

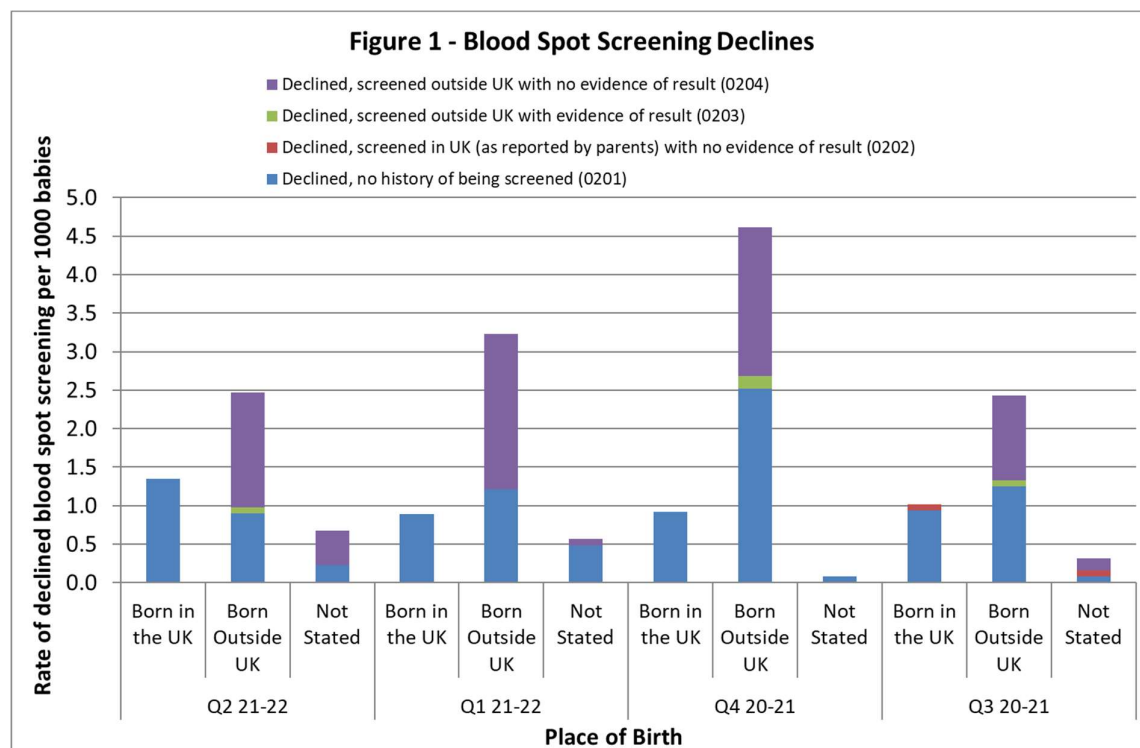
Manchester Newborn Screening Laboratory Quarterly Blood Spot Screening Report: Quarter 2 2021-22

Manchester Newborn Screening Laboratory, which serves babies born in Greater Manchester, Lancashire and South Cumbria, received 14244 blood spot samples between 1st July and 30th September 2021. 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 4 sample cards (0.03%).

Declines

In Quarter 2 the laboratory received 60 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, 78.7% of samples received in quarter 2 of 2021/22 had a barcoded NHS number label, which is less than the previous quarter (82.4%). Of the 12 maternity units, 5 met the standard, including one reaching the achievable threshold (East Lancashire). Three units were more than 10% below the acceptable threshold, which is the same as the previous quarter.

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, 92.4% of samples received in quarter 2 of 2021/22 were collected on day 5, which is less than quarter 1 (92.6%). 10 maternity units met standard 4, including 2 meeting the achievable threshold (Blackpool and Morecambe Bay).

