	643	26	99.9%	86.1%	3.5%
Tameside And Glossop Integrated Care NHS FT	696	696	589	46	100.0%	84.6%	6.6%
University Hospitals of Morecambe Bay NHS FT	599	599	556	6	100.0%	92.8%	1.0%
Wrightington, Wigan and Leigh NHS FT	860	860	475	239	100.0%	55.2%	27.8%
Grand Total	12763	12739	10618	510	99.8%	83.2%	4.0%

Quarter 1 2023-24: 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	645	29	6	1	3	0.0%	94.3%	4.2%	0.9%	0.1%	0.4%
Bolton NHS FT	1	1187	62	11	3	11	0.1%	93.1%	4.9%	0.9%	0.2%	0.9%
East Lancashire Hospitals NHS Trust	3	1214	96	16	5	16	0.2%	89.9%	7.1%	1.2%	0.4%	1.2%
Health Visitor	0	5	1	0	0	194	0.0%	2.5%	0.5%	0.0%	0.0%	97.0%
Lancashire Teaching Hospitals NHS FT	1	896	31	5	1	9	0.1%	95.0%	3.3%	0.5%	0.1%	1.0%
Manchester University NHS FT - SMH, RMCH, WH & NMGH	6	2929	98	9	8	28	0.2%	95.2%	3.2%	0.3%	0.3%	0.9%
Not Stated	0	5	1	0	0	2	0.0%	62.5%	12.5%	0.0%	0.0%	25.0%
Oldham (NCA)	1	1122	91	18	7	18	0.1%	89.3%	7.2%	1.4%	0.6%	1.4%
Southport & Ormskirk Hospital NHS Trust	1	193	10	0	1	3	0.5%	92.8%	4.8%	0.0%	0.5%	1.4%
Stockport NHS FT	0	686	33	5	0	4	0.0%	94.2%	4.5%	0.7%	0.0%	0.5%
Tameside And Glossop Integrated Care NHS FT	0	604	26	8	3	11	0.0%	92.6%	4.0%	1.2%	0.5%	1.7%
University Hospitals of Morecambe Bay NHS FT	0	566	9	2	0	2	0.0%	97.8%	1.6%	0.3%	0.0%	0.3%
Wrightington, Wigan and Leigh NHS FT	0	763	45	1	2	8	0.0%	93.2%	5.5%	0.1%	0.2%	1.0%
Grand Total	13	10815	532	81	31	309	0.1%	91.8%	4.5%	0.7%	0.3%	2.6%

Quarter 1 2023-24: Standard 5							
Trust	Number of samples received in 3 or fewer working days of sample being taken	Number of samples received in 4 or fewer working days of sample	Number of samples received in 5 or more 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	Percentage of samples received by laboratories in 4 or fewer	Percentage of samples received by laboratories on or after 5
Blackpool Teaching Hospitals NHS FT	677	680	3	683	99.1%	99.6%	0.44%
Bolton NHS FT	1327	1332	12	1344	98.7%	99.1%	0.89%
East Lancashire Hospitals NHS Trust	1408	1410	2	1412	99.7%	99.9%	0.14%
Health Visitor	201	210	16	226	88.9%	92.9%	7.08%
Lancashire Teaching Hospitals NHS FT	952	955	3	958	99.4%	99.7%	0.31%
Manchester University NHS FT - SMH, RMCH, WH & NMGH	3226	3262	23	3285	98.2%	99.3%	0.70%
Not Stated	6	7	7	14	42.9%	50.0%	50.00%
Oldham (NCA)	1280	1302	37	1339	95.6%	97.2%	2.76%
Southport & Ormskirk Hospital NHS Trust	192	205	12	217	88.5%	94.5%	5.53%
Stockport NHS FT	723	725	0	725	99.7%	100.0%	0.00%
Tameside And Glossop Integrated Care NHS FT	665	668	2	670	99.3%	99.7%	0.30%
University Hospitals of Morecambe Bay NHS FT	546	574	3	577	94.6%	99.5%	0.52%
Wrightington, Wigan and Leigh NHS FT	833	839	1	840	99.2%	99.9%	0.12%
Grand Total	12036	12169	121	12290	97.9%	99.0%	0.98%

