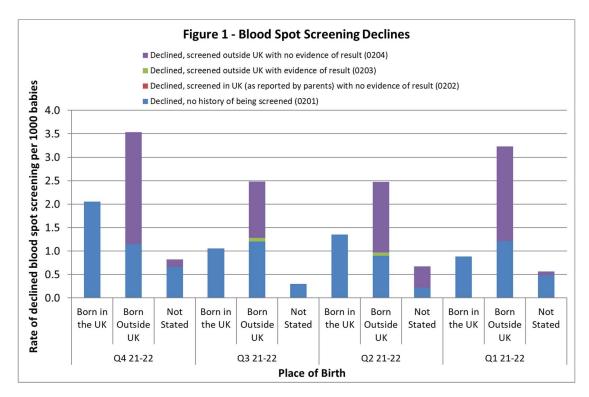
Manchester Newborn Screening Laboratory Quarterly Blood Spot Screening Report: Quarter 4 2021-22

Manchester Newborn Screening Laboratory, which serves babies born in Greater Manchester, Lancashire and South Cumbria, received 12926 blood spot samples between 1st January and 31st March 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 4 the laboratory received 78 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.

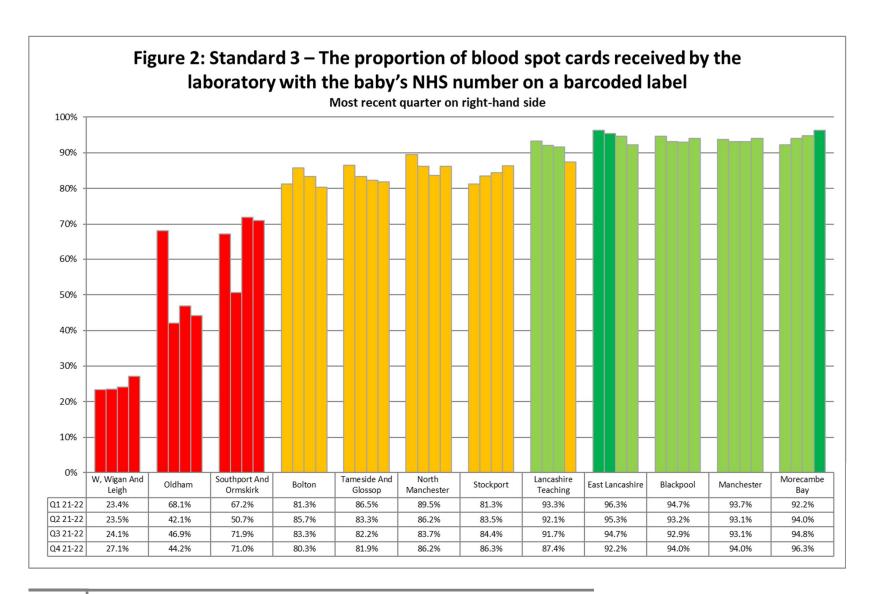
Figure 2 displays performance against standard 3.

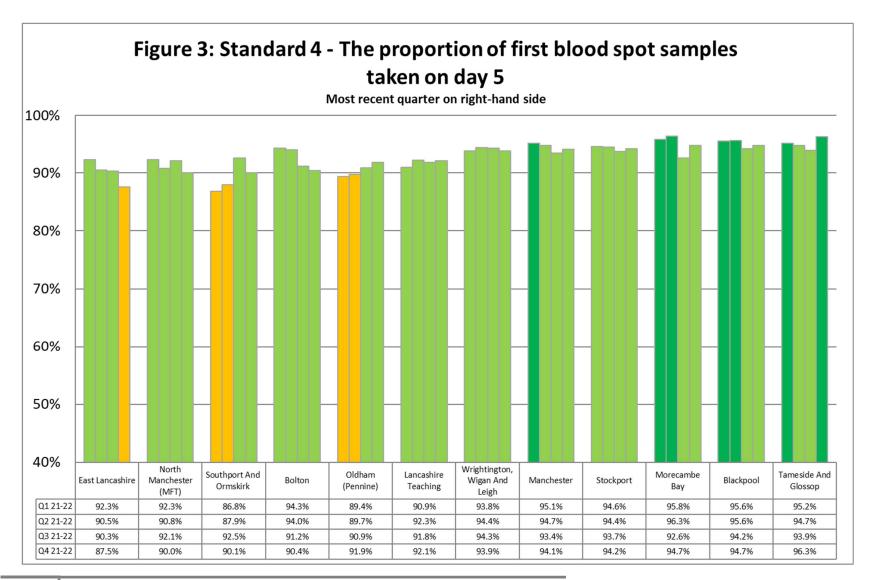
Overall, 78.3% of samples received in quarter 4 of 2021/22 had a barcoded NHS number label, which is similar to the previous quarter (79%). Of the 12 maternity units, 4 met the standard. Three units were more than 10% below the acceptable threshold, which is the same as the previous quarter.