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

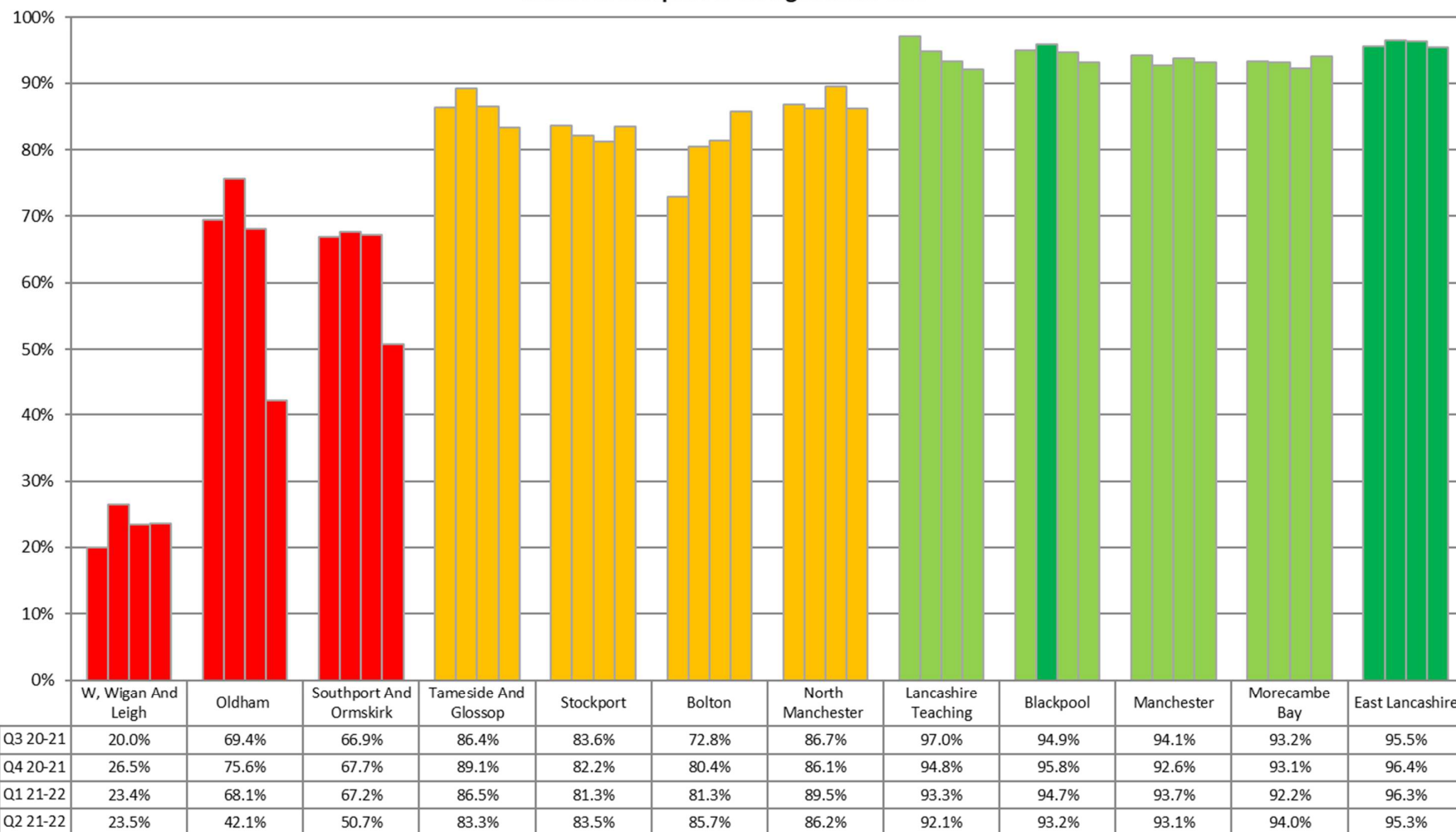


Figure 3: Standard 4 - The proportion of first blood spot samples taken on day 5

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, 97.4% samples were received within 3 working days. 11 Trusts met the standard, including 5 reaching the achievable threshold. Performance was slightly worse than last quarter (98.2% 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 the same as quarter 1. The performance for each trust is displayed in figure 5. Seven Trusts met the standard (Blackpool, East Lancashire, Lancashire Teaching, Stockport, Tameside, Morecambe and Wigan). 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 2.3% for babies at home (the same as quarter 1) and 5.4% for samples collected from in-patients (6.7% 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

