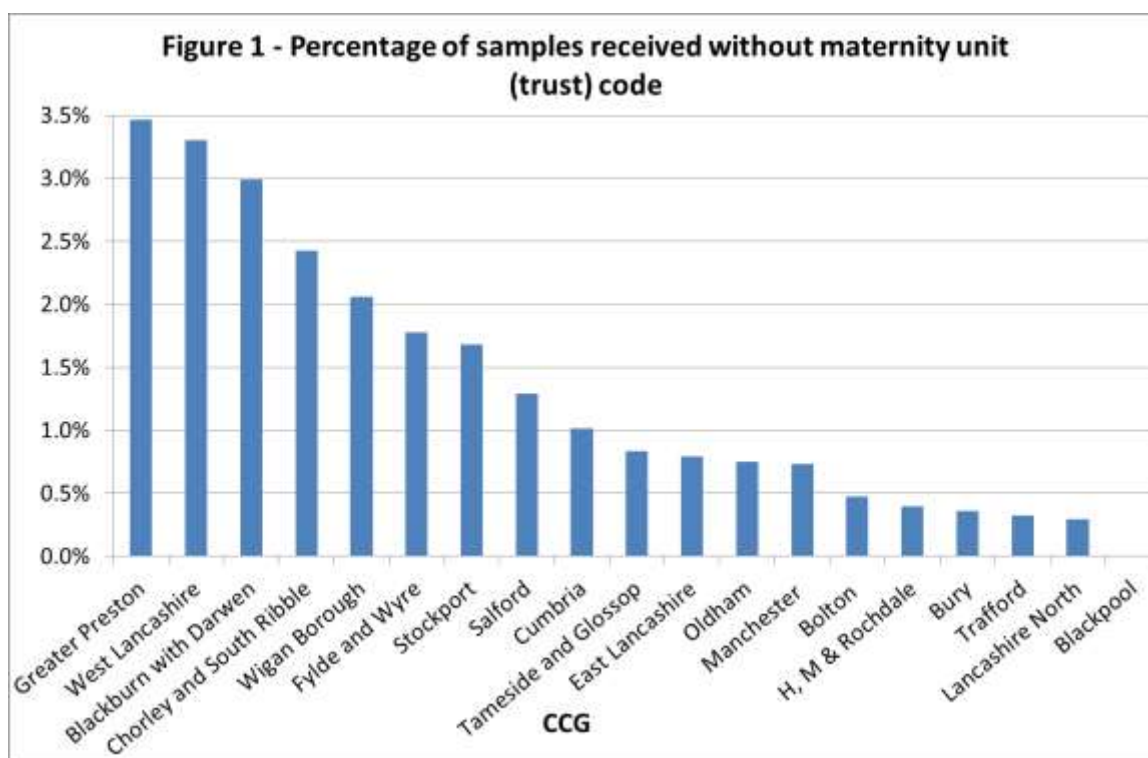


Manchester Newborn Screening Laboratory Quarterly Blood Spot Screening Report: Quarter 1 2020-21

Manchester Newborn Screening Laboratory, which serves babies born in Greater Manchester, Lancashire and South Cumbria, received 13139 blood spot samples between 1st April and 30th June 2020. 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.