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

Acceptable: \ge 90.0% of first blood spot samples are taken on day 5. **Achievable:** \ge 95.0% of first blood spot samples are taken on day 5.

Figure 3 displays performance against standard 4. Overall, 91.5% of samples received in quarter 4 of 2021/22 were collected on day 5, which is similar to quarter 2 (91.6%). 11 out of the 12 maternity units met standard 4.





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

Acceptable: ≥ 95.0% of all samples received less than or equal to 3 working days of sample

collection.

Achievable: ≥ 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, 97.5% samples were received within 3 working days. 10 Trusts met the standard, including 5 reaching the achievable threshold. Performance was slightly better than last quarter (96.8% 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 4 was 1.8%, which is significantly lower last quarter (3.2%) (see note below). 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. Nine 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 1.4% for babies at home (2.6% in quarter 3) and 4.7% for samples

collected from in-patients (7.9% in guarter 3).

Note: Following advice from the National Screening Programme from Monday 20th December 2021 until Friday 28th January 2022 the Newborn Screening Laboratory used different sample acceptance criteria (see below). This was to try to mitigate the

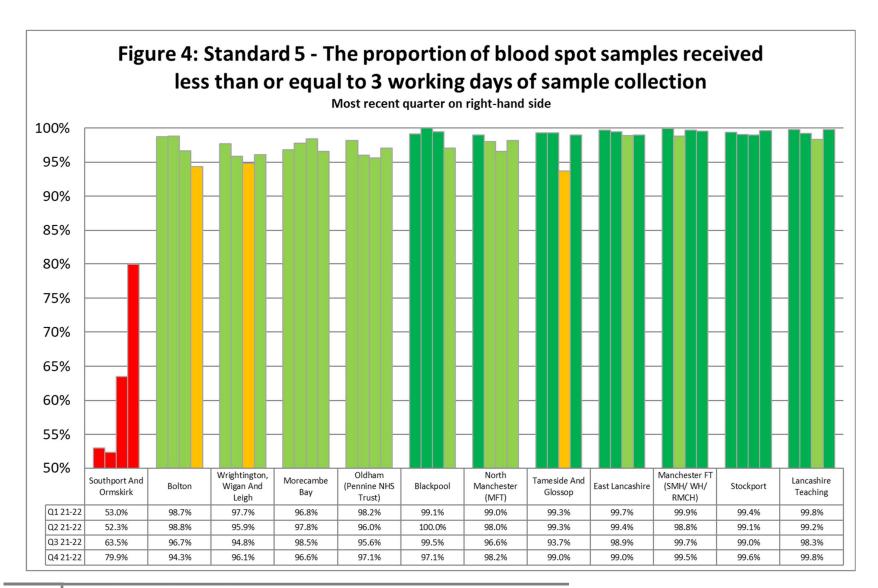
potential impact of the Omicron COVID variant.

