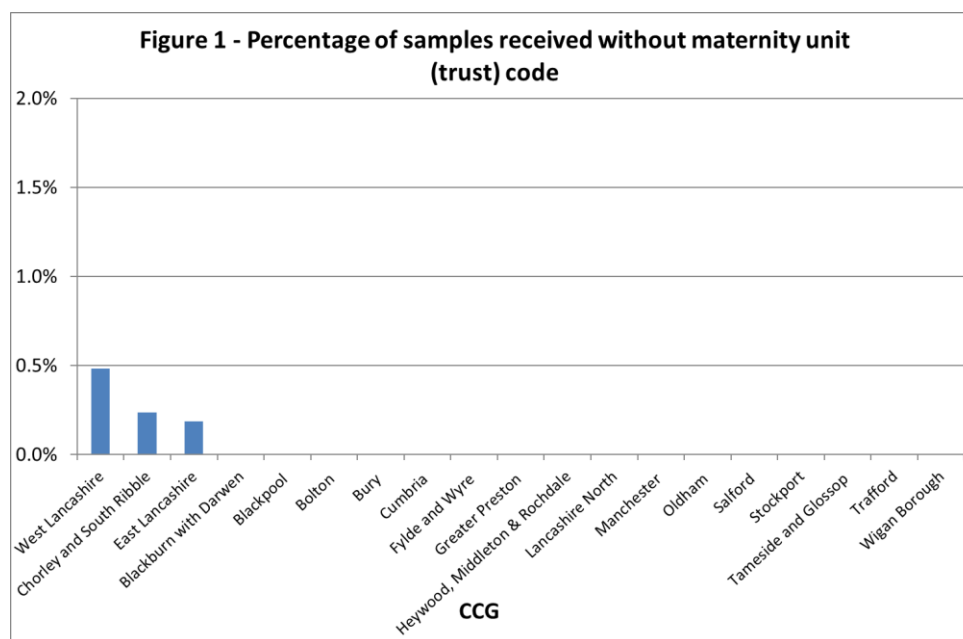


Manchester Newborn Screening Laboratory Quarterly Blood Spot Screening Report: Quarter 1 2021-22

Manchester Newborn Screening Laboratory, which serves babies born in Greater Manchester, Lancashire and South Cumbria, received 13230 blood spot samples between 1st April and 30th June 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.

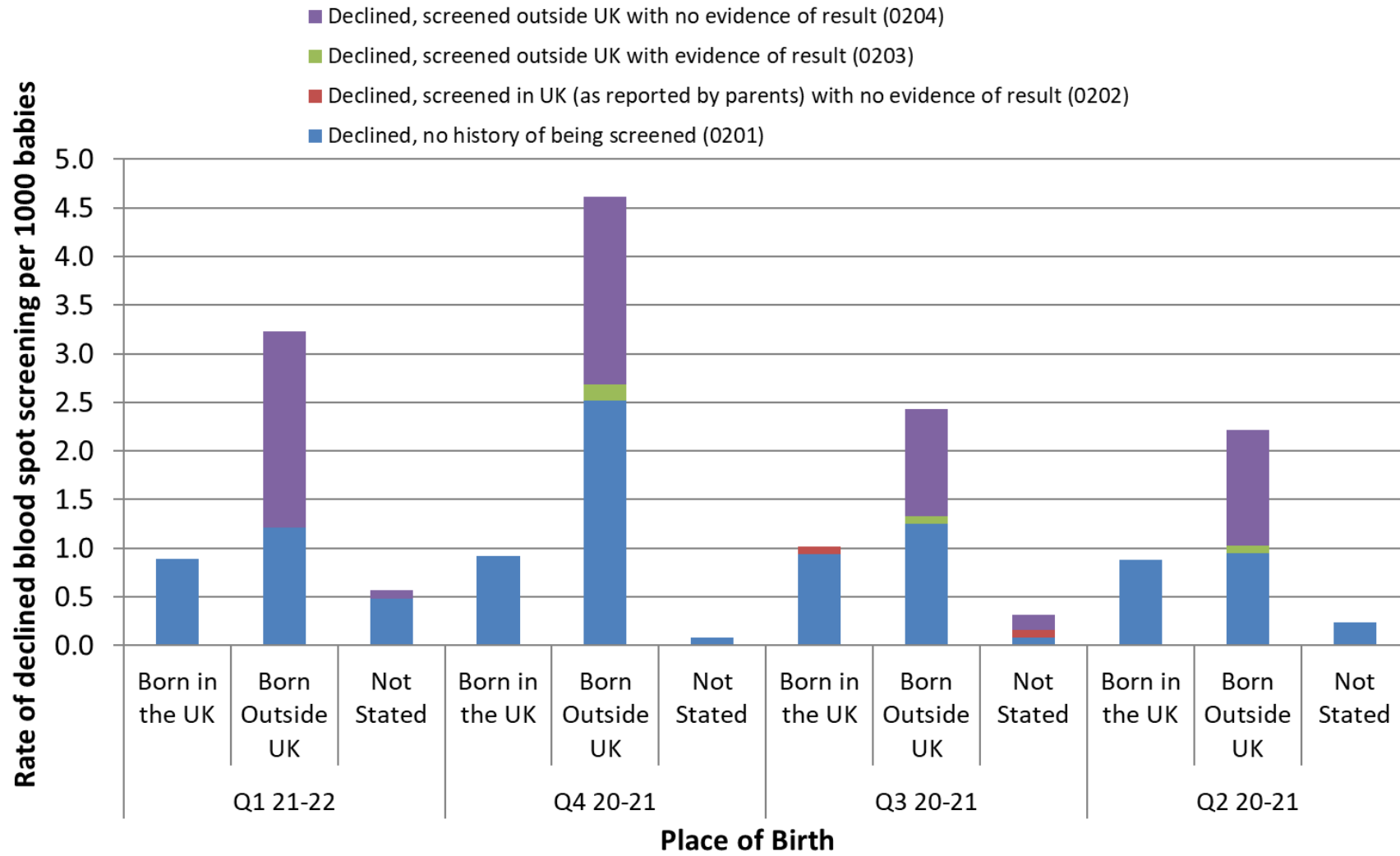
The data for the laboratory reportable standards is presented by maternity unit/NHS trust of the sample taker. For accurate figures, please ensure the trust code is written/stamped on the blood spot card. The proportion of samples with a missing maternity unit/trust code is presented in figure 1 by CCG. Overall the maternity/ trust code was missing from 8 sample cards (0.4%).