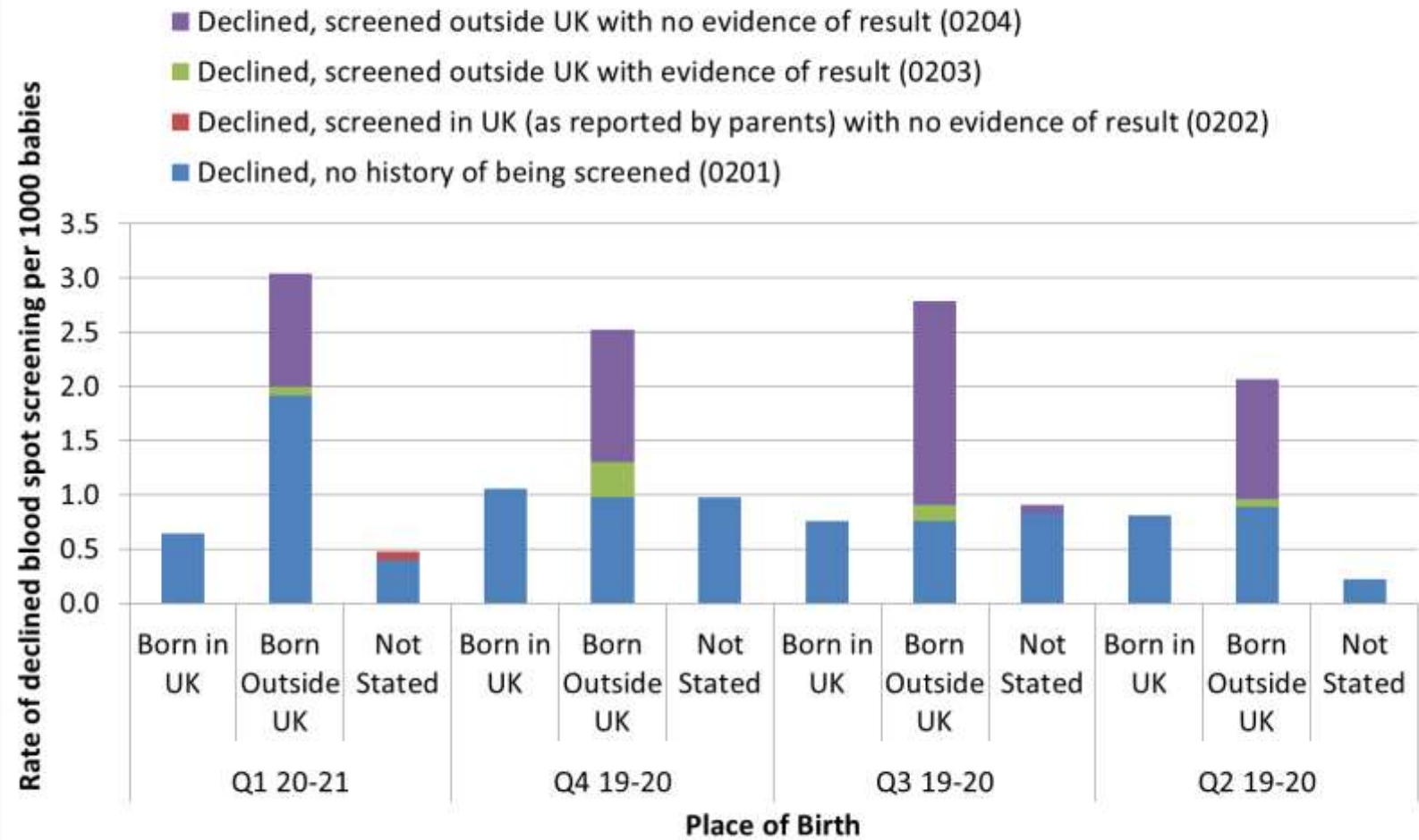
The data for the laboratory reportable standards is presented by maternity unit/NHS trust of the sample taker. For accurate figures, please ensure the trust code is written/stamped on the blood spot card (in the PCT field). The proportion of samples with a missing maternity unit/trust code is presented in figure 1 by CCG. Overall the maternity/ trust code was missing from 164 sample cards (1.2%).



Declines

In quarter 1 the laboratory received 52 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, 84.8% of samples received in quarter 1 of 2020/21 had a barcoded NHS number label, which is slightly higher than the previous quarter (83.7%). Of 11 maternity units, 5 met the standard, including two reaching the achievable threshold (MFT and Lancashire Teaching). Two units had poor performance for this standard: 26% (Wigan) and 61% (Ormskirk).

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, 92.9% of samples received in quarter 1 of 2020/21 were collected on day 5. All 11 maternity units met standard 4. For the majority of quarter 1 temporary COVID-19 acceptance criteria were in place which included acceptance of samples collected on day 4. This will have decreased the proportion of samples collected on day 5 for some units, but overall the percentage received on day 5 in quarter 1 is slightly higher than the proportion collected on day 5 in Q4 (92%). Blackpool met the achievable threshold.