Day 4 samples were accepted

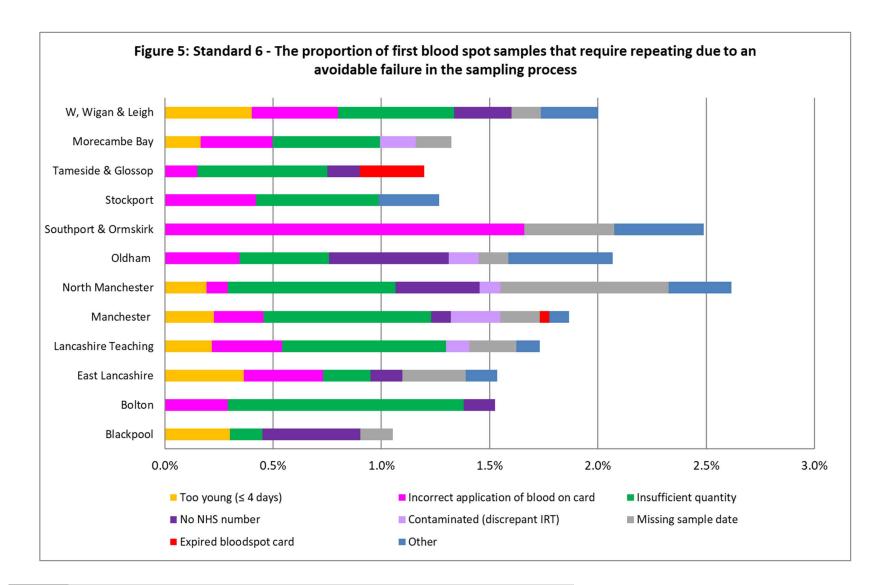
 Samples with a missing date were accepted if the date could be obtained verbally from the person who collected the sample.

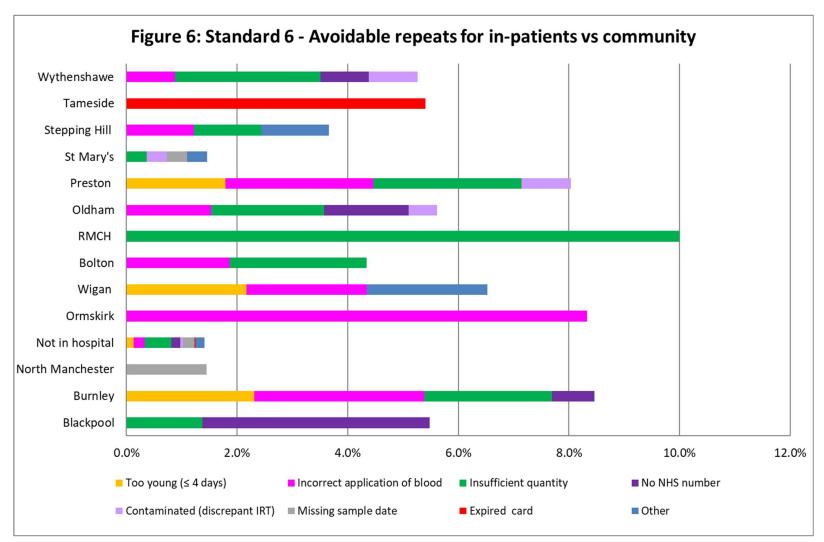
• Unsuitable/insufficient samples were accepted where possible

Maximum transit time was extended from 14 days to one month



17/05/2022





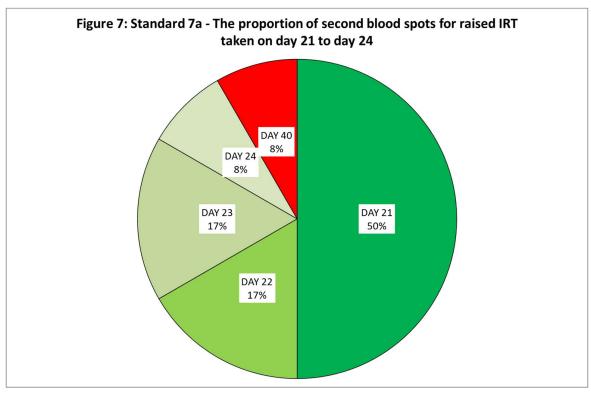
Royal Blackburn Hospital was excluded from the chart due to a high avoidable repeat rate (1 out of 3 samples; 33%).