Declines

In Quarter 1 the laboratory received 58 notifications of declined blood spot screening. Figure 2 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.

Figure 2 - Blood Spot Screening Declines



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 3 displays performance against standard 3.

Overall, 82.4% of samples received in quarter 1 of 2021/22 had a barcoded NHS number label, which is less than the previous quarter (83.1%). Of the 12 maternity units, 5 met the standard, including one reaching the achievable threshold (East Lancashire). Four 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 4 displays performance against standard 4. Overall, 92.6% of samples received in quarter 1 of 2021/22 were collected on day 5, which is the same quarter 4. 10 maternity units met standard 4, including 4 meeting the achievable threshold (Manchester, Tameside & Glossop, Blackpool and Morecambe Bay).

Figure 3: 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

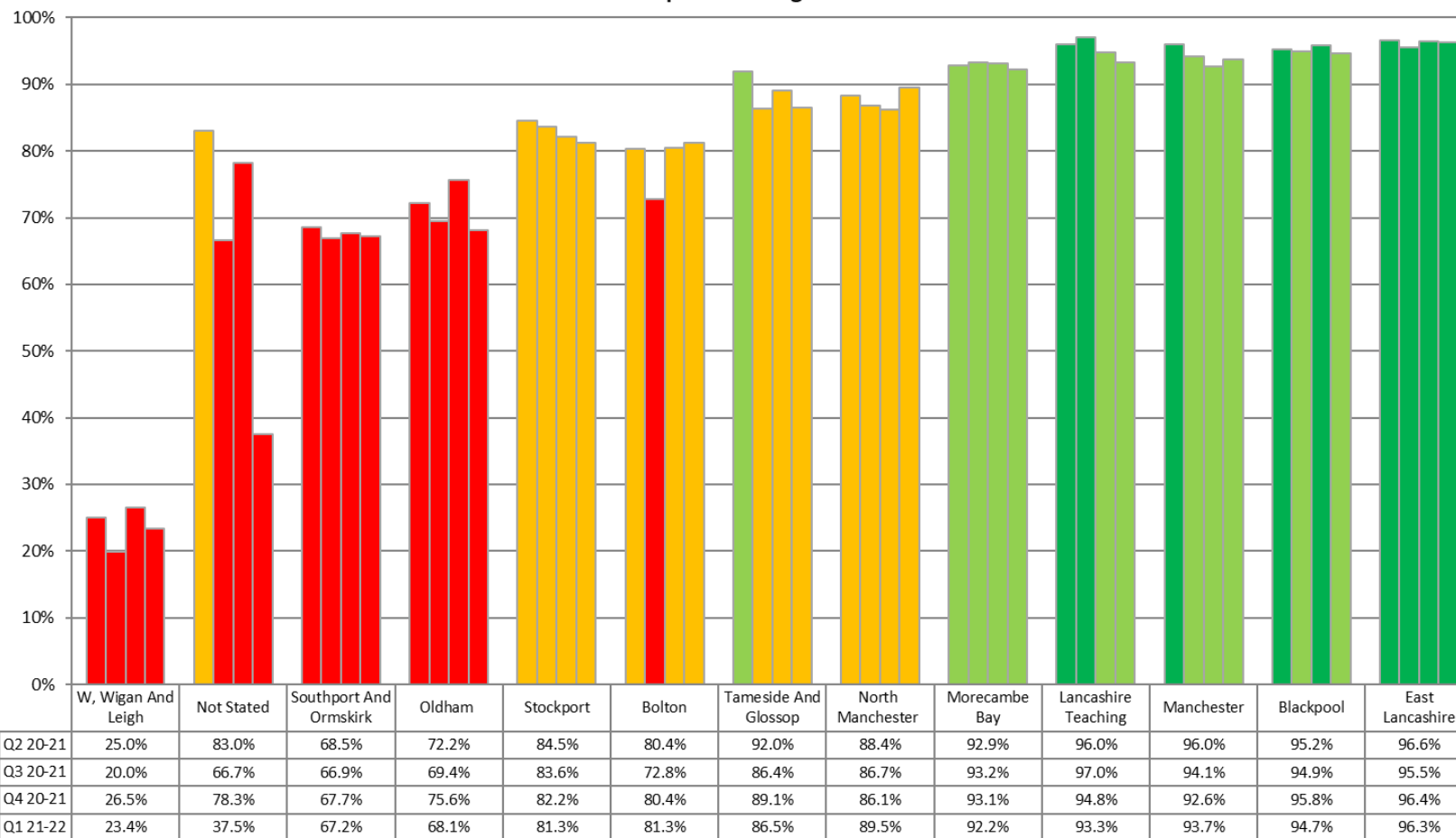
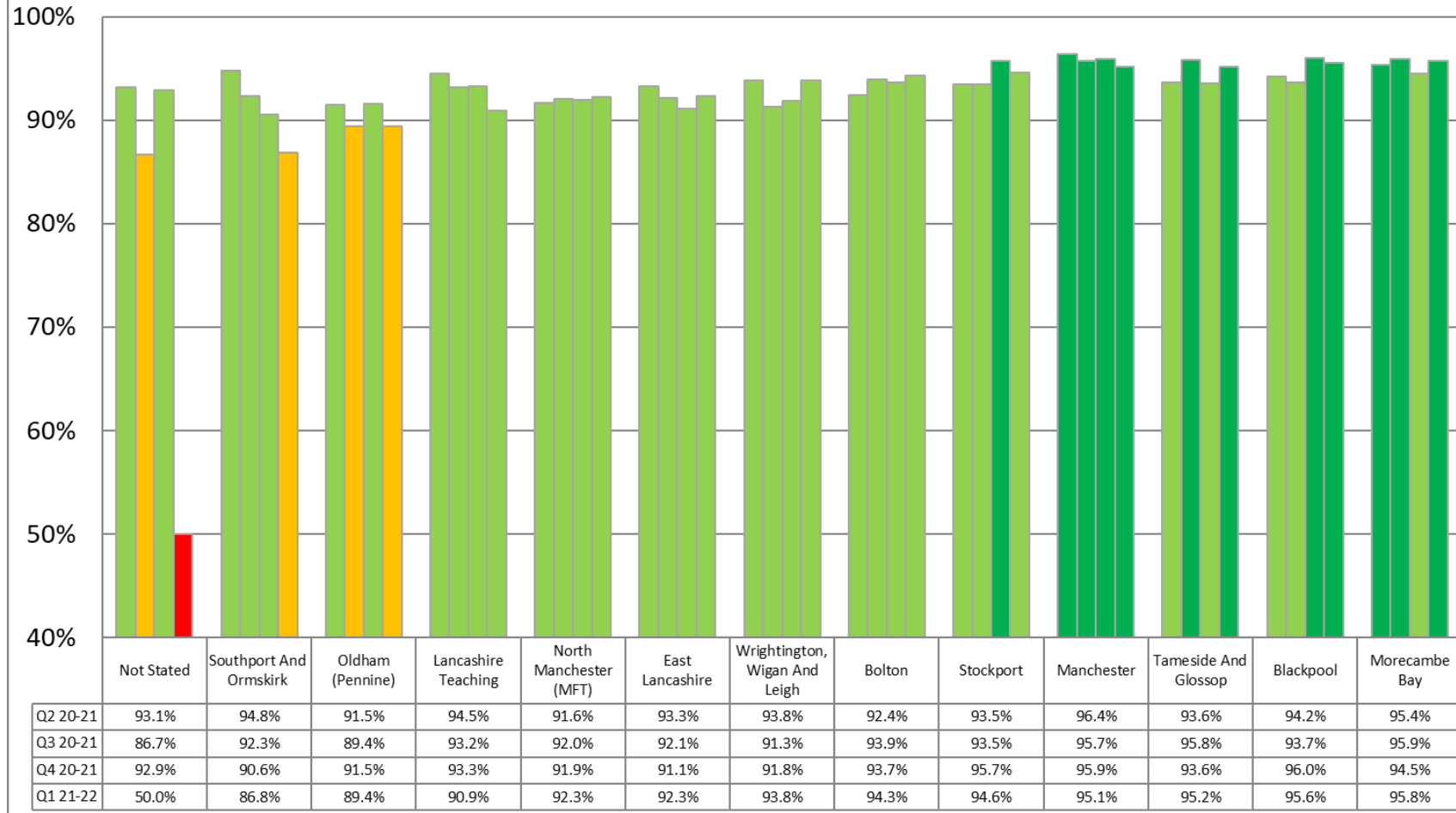