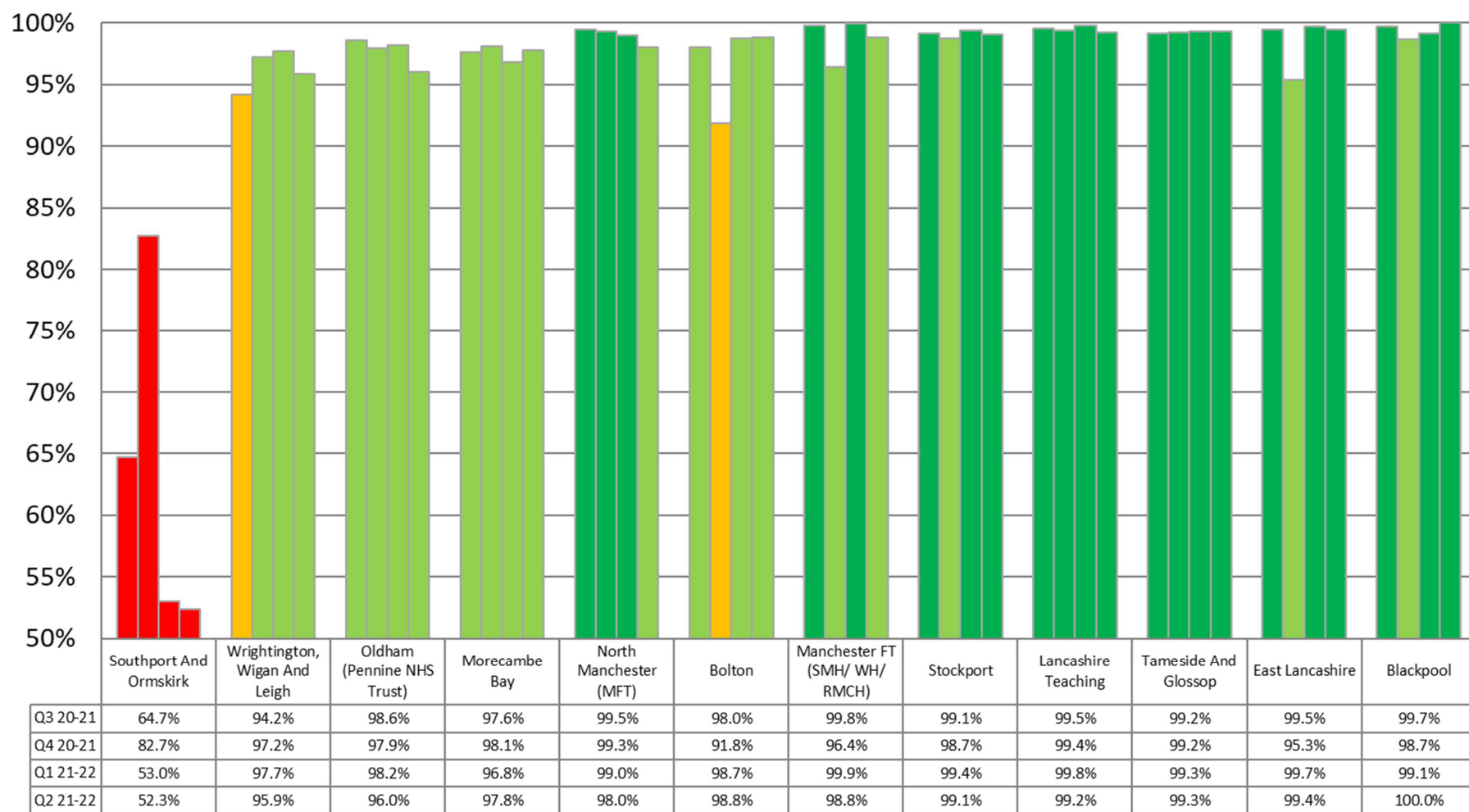
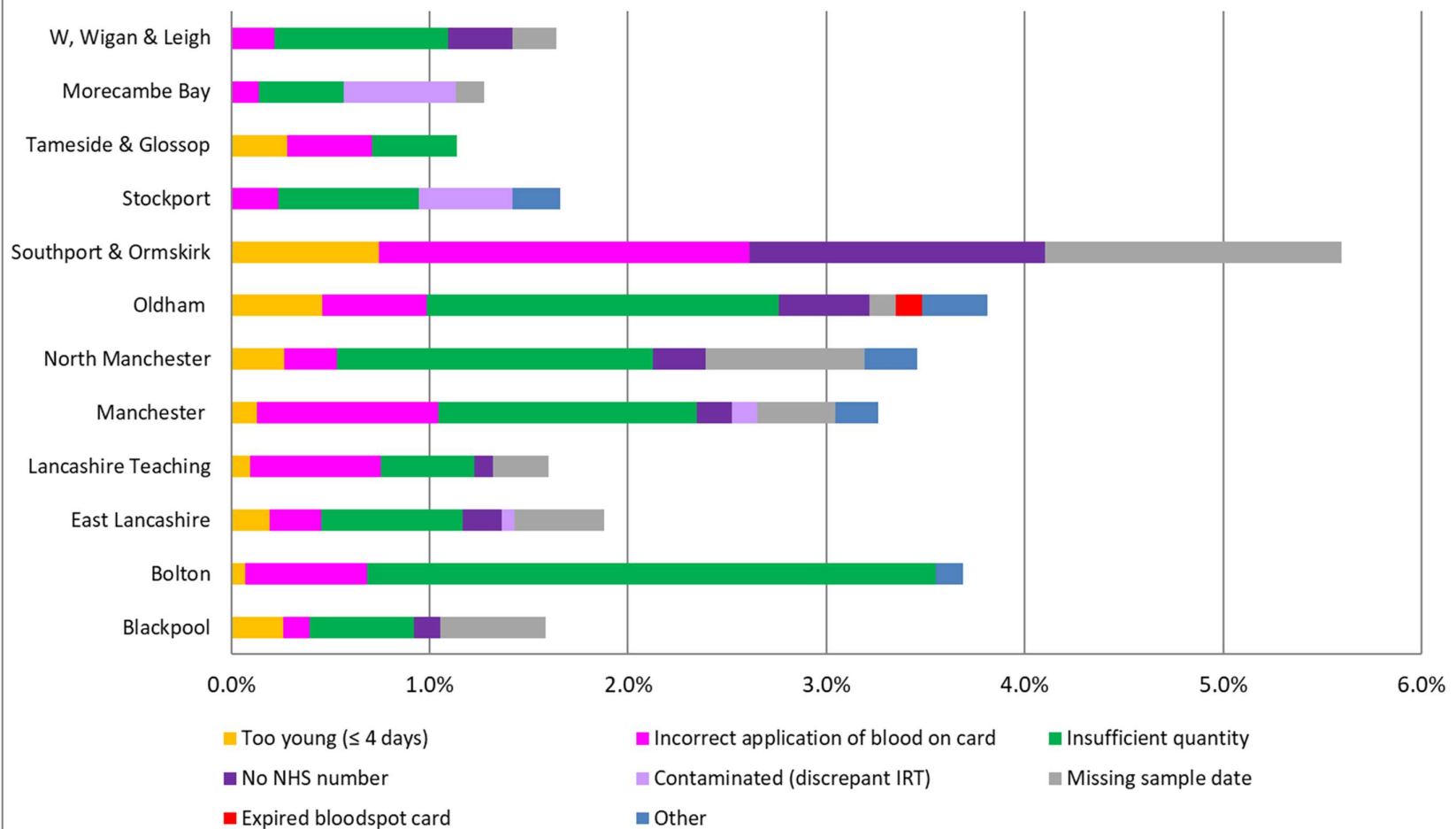