Q4 21-22 Ta	able 1 - Summar	y of performanc	e	
Trust	Standard 3	Standard 4	Standard 5	Standard 6
Blackpool Teaching Hospitals NHS FT	94.0%	94.7%	97.1%	1.1%
Bolton NHS FT	80.3%	90.4%	94.3%	1.5%
East Lancashire Hospitals NHS Trust	92.2%	87.5%	99.0%	1.5%
Lancashire Teaching Hospitals NHS FT	87.4%	92.1%	99.8%	1.7%
Manchester University NHS FT - SMH & RMCH	94.0%	94.1%	99.5%	1.9%
North Manchester (MFT)	86.2%	90.0%	98.2%	2.6%
Oldham (Pennine Acute Hospitals NHS Trust)	44.2%	91.9%	97.1%	2.1%
Southport & Ormskirk Hospital NHS Trust	71.0%	90.1%	79.9%	2.5%
Stockport NHS FT	86.3%	94.2%	99.6%	1.3%
Tameside And Glossop Integrated Care NHS FT	81.9%	96.3%	99.0%	1.2%
University Hospitals of Morecambe Bay NHS FT	96.3%	94.7%	96.6%	1.3%
Wrightington, Wigan and Leigh NHS FT	27.1%	93.9%	96.1%	2.0%

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 4 there were 12 repeats for raised IRT (CF inconclusive). Of these, 92% (11) 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.

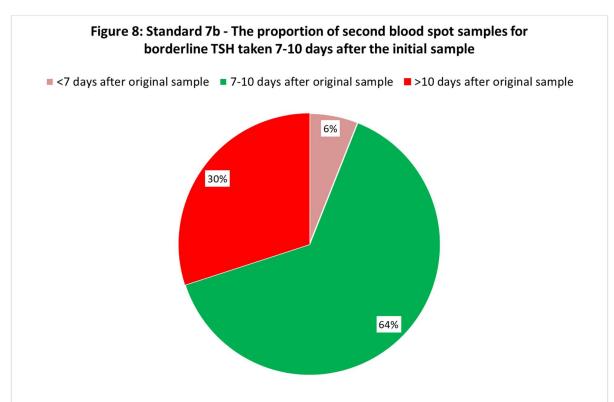


	Q4 Table 2 - Standard 7a												
Child Health Department	Age at	Collection o	of CF Inconcl	usive Repea	Grand Total	% collected day 21	% collected day 21-24						
	21	22	23	24	40								
Cumbria	1					1	100%	100%					
East Lancs	2				1	3	67%	67%					
Salford		1				1	0%	100%					
Stockport				1		1	0%	100%					
Central Lancs		1				1	0%	100%					
Oldham			1			1	0%	100%					
Manchester	1					1	100%	100%					
Tameside	1		1			2	50%	100%					
Rochdale	1					1	100%	100%					
Grand Total	6	2	2	1		12	50%	92%					

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.



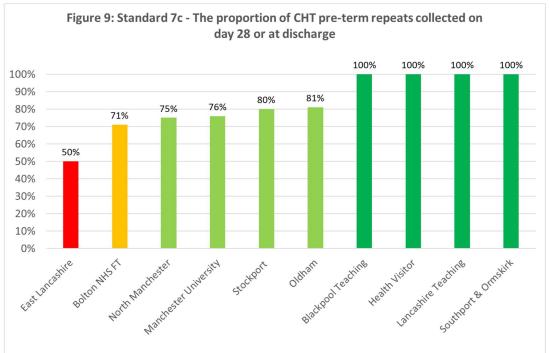
	Q4 Table 3: Standard 7b													
Trust	Num	Number of days between original sample and collection of repeat sample										Grand	% collected 7-10	
irust	6	7	8	9	10	11	12	14	15	16	45	Total	days after original sample	
Blackpool Teaching Hospitals NHS FT			1	1								2	100%	
Bolton NHS FT				1	1	1						3	67%	
East Lancashire Hospitals NHS Trust			1	4		1						6	83%	
Lancashire Teaching Hospitals NHS FT			2	1								3	100%	
Manchester University NHS FT - SMH & RMCH	1						1			1		3	0%	
Manchester University NHS FT - Wythenshawe		2		1		1					1	5	60%	
North Manchester (MFT)			1									1	100%	
Oldham (Pennine Acute Hospitals NHS Trust)	1	2	1	2		1		1	1			9	56%	
Stockport NHS FT				1								1	100%	
Tameside And Glossop Integrated Care NHS FT								1				1	0%	
Wrightington, Wigan and Leigh NHS FT				1		1						2	50%	
Grand Total	2	4	6	12	1	5	1	2	1	1	1	36	64%	