Figure 4: Standard 4 - The proportion of first blood spot samples taken on day 5

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 5) was good. Overall, 98.2% samples were received within 3 working days. 11 Trusts met the standard, including 7 reaching the achievable threshold. Performance was much better than last quarter (96.7% 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 1 was 2.7%, which is lower than quarter 4 (3.4%). The performance for each trust is displayed in figure 6. Three Trusts met the standard (East Lancashire, Tameside and Wigan). Figure 7 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 (2.9% in quarter 4) and 6.7% for samples collected from in-patients (7.6% in quarter 4).

Figure 5: 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

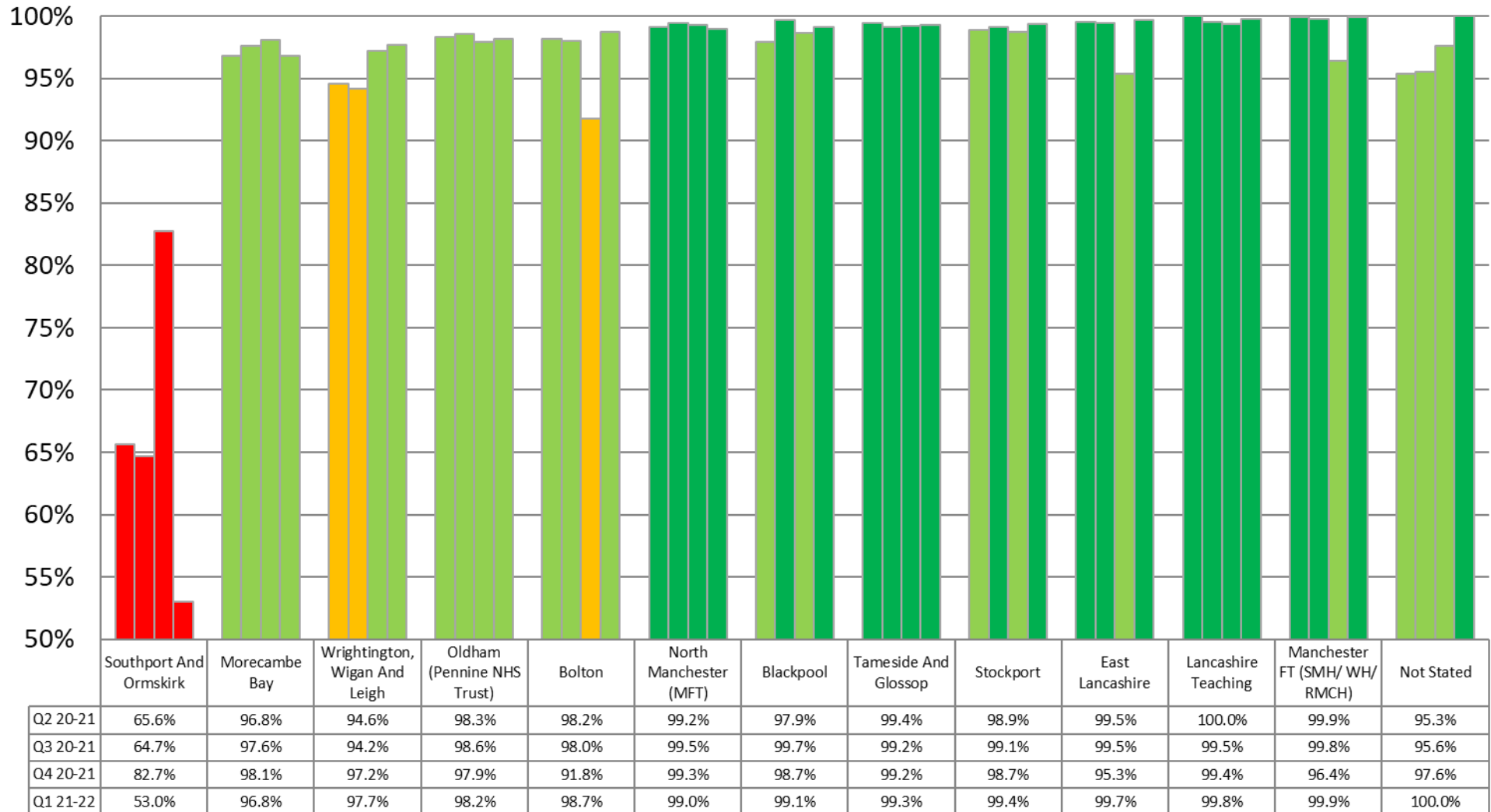


Figure 6: Standard 6 - The proportion of first blood spot samples that require repeating due to an avoidable failure in the sampling process

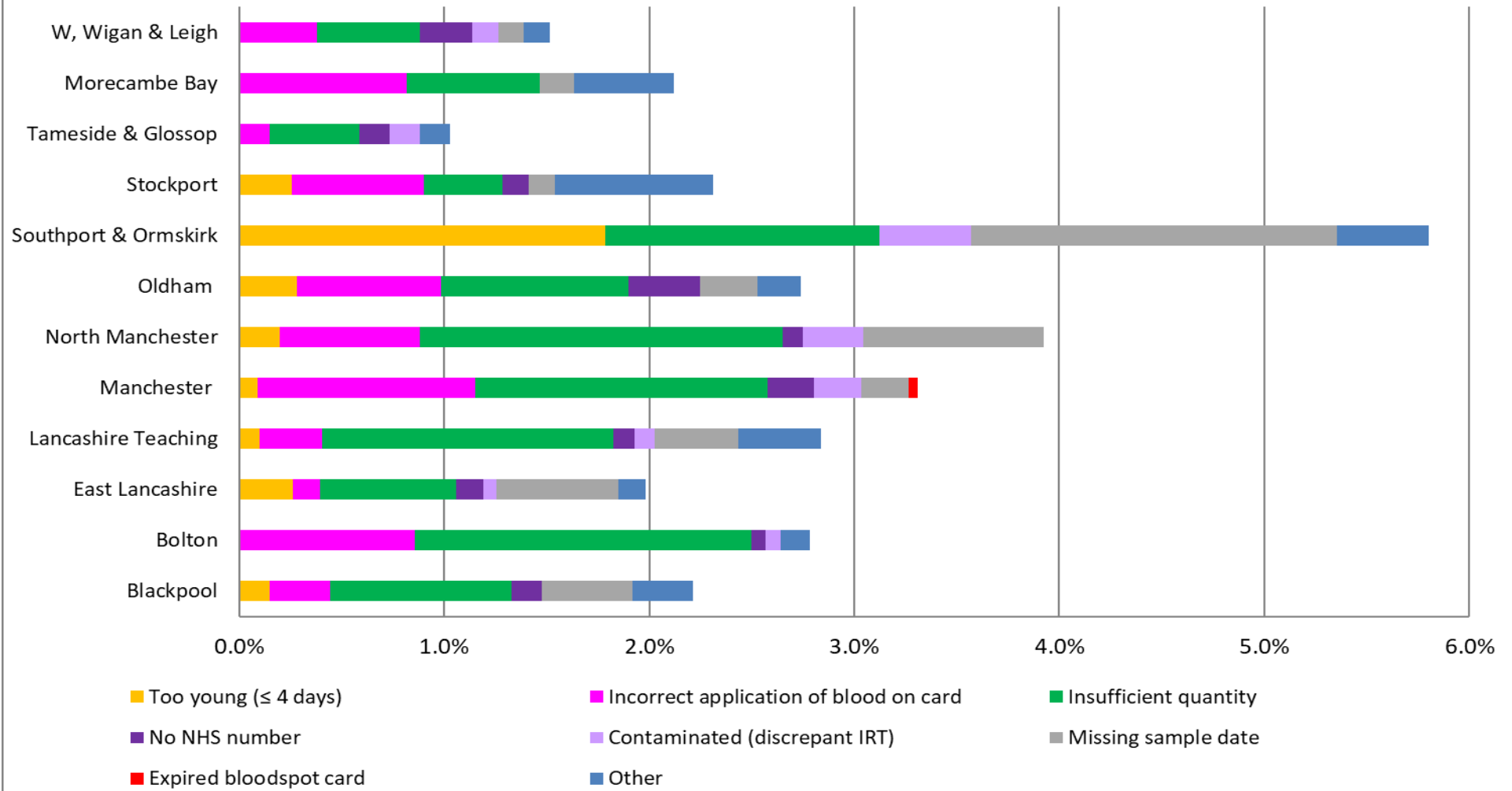
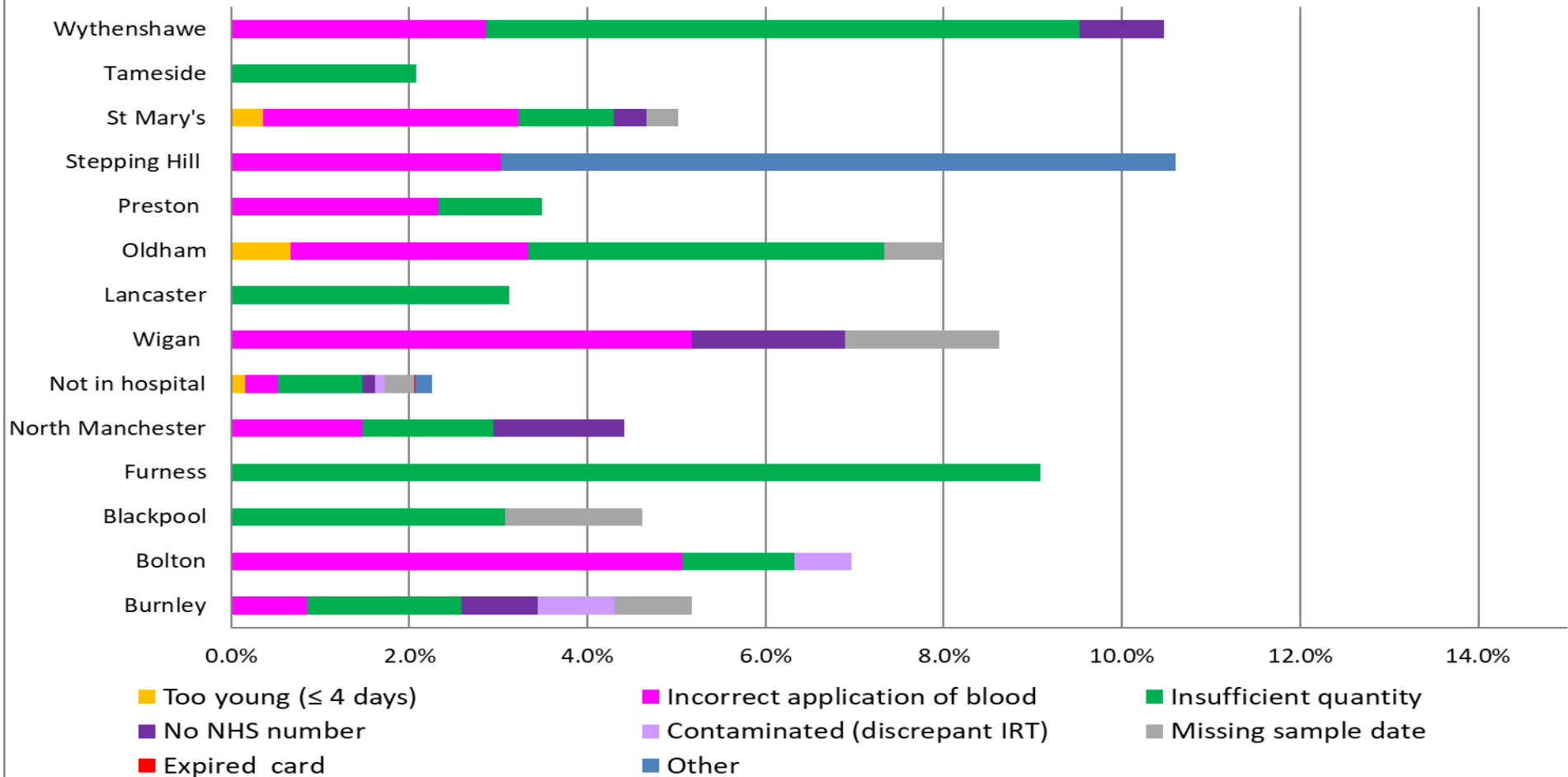