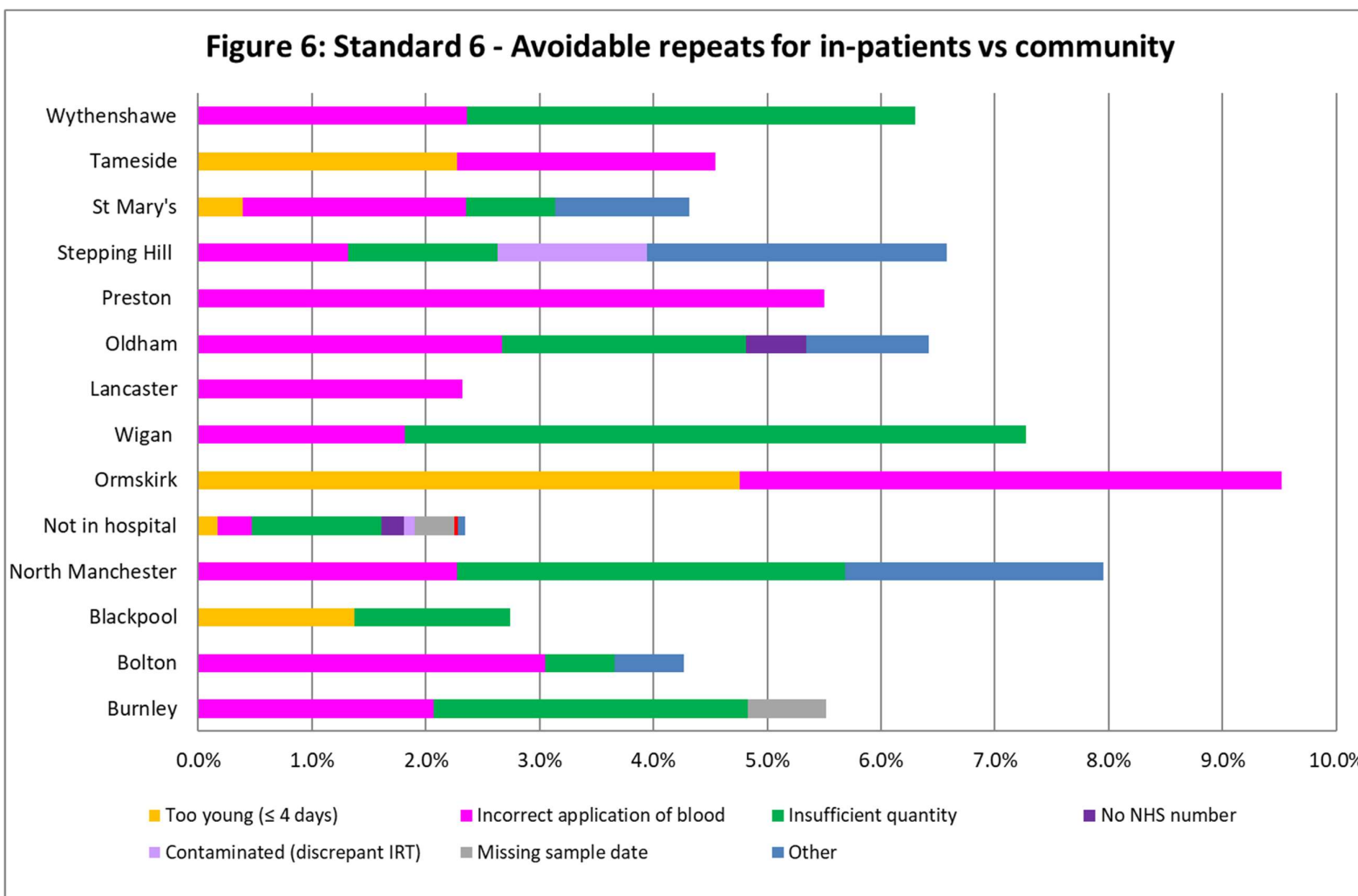