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 4, 137 CHT pre-term repeats were received (avoidable repeats and duplicates excluded). Performance by trust is displayed in figure 9. 77% were collected on day 28 or at discharge, 1% were collected too early (and required a further repeat) and 21% were collected after day 28.

Of note, 10 out of 29 babies with samples collected after day 28 had transfusions on days 25-28, which could account for the delayed sampling.



Qu	arter 4 202	1-22: Standa	ard 7c		
Trust	Number of	% Prem repeats collected on day 28			
	Early	On time	Late	Total	or at discharge
Blackpool Teaching Hospitals NHS FT		7		7	100%
Bolton NHS FT	1	22	8	31	71%
East Lancashire Hospitals NHS Trust		8	8	16	50%
Health Visitor		1		1	100%
Lancashire Teaching Hospitals NHS FT		7		7	100%
Manchester University NHS FT - SMH & RMCH	1	19	5	25	76%
North Manchester (MFT)		6	2	8	75%
Oldham (Pennine Acute Hospitals NHS Trust)		17	4	21	81%
Southport & Ormskirk Hospital NHS Trust		3		3	100%
Stockport NHS FT		4	1	5	80%
Tameside And Glossop Integrated Care NHS FT		8		8	100%
University Hospitals of Morecambe Bay NHS FT	•		1	1	0%
Wrightington, Wigan and Leigh NHS FT	•	4		4	100%
Grand Total	2	106	29	137	77%

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 11 screen positive samples for CHT and 5 for IMD in quarter 4, 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%	5	5	100%	2 x MCADD, 2 x PKU, 1 x MSUD
CHT (suspected on first sample)	Attend first clinical appointment by 14 days of age	Acceptable: 100%	3	4	75%	1 baby seen on day 15, initial sample collected on day 8.
CHT (suspected on repeat following borderline TSH)	Attend first clinical appointment by 21 days of age	Acceptable: 100%	6	7	86%	1 baby seen on day 22.
CF (2 CFTR mutations detected)	Attend first clinical appointment by 28 days of age	Acceptable: ≥ 95.0% Achievable: 100%	1	1	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	0	1	0%	Baby was in pallative care.
SCD	Attend first clinical appointment by 90 days of age	Attend first clinical appointment by 90 days of age	1	3	33%	One baby was seen at 94 days of age. 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
2250270	11/01/22	3 - moderate	2 - slight	Blood spot labelling error: another baby's bar-coded demographic sticker, detected prior to reporting		External	Blackpool Maternity Unit	Lancashire	Yes
2253854	27/01/22	3 - moderate	2 - slight	Blood spot collection error: missed CF screening due to failure to collect a satisfactory sample before 8 weeks of age (excluding "movers in")	Sample collected on day 6 was insufficient, A further sample not collected until >8 weeks	External	Bolton Maternity Unit	Greater Manchester	Yes
2262953	09/03/22	3 - moderate	1 (no harm)	Late referral for treatment of a screen positive baby due to a failing anywhere in the pathway	IRT inconclusive repeat collected on day 40	External	Burnley NNU	Lancashire	Yes