Figure 7: Standard 6 - Avoidable repeats for in-patients vs community



Ormskirk & District General Hospital (30%), Royal Blackburn Hospital (50%) and Royal Manchester Children’s Hospital (22.2%) were excluded from the chart due to high avoidable repeat rates.

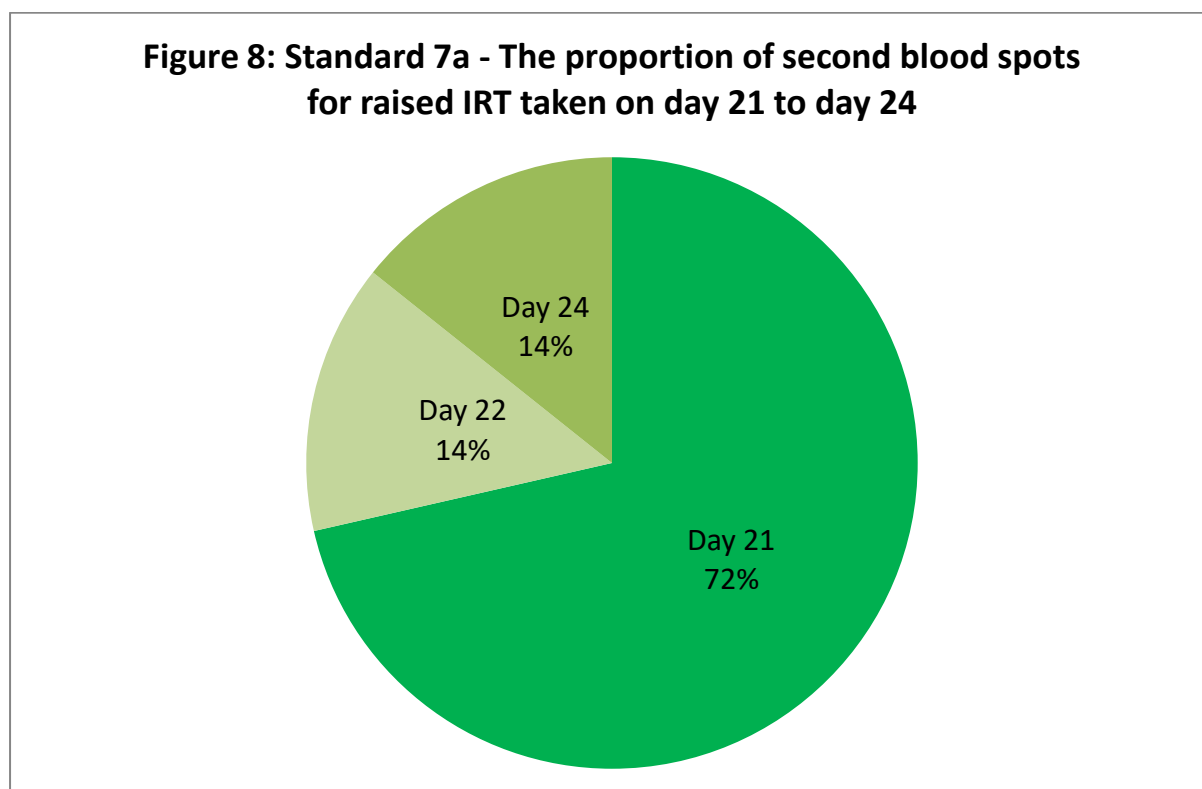
Q1 21-22 Table 1 - Summary of performance				
Trust	STD 3	STD 4	STD 5	STD 6
Blackpool Teaching Hospitals NHS FT	94.7%	95.6%	99.1%	2.2%
Bolton NHS FT	81.3%	94.3%	98.7%	2.8%
East Lancashire Hospitals NHS Trust	96.3%	92.3%	99.7%	2.0%
Lancashire Teaching Hospitals NHS FT	93.3%	90.9%	99.8%	2.8%
Manchester University NHS FT	93.7%	95.1%	99.9%	3.3%
North Manchester (Pennine Acute Hospitals NHS Trust)	89.5%	92.3%	99.0%	3.9%
Not Stated	37.5%	50.0%	100.0%	0.0%
Oldham (Pennine Acute Hospitals NHS Trust)	68.1%	89.4%	98.2%	2.7%
Southport & Ormskirk Hospital NHS Trust	67.2%	86.8%	53.0%	5.8%
Stockport NHS FT	81.3%	94.6%	99.4%	2.3%
Tameside And Glossop Integrated Care NHS FT	86.5%	95.2%	99.3%	1.0%
University Hospitals of Morecambe Bay NHS FT	92.2%	95.8%	96.8%	2.1%
Wrightington, Wigan and Leigh NHS FT	23.4%	93.8%	97.7%	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