Figure 5: Standard 6 - The proportion of first blood spot samples that require repeating due to an avoidable failure in the sampling process





Furness General Hospital and Royal Blackburn Hospital had an avoidable rate of 0%. Royal Manchester Children's Hospital was excluded from the chart due to a high avoidable repeat rate (2 out of 6 samples; 33.3%).

Q2 21-22 Table 1 - Summary of performance				
Trust	STD 3	STD 4	STD 5	STD 6
Blackpool Teaching Hospitals NHS FT	93.2%	95.6%	100.0%	1.6%
Bolton NHS FT	85.7%	94.0%	98.8%	3.7%
East Lancashire Hospitals NHS Trust	95.3%	90.5%	99.4%	1.9%
Lancashire Teaching Hospitals NHS FT	92.1%	92.3%	99.2%	1.6%
Manchester University NHS FT - SMH & RMCH & WH	93.1%	94.7%	98.8%	3.3%
North Manchester (MFT)	86.2%	90.8%	98.0%	3.5%
Not Stated	25.0%	100.0%	66.7%	75.0%
Oldham (Pennine Acute Hospitals NHS Trust)	42.1%	89.7%	96.0%	3.8%
Southport & Ormskirk Hospital NHS Trust	50.7%	87.9%	52.3%	5.6%
Stockport NHS FT	83.5%	94.4%	99.1%	1.7%
Tameside And Glossop Integrated Care NHS FT	83.3%	94.7%	99.3%	1.1%
University Hospitals of Morecambe Bay NHS FT	94.0%	96.3%	97.8%	1.3%
Wrightington, Wigan and Leigh NHS FT	23.5%	94.4%	95.9%	1.6%

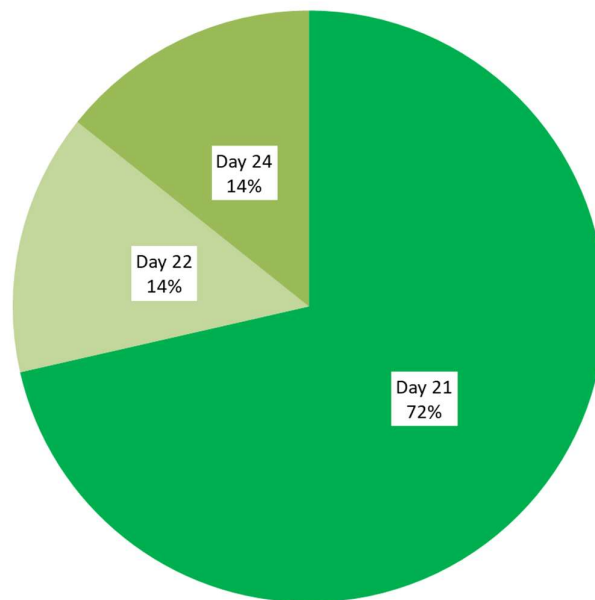
Standard 7a - The proportion of second blood spots for raised IRT taken on day 21 to day 24

Acceptable: $\geq 80\%$ of second blood spot samples taken on day 21 to day 24

Achievable: $\geq 90\%$ of second blood spot samples taken on day 21 to day 24

Standard 7a was met. During quarter 2 there were 10 repeats for raised IRT (CF inconclusive). Of these, 40% (4) were collected on day 21 and 100% (10) 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



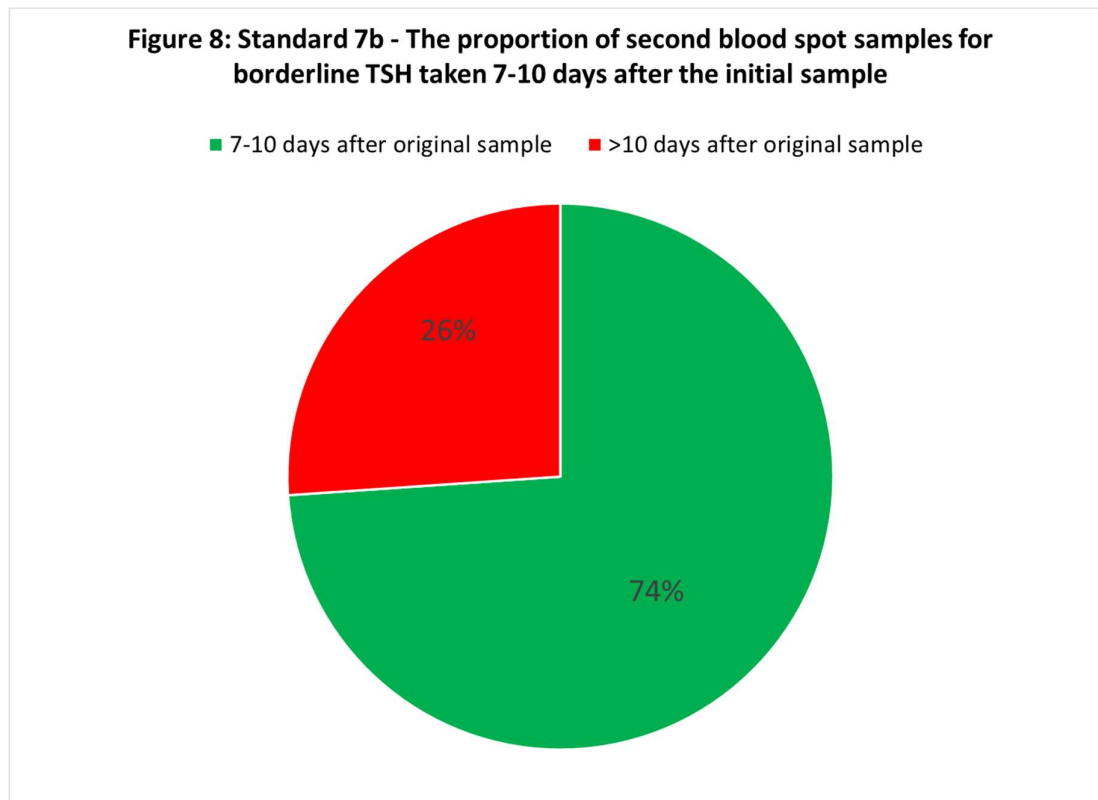
Q2 Table 2 - Standard 7a					
Child Health Department	Age at Collection of CF Inconclusive Repeat (days)			Grand Total	% collected day 21-24
	21	22	23		
Bury		1		1	100%
Cumbria			1	1	100%
East Lancs	2			2	100%
Liverpool Screening Lab	1			1	100%
Salford		1		1	100%
Stockport		1	1	2	100%
Central Lancs		1		1	100%
Ashton, Wigan & Leigh	1			1	100%
Grand Total	4	4	2	10	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