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

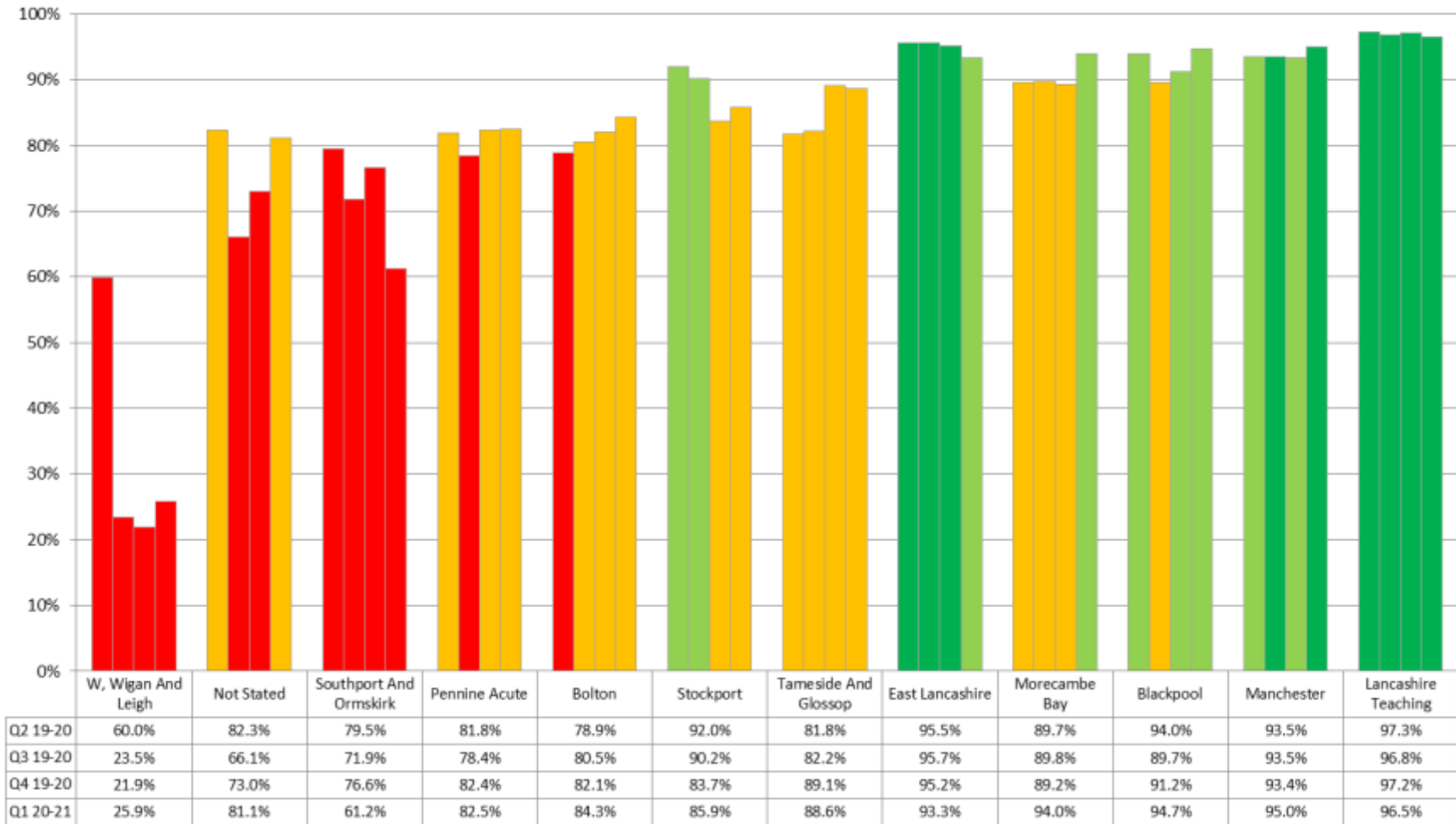


Figure 4: Standard 4 - The proportion of first blood spot samples taken on day 5

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. 10 Trusts met the standard, including 5 reaching the achievable threshold. Performance was very similar to the last 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 $\leq 1\%$