Standard 7a was met. During quarter 1 there were 7 repeats for raised IRT (CF inconclusive). Of these, 71% (5) were collected on day 21 and 100% (7) on day 21-24. CF inconclusive repeats are performed by Screening Link Health Visitors. The data is presented in figure 8 and by local Child Health Records Department, in table 2.



Q1 Table 2 - Standard 7a					
Child Health Department	Age at Collection of CF Inconclusive Repeat (days)			Grand Total	% collected day 21-24
	21	22	24		
Ashton, Wigan & Leigh	1		1	2	100%
Rochdale	2			2	100%
Salford	2			2	100%
Stockport		1		1	100%
Grand Total	5	1	1	7	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

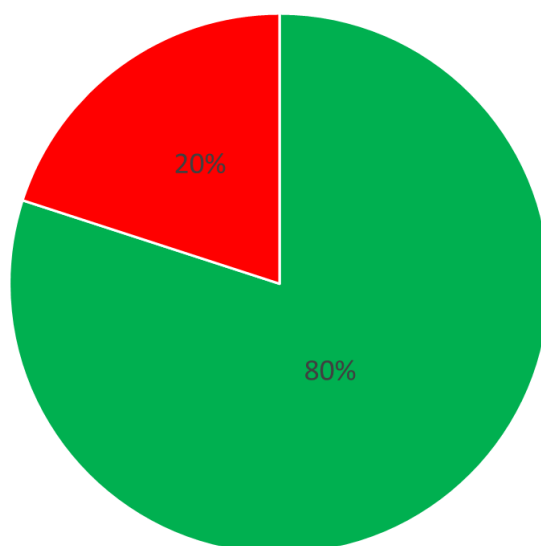
Acceptable: ≥ 80.0% of repeat blood spot samples taken as defined

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

Standard 7b was met by 6 of the 8 trusts included in this standard. Figure 9 displays the proportion collected 7-10 days after the initial sample and table 3 displays the information by Trust.

Figure 9: Standard 7b - The proportion of second blood spot samples for borderline TSH taken 7-10 days after the initial sample

■ 7-10 days after original sample ■ >10 days after original sample



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	12	13		
Blackpool Teaching Hospitals NHS FT					1			1	0%
Bolton NHS FT		1	1				2	4	50%
East Lancashire Hospitals NHS Trust		1	2	1				4	100%
Lancashire Teaching Hospitals NHS FT	1		1					2	100%
Manchester University NHS FT - SMH/WH/RMCH				1				1	100%
North Manchester (MFT)	2		1	1				4	100%
Oldham (Pennine Acute Hospitals NHS Trust)	1	1	2	2	1			7	86%
Stockport NHS FT		1						1	100%
Wrightington, Wigan and Leigh NHS FT						1		1	0%
Grand Total	4	4	7	5	2	1	2	25	80%