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
	7	8	9	10	11	14	17	21	25		
Blackpool Teaching Hospitals NHS FT			1							1	100%
Bolton NHS FT					1					1	0%
East Lancashire Hospitals NHS Trust			1	1						2	100%
Lancashire Teaching Hospitals NHS FT		1						1		2	50%
Manchester University NHS FT (SMH/RMCH/WH)	2	1	1	1	1		1			7	71%
North Manchester (MFT)	1	1							1	3	67%
Oldham (Pennine Acute Hospitals NHS Trust)	1		1			1				3	67%
Stockport NHS FT				1						1	100%
Tameside And Glossop Integrated Care NHS FT			1	1						2	100%
University Hospitals of Morecambe Bay NHS FT			1							1	100%
Grand Total	4	3	6	4	2	1	1	1	1	23	74%

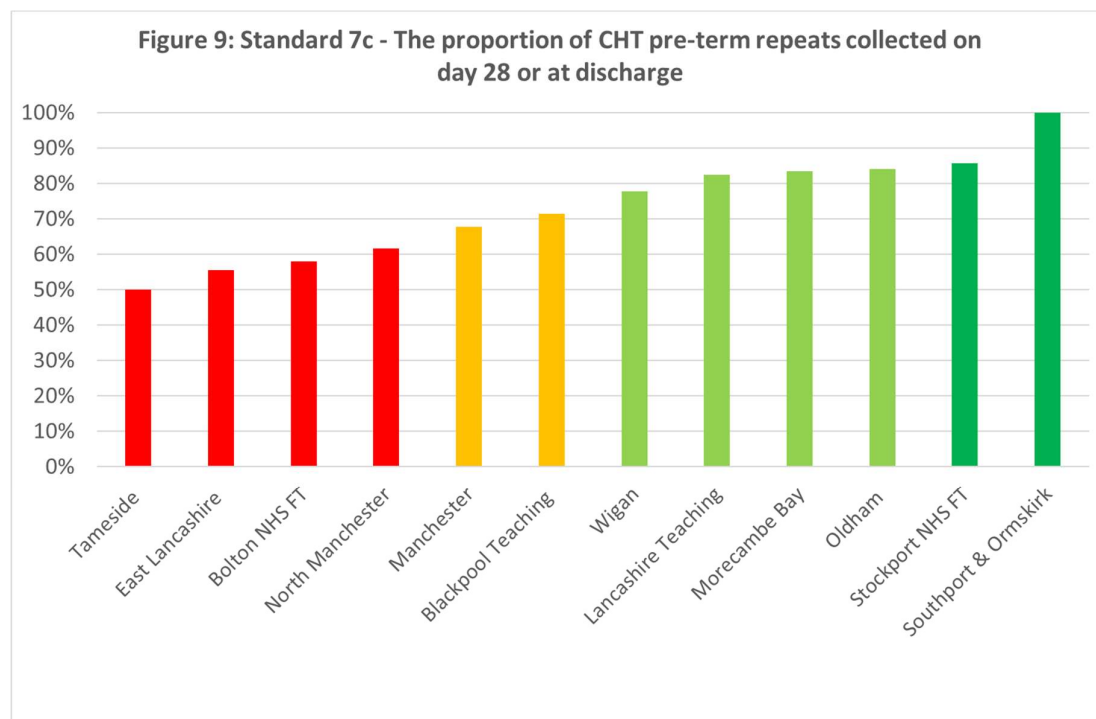
Standard 7c - The proportion of CHT pre-term repeats collected on day 28 or at discharge

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, 169 CHT pre-term repeats were received (avoidable repeats and duplicates excluded). Performance by trust is displayed in figure 9. 69% were collected on day 28 or at discharge, 9% were collected too early (and required a further repeat) and 21% were collected after day 28.

Of note, 13 out of 36 babies with samples collected after day 28 had transfusions on days 25-28, which could account for the delayed sampling.



Quarter 2 2021-22: Standard 7c					
Trust	Number of Pre-term CHT second samples collected:				% Prem repeats collected on day 28 or at discharge
	Early	On time	Late	Total	
Blackpool Teaching Hospitals NHS FT	2	5		7	71%
Bolton NHS FT	3	11	5	19	58%
East Lancashire Hospitals NHS Trust	2	10	6	18	56%
Lancashire Teaching Hospitals NHS FT	1	14	2	17	82%
Manchester University NHS FT - SMH & RMCH & WH	1	21	9	31	68%
North Manchester (MFT)	2	8	3	13	62%
Oldham (Pennine Acute Hospitals NHS Trust)	1	21	3	25	84%
Southport & Ormskirk Hospital NHS Trust		1		1	100%
Stockport NHS FT	1	6		7	86%
Tameside And Glossop Integrated Care NHS FT	3	8	5	16	50%
University Hospitals of Morecambe Bay NHS FT		5	1	6	83%
Wrightington, Wigan and Leigh NHS FT		7	2	9	78%
Grand Total	16	117	36	169	69%

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 7 screen positive samples for CHT during quarter 2. All were referred within 3 working days.