Appendix

		Quarte	er 4 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	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	684	681	643	13	99.6%	94.0%	1.9%
Bolton NHS FT	1551	1549	1245	96	99.9%	80.3%	6.2%
East Lancashire Hospitals NHS Trust	1487	1485	1371	10	99.9%	92.2%	0.7%
Health Visitor	177	176	6	0	99.4%	3.4%	0.0%
Lancashire Teaching Hospitals NHS FT	952	952	832	22	100.0%	87.4%	2.3%
Manchester University NHS FT - SMH & RMCH, WH	2393	2391	2250	39	99.9%	94.0%	1.6%
North Manchester (MFT)	1069	1065	922	38	99.6%	86.2%	3.6%
Not Stated	7	7	1	0	100.0%	14.3%	0.0%
Oldham (Pennine Acute Hospitals NHS Trust)	1545	1537	683	51	99.5%	44.2%	3.3%
Southport & Ormskirk Hospital NHS Trust	248	248	176	5	100.0%	71.0%	2.0%
Stockport NHS FT	729	728	629	39	99.9%	86.3%	5.3%
Tameside And Glossop Integrated Care NHS FT	689	688	564	14	99.9%	81.9%	2.0%
University Hospitals of Morecambe Bay NHS FT	617	617	594	4	100.0%	96.3%	0.6%
Wrightington, Wigan and Leigh NHS FT	778	776	211	408	99.7%	27.1%	52.4%
Grand Total	12926	12900	10127	739	99.8%	78.3%	5.7%

			Quart	er 4 2021-2	22: Standar	d 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	630	19	2	1	11	0.3%	94.7%	2.9%	0.3%	0.2%	1.7%
Bolton NHS FT	13	1250	86	9	4	21	0.9%	90.4%	6.2%	0.7%	0.3%	1.5%
East Lancashire Hospitals NHS Trust	6	1202	103	16	7	39	0.4%	87.5%	7.5%	1.2%	0.5%	2.8%
Health Visitor	0	3	1	0	0	103	0.0%	2.8%	0.9%	0.0%	0.0%	96.3%
Lancashire Teaching Hospitals NHS FT	2	849	53	6	0	12	0.2%	92.1%	5.7%	0.7%	0.0%	1.3%
Manchester University NHS FT - SMH & RMCH, WH	10	2079	73	13	12	23	0.5%	94.1%	3.3%	0.6%	0.5%	1.0%
North Manchester (MFT)	1	928	66	11	3	22	0.1%	90.0%	6.4%	1.1%	0.3%	2.1%
Not Stated	0	2	0	0	0	0	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
Oldham (Pennine Acute Hospitals NHS Trust)	3	1335	72	10	5	28	0.2%	91.9%	5.0%	0.7%	0.3%	1.9%
Southport & Ormskirk Hospital NHS Trust	1	218	13	1	3	6	0.4%	90.1%	5.4%	0.4%	1.2%	2.5%
Stockport NHS FT	0	669	36	3	0	2	0.0%	94.2%	5.1%	0.4%	0.0%	0.3%
Tameside And Glossop Integrated Care NHS FT	1	644	13	7	2	2	0.1%	96.3%	1.9%	1.0%	0.3%	0.3%
University Hospitals of Morecambe Bay NHS FT	2	574	24	4	0	2	0.3%	94.7%	4.0%	0.7%	0.0%	0.3%
Wrightington, Wigan and Leigh NHS FT	3	702	37	3	0	3	0.4%	93.9%	4.9%	0.4%	0.0%	0.4%
Grand Total	44	11085	596	85	37	274	0.4%	91.5%	4.9%	0.7%	0.3%	2.3%