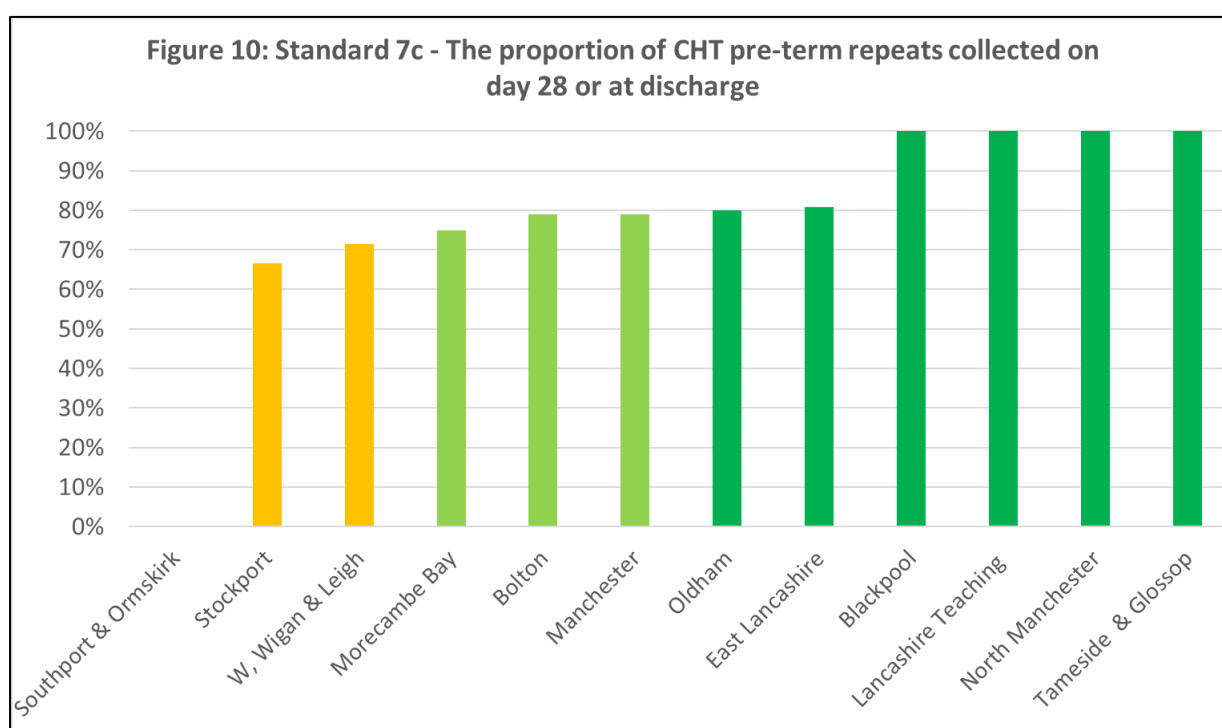
Standard 7c - The proportion of CHT pre-term repeats collected on day 28 or at discharge

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, 146 CHT pre-term repeats were received (avoidable repeats and duplicates excluded). Performance by trust is displayed in figure 10. 81% were collected on day 28 or at discharge, 1% were collected too early (and required a further repeat) and 18% were collected after day 28.

Of note, 17 out of 26 babies with samples collected after day 28 had transfusions on days 25-28, which would account for the delayed sampling.



Quarter 1 2021-22: Standard 7c					
Trust	Number of Pre-term CHT repeat samples collected:				% Prem repeats collected on day 28 or at discharge
	Early	On time	Late	Total	
Blackpool Teaching Hospitals NHS FT		4		4	100%
Bolton NHS FT		15	4	19	79%
East Lancashire Hospitals NHS Trust		21	5	26	81%
Lancashire Teaching Hospitals NHS FT		9		9	100%
Manchester University NHS FT (SMH/RMCH/WH)		30	8	38	79%
North Manchester (Pennine Acute Hospitals NHS Trust)		5		5	100%
Oldham (Pennine Acute Hospitals NHS Trust)		16	4	20	80%
Southport & Ormskirk Hospital NHS Trust	1			1	0%
Stockport NHS FT	1	6	2	9	67%
Tameside And Glossop Integrated Care NHS FT		4		4	100%
University Hospitals of Morecambe Bay NHS FT		3	1	4	75%
Wrightington, Wigan and Leigh NHS FT		5	2	7	71%
Grand Total	2	118	26	146	81%

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 during quarter 1. All were referred within 3 working days.

There were 6 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 4.

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%	6	6	100%	4 x MCADD 1 x PKU 1 x false positive IVA (antibiotic interference)
CHT (suspected on first sample)	Attend first clinical appointment by 14 days of age	Acceptable: 100%	5	5	100%	
CHT (suspected on repeat following borderline TSH)	Attend first clinical appointment by 21 days of age	Acceptable: 100%	4	4	100%	
CF (2 CFTR mutations detected)	Attend first clinical appointment by 28 days of age	Acceptable: ≥ 95.0% Achievable: 100%	4	4	100%	
HCU	Attend first clinical appointment by 28 days of age	Acceptable: ≥ 95.0% Achievable: 100%	0	0	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	2	100%	
SCD	Attend first clinical appointment by 90 days of age	Attend first clinical appointment by 90 days of age	-	-	N/A	One baby referred in Q1 but no information yet on date seen in clinic. Information was given to parents of day 44.

Incidents

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

Incident Number	Incident Date	Summary of incident	MFT or external	Lab/ Ward/ Maternity Unit	Local Area Team	QA informed
2193312	08/05/21	Blood spot labelling error: another baby's bar-coded demographic sticker, detected prior to reporting	MFT	Ward C2, Wythenshawe	Greater Manchester	Yes

Appendix

Quarter 4 2020-21: 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	692	692	663	100.0%	95.8%
Bolton NHS FT	1441	1439	1159	99.9%	80.4%
East Lancashire Hospitals NHS Trust	1480	1479	1427	99.9%	96.4%
Health Visitor	156	154	5	98.7%	3.2%
Lancashire Teaching Hospitals NHS FT	1039	1038	985	99.9%	94.8%
Manchester University NHS FT (SMH/RMCH/WH)	2378	2376	2203	99.9%	92.6%
North Manchester (Pennine Acute Hospitals NHS Trust)	1061	1058	914	99.7%	86.1%
Not Stated	46	46	36	100.0%	78.3%
Oldham (Pennine Acute Hospitals NHS Trust)	1375	1372	1040	99.8%	75.6%
Southport & Ormskirk Hospital NHS Trust	201	201	136	100.0%	67.7%
Stockport NHS FT	807	804	663	99.6%	82.2%
Tameside And Glossop Integrated Care NHS FT	662	662	590	100.0%	89.1%
University Hospitals of Morecambe Bay NHS FT	639	639	595	100.0%	93.1%
Wrightington, Wigan and Leigh NHS FT	823	821	218	99.8%	26.5%
Grand Total	12800	12781	10634	99.9%	83.1%