There were 4 IMD screen positive samples and all were referred within 3 working days.

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%	4	4	100%	1 x MCADD, 1 x PKU, 1 x MSUD 1 x false positive IVA (antibiotic interference)
CHT (suspected on first sample)	Attend first clinical appointment by 14 days of age	Acceptable: 100%	4	4	100%	
CHT (suspected on repeat following borderline TSH)	Attend first clinical appointment by 21 days of age	Acceptable: 100%	1	3	33%	One baby was seen on day 22 and one baby was seen on day 24 (initial sample collected on day 9).
CF (2 CFTR mutations detected)	Attend first clinical appointment by 28 days of age	Acceptable: ≥ 95.0% Achievable: 100%	3	3	100%	
HCU	Attend first clinical appointment by 28 days of age	Acceptable: ≥ 95.0% Achievable: 100%	-	-	N/A	
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	3	67%	1 baby was receiving palliative care so the result was discussed with parents but further assessment not performed.
SCD	Attend first clinical appointment by 90 days of age	Attend first clinical appointment by 90 days of age	3	5	60%	1 baby was seen in clinic on day 119. A date for a 5th baby referred is still awaited.

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
2222572	28/09/21	3 - moderate	2 - slight	Blood spot labelling error: manually labelled with another baby's demographic details	Wrong form name handwritten on two samples from twins.	External	Southport & Ormskirk Maternity Unit	Lancashire	Yes
2224385	15/09/21	3 - moderate	1 - no harm	Laboratory equipment failure	Temporary suspension of SCID screening due to contamination in the laboratory	MFT	NBS Lab	Greater Manchester	Yes

Appendix

Quarter 2 2021-22: 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	Percentage of all blood spot cards including babies' NHS number	Percentage of all blood spot cards including ISB bar-coded babies' NHS number
Blackpool Teaching Hospitals NHS FT	776	774	723	99.7%	93.2%
Bolton NHS FT	1640	1640	1406	100.0%	85.7%
East Lancashire Hospitals NHS Trust	1674	1673	1596	99.9%	95.3%
Health Visitor	132	131	6	99.2%	4.5%
Lancashire Teaching Hospitals NHS FT	1104	1103	1017	99.9%	92.1%
Manchester University NHS FT (SMH/RMCH/WH)	2537	2534	2362	99.9%	93.1%
North Manchester (MFT)	1184	1181	1021	99.7%	86.2%
Not Stated	4	4	1	100.0%	25.0%
Oldham (Pennine Acute Hospitals NHS Trust)	1632	1625	687	99.6%	42.1%
Southport & Ormskirk Hospital NHS Trust	282	278	143	98.6%	50.7%
Stockport NHS FT	874	874	730	100.0%	83.5%
Tameside And Glossop Integrated Care NHS FT	736	735	613	99.9%	83.3%
University Hospitals of Morecambe Bay NHS FT	722	722	679	100.0%	94.0%
Wrightington, Wigan and Leigh NHS FT	947	944	223	99.7%	23.5%
Grand Total	14244	14218	11207	99.8%	78.7%

Quarter 2 2021-22: 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	2	720	17	5	1	8	0.3%	95.6%	2.3%	0.7%	0.1%	1.1%
Bolton NHS FT	1	1376	64	10	5	8	0.1%	94.0%	4.4%	0.7%	0.3%	0.5%
East Lancashire Hospitals NHS Trust	4	1392	108	17	2	15	0.3%	90.5%	7.0%	1.1%	0.1%	1.0%
Health Visitor	0	4	0	1	0	90	0.0%	4.2%	0.0%	1.1%	0.0%	94.7%
Lancashire Teaching Hospitals NHS FT	1	977	56	9	5	11	0.1%	92.3%	5.3%	0.8%	0.5%	1.0%
Manchester University NHS FT (SMH/RMCH/WH)	3	2170	67	14	9	28	0.1%	94.7%	2.9%	0.6%	0.4%	1.2%
North Manchester (MFT)	5	1016	68	5	2	23	0.4%	90.8%	6.1%	0.4%	0.2%	2.1%
Not Stated	0	3	0	0	0	0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
Oldham (Pennine Acute Hospitals NHS Trust)	8	1364	117	8	5	18	0.5%	89.7%	7.7%	0.5%	0.3%	1.2%
Southport & Ormskirk Hospital NHS Trust	2	233	19	1	1	9	0.8%	87.9%	7.2%	0.4%	0.4%	3.4%
Stockport NHS FT	0	799	38	3	1	5	0.0%	94.4%	4.5%	0.4%	0.1%	0.6%
Tameside And Glossop Integrated Care NHS FT	2	665	20	6	2	7	0.3%	94.7%	2.8%	0.9%	0.3%	1.0%
University Hospitals of Morecambe Bay NHS FT	0	680	19	1	2	4	0.0%	96.3%	2.7%	0.1%	0.3%	0.6%
Wrightington, Wigan and Leigh NHS FT	0	864	36	4	2	9	0.0%	94.4%	3.9%	0.4%	0.2%	1.0%
Grand Total	28	12263	629	84	37	235	0.2%	92.4%	4.7%	0.6%	0.3%	1.8%
<i>Excludes samples with missing dates</i>												