Quarter 4 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	662	682	97.1%								
Bolton NHS FT	1360	1442	94.3%								
East Lancashire Hospitals NHS Trust	1407	1421	99.0%								
Health Visitor	133	145	91.7%								
Lancashire Teaching Hospitals NHS FT	946	948	99.8%								
Manchester University NHS FT - SMH & RMCH, WH	2278	2289	99.5%								
North Manchester (MFT)	1039	1058	98.2%								
Not Stated	2	3	66.7%								
Oldham (Pennine Acute Hospitals NHS Trust)	1481	1526	97.1%								
Southport & Ormskirk Hospital NHS Trust	195	244	79.9%								
Stockport NHS FT	725	728	99.6%								
Tameside And Glossop Integrated Care NHS FT	680	687	99.0%								
University Hospitals of Morecambe Bay NHS FT	594	615	96.6%								
Wrightington, Wigan and Leigh NHS FT	745	775	96.1%								
Grand Total	12247	12563	97.5%								
Excludes day 0 'pre-transfusion' samples and samples with	n missing date of collection										

					Quarte	er 4 2021-2	22: Stan	dard 6 b	y 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	0	5	0	2	5	2	0	0	0	0	0	1	3	20
0302: too soon after transfusion (<72 hours)	1	3	4	0	0	5	1	1	4	0	0	0	0	0	19
0303: insufficent sample	1	15	3	0	7	17	8	2	6	0	4	4	3	4	74
0304: unsuitable sample (blood quality): incorrect blood application	0	4	5	2	3	5	1	0	5	4	3	1	2	3	38
0305: unsuitable sample (blood quality): compressed/damaged	0	0	2	0	1	2	3	0	7	1	2	0	0	2	20
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	0	0	1	5	1	0	2	0	0	0	1	0	10
0308: unsuitable sample: NHS number missing/not accurately recorded	3	2	2	1	0	2	4	0	8	0	0	1	0	2	25
0309: unsuitable sample: date of sample missing/not accurately recorded	1	0	4	0	2	4	8	0	2	1	0	0	1	1	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
0311: unsuitable sample: expired card used	0	0	0	1	0	1	0	0	0	0	0	2	0	0	4
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	7	21	21	4	16	41	27	2	30	6	9	8	8	15	215
Number of first samples received/ babies tested	664	1377	1368	119	924	2195	1032	1	1450	241	710	667	604	749	12101
Avoidable Repeat Requests Rate	1.1%	1.5%	1.5%	3.4%	1.7%	1.9%	2.6%	200.0%	2.1%	2.5%	1.3%	1.2%	1.3%	2.0%	1.8%
Transfusion Reapeats are not include	d in the Avoid	dable Repeat d	calculation												

					Q	uarter 4	2021-22:	Standard	d 6 by Cu	rrent Ho	spital							
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	3	0	0	14	0	1	0	0	0	0	0	2	0	0	0	0	20
0302: too soon after transfusion (<72 hours)	1	3	0	1	2	0	0	0	3	0	1	4	0	4	0	0	0	19
0303: insufficent sample	1	3	0	0	52	0	0	1	4	0	1	4	3	1	1	0	3	74
0304: unsuitable sample (blood quality): incorrect blood application	0	4	0	0	21	1	1	0	3	0	0	3	3	0	1	0	1	38
0305: unsuitable sample (blood quality): compressed/damaged	0	0	0	0	17	0	1	0	0	0	0	0	0	1	1	0	0	20
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	0	0	0	1	1	1	0	0	1	10
0308: unsuitable sample: NHS number missing/not accurately recorded	3	1	0	0	17	0	0	0	0	0	0	3	0	0	0	0	1	25
0309: unsuitable sample: date of sample missing/not accurately recorded	0	0	0	1	22	0	0	0	0	0	0	0	0	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	2	0	0	0	0	0	0	0	0	0	0	2	0	4
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	4	11	0	1	151	1	3	1	7	0	1	11	9	4	3	2	6	215
Number of first samples received/ babies tested	73	130	17	69	10727	12	46	3	161	38	10	196	112	274	82	37	114	12101
Avoidable Repeat Requests Rate	5.5%	8.5%	0.0%	1.4%	1.4%	8.3%	6.5%	33.3%	4.3%	0.0%	10.0%	5.6%	8.0%	1.5%	3.7%	5.4%	5.3%	1.8%
Transfusion Reapeats are not included	d in the Avo	idable Rep	eat calculat	ion														