Quarter 1 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	0	645	21	2	1	6	0.0%	95.6%	3.1%	0.3%	0.1%	0.9%
Bolton NHS FT	2	1320	57	6	2	13	0.1%	94.3%	4.1%	0.4%	0.1%	0.9%
East Lancashire Hospitals NHS Trust	4	1389	91	7	1	13	0.3%	92.3%	6.0%	0.5%	0.1%	0.9%
Health Visitor	0	6	0	0	0	79	0.0%	7.1%	0.0%	0.0%	0.0%	92.9%
Lancashire Teaching Hospitals NHS FT	3	894	63	11	3	9	0.3%	90.9%	6.4%	1.1%	0.3%	0.9%
Manchester University NHS FT (SMH/RMCH/WH)	3	2063	69	7	10	17	0.1%	95.1%	3.2%	0.3%	0.5%	0.8%
North Manchester (MFT)	2	930	56	3	1	16	0.2%	92.3%	5.6%	0.3%	0.1%	1.6%
Not Stated	0	1	1	0	0	0	0.0%	50.0%	50.0%	0.0%	0.0%	0.0%
Oldham (Pennine Acute Hospitals NHS Trust)	6	1268	109	15	6	15	0.4%	89.4%	7.7%	1.1%	0.4%	1.1%
Southport & Ormskirk Hospital NHS Trust	4	191	16	1	0	8	1.8%	86.8%	7.3%	0.5%	0.0%	3.6%
Stockport NHS FT	2	734	22	10	2	6	0.3%	94.6%	2.8%	1.3%	0.3%	0.8%
Tameside And Glossop Integrated Care NHS FT	0	648	25	2	5	1	0.0%	95.2%	3.7%	0.3%	0.7%	0.1%
University Hospitals of Morecambe Bay NHS FT	0	586	19	3	2	2	0.0%	95.8%	3.1%	0.5%	0.3%	0.3%
Wrightington, Wigan and Leigh NHS FT	0	742	41	5	0	3	0.0%	93.8%	5.2%	0.6%	0.0%	0.4%
Grand Total	26	11417	590	72	33	188	0.2%	92.6%	4.8%	0.6%	0.3%	1.5%

Excludes samples with missing dates

Quarter 1 2021-22: Standard 5			
Trust	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	686	692	99.1%
Bolton NHS FT	1459	1478	98.7%
East Lancashire Hospitals NHS Trust	1566	1571	99.7%
Health Visitor	84	93	90.3%
Lancashire Teaching Hospitals NHS FT	1026	1028	99.8%
Manchester University NHS FT (SMH/RMCH/WH)	2287	2289	99.9%
North Manchester (MFT)	1045	1056	99.0%
Not Stated	2	2	100.0%
Oldham (Pennine Acute Hospitals NHS Trust)	1471	1498	98.2%
Southport & Ormskirk Hospital NHS Trust	122	230	53.0%
Stockport NHS FT	804	809	99.4%
Tameside And Glossop Integrated Care NHS FT	688	693	99.3%
University Hospitals of Morecambe Bay NHS FT	609	629	96.8%
Wrightington, Wigan and Leigh NHS FT	801	820	97.7%
Grand Total	12650	12888	98.2%
<i>Excludes day 0 'pre-transfusion' samples and samples with missing date of collection</i>			

Quarter 1 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/ WH/ RMCH)	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)	1	0	4	0	1	2	2	0	4	4	2	0	0	0	20
0302: too soon after transfusion (<72 hours)	0	0	3	0	0	3	0	0	4	0	0	0	0	0	10
0303: insufficient sample	6	23	10	3	14	31	18	0	13	3	3	3	4	4	135
0304: unsuitable sample (blood quality): incorrect blood application	2	12	2	1	3	23	7	0	10	0	5	1	5	3	74
0305: unsuitable sample (blood quality): compressed/damaged	2	2	2	0	4	0	0	0	3	1	6	1	3	1	25
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	1	1	0	1	5	3	0	0	1	0	1	0	1	14
0308: unsuitable sample: NHS number missing/not accurately recorded	1	1	2	1	1	5	1	0	5	0	1	1	0	2	21
0309: unsuitable sample: date of sample missing/not accurately recorded	3	0	9	2	4	5	9	0	4	4	1	0	1	1	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	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	1	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
Number of Avoidable Repeat Requests	15	39	30	8	28	72	40	0	39	13	18	7	13	12	334
Number of first samples received/ babies tested	678	1399	1511	65	986	2171	1018	2	1423	223	777	679	613	792	12337
Avoidable Repeat Requests Rate	2.2%	2.8%	2.0%	12.3%	2.8%	3.3%	3.9%	0.0%	2.7%	5.8%	2.3%	1.0%	2.1%	1.5%	2.7%
<i>Transfusion Repeats are not included in the Avoidable Repeat calculation</i>															

Quarter 1 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	0	0	0	18	0	0	0	0	0	1	0	0	1	0	0	20
0302: too soon after transfusion (<72 hours)	3	0	0	0	0	2	0	0	0	0	0	3	0	0	2	0	0	10
0303: insufficient sample	2	2	2	1	1	105	2	0	0	1	1	6	1	0	3	1	7	135
0304: unsuitable sample (blood quality): incorrect blood application	1	8	0	0	1	41	0	3	0	0	1	4	2	2	8	0	3	74
0305: unsuitable sample (blood quality): compressed/damaged	0	0	0	0	0	20	0	0	0	0	0	0	0	5	0	0	0	25
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	1	1	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	14
0308: unsuitable sample: NHS number missing/not accurately recorded	1	0	0	0	1	15	0	1	1	0	0	0	0	0	1	0	1	21
0309: unsuitable sample: date of sample missing/not accurately recorded	1	0	1	0	0	37	1	1	0	0	0	1	0	0	1	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	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	6	11	3	1	3	250	3	5	1	1	2	12	3	7	14	1	11	334
Number of first samples received/ babies tested	116	158	65	11	68	11074	10	58	2	32	9	150	86	66	279	48	105	12337
Avoidable Repeat Requests Rate	5.2%	7.0%	4.6%	9.1%	4.4%	2.3%	30.0%	8.6%	50.0%	3.1%	22.2%	8.0%	3.5%	10.6%	5.0%	2.1%	10.5%	2.7%
<i>Transfusion Repeats are not included in the Avoidable Repeat calculation</i>																		