Quarter 2 2021-22: 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	769	769	100.0%
Bolton NHS FT	1527	1545	98.8%
East Lancashire Hospitals NHS Trust	1584	1593	99.4%
Health Visitor	96	102	94.1%
Lancashire Teaching Hospitals NHS FT	1088	1097	99.2%
Manchester University NHS FT (SMH/RMCH/WH)	2391	2419	98.8%
North Manchester (MFT)	1148	1171	98.0%
Not Stated	2	3	66.7%
Oldham (Pennine Acute Hospitals NHS Trust)	1559	1624	96.0%
Southport & Ormskirk Hospital NHS Trust	145	277	52.3%
Stockport NHS FT	865	873	99.1%
Tameside And Glossop Integrated Care NHS FT	729	734	99.3%
University Hospitals of Morecambe Bay NHS FT	704	720	97.8%
Wrightington, Wigan and Leigh NHS FT	903	942	95.9%
Grand Total	13510	13869	97.4%
<i>Excludes day 0 'pre-transfusion' samples and samples with missing date of collection</i>			

Quarter 2 2021-22: 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	North Manchester (MFT)	Not stated	Oldham (Pennine Acute Hospitals NHS Trust)	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)	2	1	3	0	1	3	3	0	7	2	0	2	0	0	24
0302: too soon after transfusion (<72 hours)	0	4	5	0	0	9	0	1	1	0	0	0	1	0	21
0303: insufficient sample	4	42	11	2	5	30	18	0	27	0	6	3	3	8	159
0304: unsuitable sample (blood quality): incorrect blood application	1	9	4	3	7	21	3	1	8	5	2	3	1	2	70
0305: unsuitable sample (blood quality): compressed/damaged	0	2	0	0	0	5	3	1	5	0	2	0	0	0	18
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
0307: unsuitable sample for CF: possible faecal contamination	0	0	1	0	0	3	0	0	0	0	4	0	4	0	12
0308: unsuitable sample: NHS number missing/not accurately recorded	1	0	3	1	1	4	3	0	7	4	0	0	0	3	27
0309: unsuitable sample: date of sample missing/not accurately recorded	4	0	7	1	3	9	9	1	2	4	0	0	1	2	43
0310: unsuitable sample: date of birth not accurately matched	0	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	0	2	0	0	0	0	0	3
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
0313: unsuitable sample: damaged in transit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Avoidable Repeat Requests	12	54	29	8	17	75	39	3	58	15	14	8	9	15	356
Number of first samples received/ babies tested	758	1464	1542	84	1061	2299	1128	4	1522	268	845	703	707	916	13301
Avoidable Repeat Requests Rate	1.6%	3.7%	1.9%	9.5%	1.6%	3.3%	3.5%	75.0%	3.8%	5.6%	1.7%	1.1%	1.3%	1.6%	2.7%
Transfusion Repeats are not included in the Avoidable Repeat calculation															

Quarter 2 2021-22: 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, Manchester	Tameside General Hospital	Wythenshawe Hospital	Grand Total
0301: too young for reliable screening (≤ 4 days)	0	0	1	0	0	20	1	0	0	0	0	0	0	0	1	1	0	24
0302: too soon after transfusion (<72 hours)	5	4	0	0	0	1	0	0	0	1	1	1	0	0	8	0	0	21
0303: insufficient sample	4	1	1	0	3	135	0	3	0	0	0	4	0	1	2	0	5	159
0304: unsuitable sample (blood quality): incorrect blood application	3	5	0	0	2	36	1	1	0	1	0	5	6	1	5	1	3	70
0305: unsuitable sample (blood quality): compressed/damaged	0	1	0	0	2	8	0	0	0	0	0	2	0	2	3	0	0	18
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	11	0	0	0	0	0	0	0	1	0	0	0	12
0308: unsuitable sample: NHS number missing/not accurately recorded	0	0	0	0	0	24	0	0	0	0	2	1	0	0	0	0	0	27
0309: unsuitable sample: date of sample missing/not accurately recorded	1	0	0	0	0	42	0	0	0	0	0	0	0	0	0	0	0	43
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	0	3	0	0	0	0	0	0	0	0	0	0	0	3
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	8	7	2	0	7	279	2	4	0	1	2	12	6	5	11	2	8	356
Number of first samples received/ babies tested	145	164	73	22	88	11884	21	55	2	43	6	187	109	76	255	44	127	13301
Avoidable Repeat Requests Rate	5.5%	4.3%	2.7%	0.0%	8.0%	2.3%	9.5%	7.3%	0.0%	2.3%	33.3%	6.4%	5.5%	6.6%	4.3%	4.5%	6.3%	2.7%
Transfusion Repeats are not included in the Avoidable Repeat calculation																		