Quarter 1 2023-24: 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	3	0	1	6	0	1	0	0	0	0	0	11
0302: too soon after transfusion (<72 hours)	0	1	5	0	1	4	0	1	0	0	0	0	0	12
0303: insufficient sample	3	18	12	10	6	25	1	20	2	4	9	4	10	124
0304: unsuitable sample (blood quality): incorrect blood application	3	7	3	9	6	22	0	10	3	5	5	1	2	76
0305: unsuitable sample (blood quality): compressed/damaged	5	4	6	1	8	9	0	9	0	6	11	5	8	72
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	0	0	0	0	0	0	0	0	0	0	0	0
0308: unsuitable sample: NHS number missing/not accurately recorded	0	0	4	1	1	5	0	4	0	1	0	0	0	16
0309: unsuitable sample: date of sample missing/not accurately recorded	1	1	5	3	2	7	0	2	0	0	0	1	2	24
0310: unsuitable sample: date of birth not accurately matched	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0311: unsuitable sample: expired card used	0	0	0	1	0	0	0	5	0	0	2	0	0	8
0312: unsuitable sample: >14 days in transit, too old for analysis	0	0	0	1	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
Number of Avoidable Repeat Requests	12	30	33	26	24	74	1	51	5	16	27	11	22	332
Number of first samples received/ babies tested	684	1273	1354	172	941	3085	8	1256	208	728	651	580	822	11762
Avoidable Repeat Requests Rate	1.8%	2.4%	2.4%	15.1%	2.6%	2.4%	12.5%	4.1%	2.4%	2.2%	4.1%	1.9%	2.7%	2.8%

Transfusion Repeats are not included in the Avoidable Repeat calculation

Quarter 1 2023-24: 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	Stepping Hill Hospital	Tameside General Hospital	Wythenshawe Hospital	Grand Total
0301: too young for reliable screening (≤4 days)	0	0	0	0	9	0	0	0	0	0	0	0	0	2	0	0	0	11
0302: too soon after transfusion (<72 hours)	0	5	0	0	0	0	0	0	1	0	0	1	1	1	0	0	3	12
0303: insufficient sample	2	8	0	4	92	1	1	0	3	0	0	3	2	4	2	1	1	124
0304: unsuitable sample (blood quality): incorrect blood application	2	2	0	5	33	0	1	0	6	0	0	5	1	11	3	3	4	76
0305: unsuitable sample (blood quality): compressed/damaged	1	1	0	0	59	0	0	0	0	0	0	1	1	1	5	1	2	72
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0308: unsuitable sample: NHS number missing/not accurately recorded	0	2	0	1	12	0	0	0	0	0	0	0	0	1	0	0	0	16
0309: unsuitable sample: date of sample missing/not accurately recorded	0	2	0	0	19	0	0	0	0	0	0	1	1	1	0	0	0	24
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	8	0	0	0	0	0	0	0	0	0	0	0	0	8
0312: unsuitable sample: >14 days in transit, too old for analysis	0	0	0	0	1	0	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	5	15	0	10	233	1	2	0	9	0	0	10	5	20	10	5	7	332
Number of first samples received/babies tested	68	153	10	78	10456	22	56	0	160	37	3	124	103	270	63	57	102	11762
Avoidable Repeat Requests Rate	7.4%	9.8%	0.0%	12.8%	2.2%	4.5%	3.6%	#DIV/0!	5.6%	0.0%	0.0%	8.1%	4.9%	7.4%	15.9%	8.8%	6.9%	2.8%

Transfusion Repeats are not included in the Avoidable Repeat calculation