The avoidable repeat rate for quarter 1 was 1.4%. This is lower than usual as more samples were accepted due to temporary COVID-19 acceptance criteria being in place for the majority of the quarter. The performance for each trust is displayed in figure 6. 9 Trusts met the standard. The monthly reports for April, May and June 2020 provide details of the numbers of samples that would have been rejected in each category, had the standard criteria been in place (projected avoidable repeat rate of 3.9%). 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 1.2% for babies at home (1.7% in quarter 4) and 3.1% for samples collected from in-patients (5.2% 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

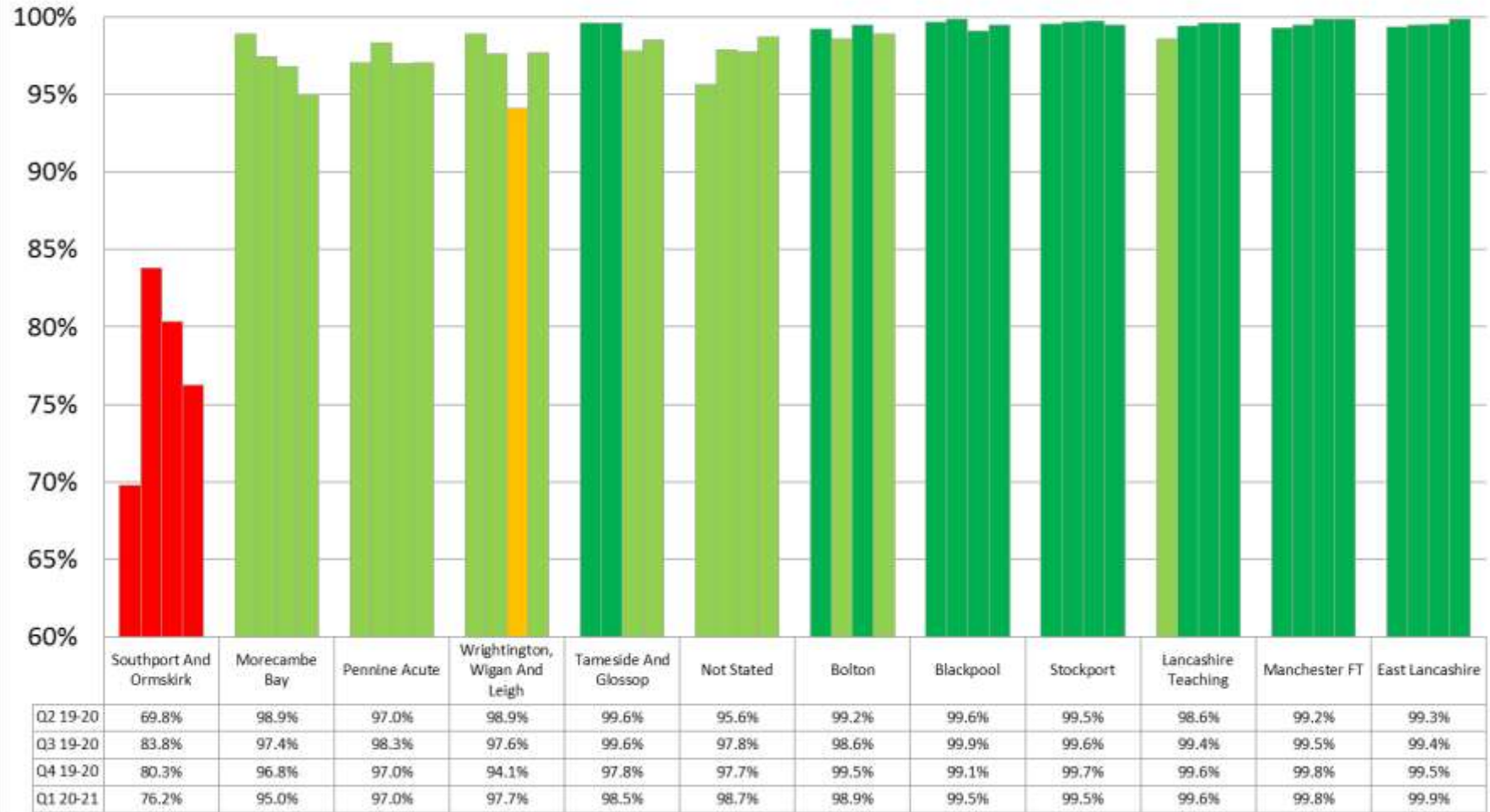
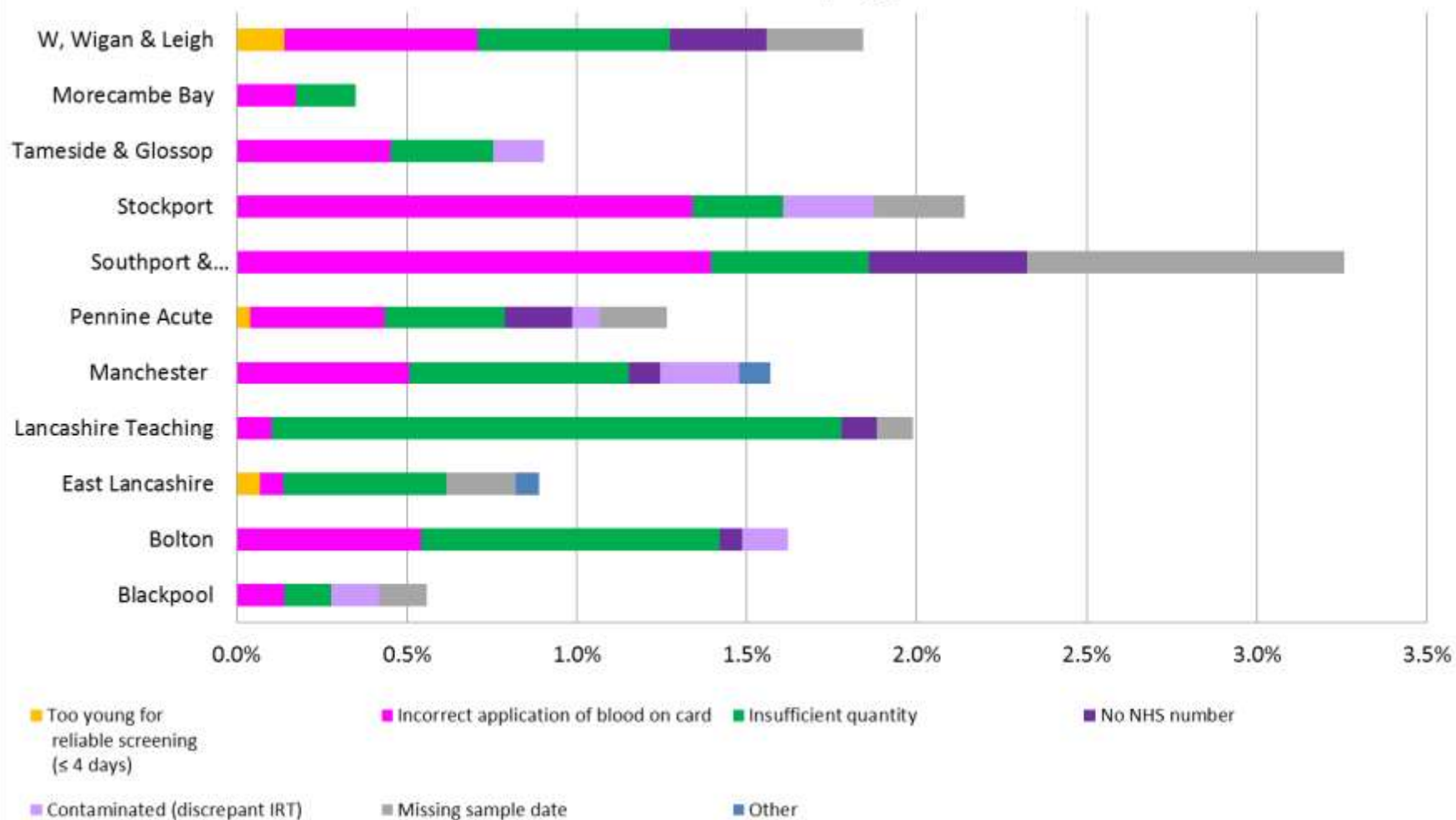
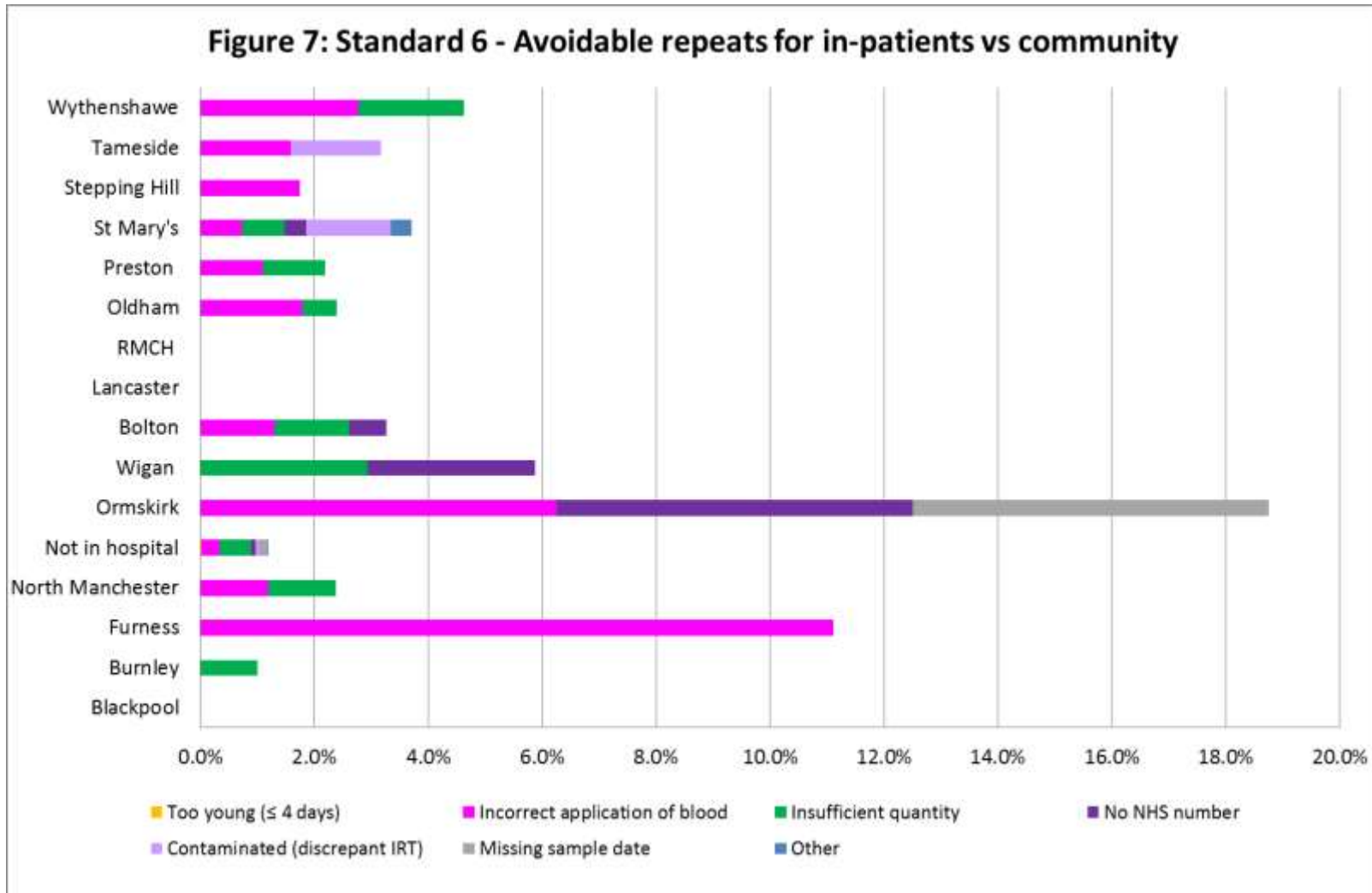


Figure 6: Standard 6 - The proportion of first blood spot samples that require repeating due to an avoidable failure in the sampling process





Royal Blackburn Hospital not shown (1/1 sample rejected; rate 100%).

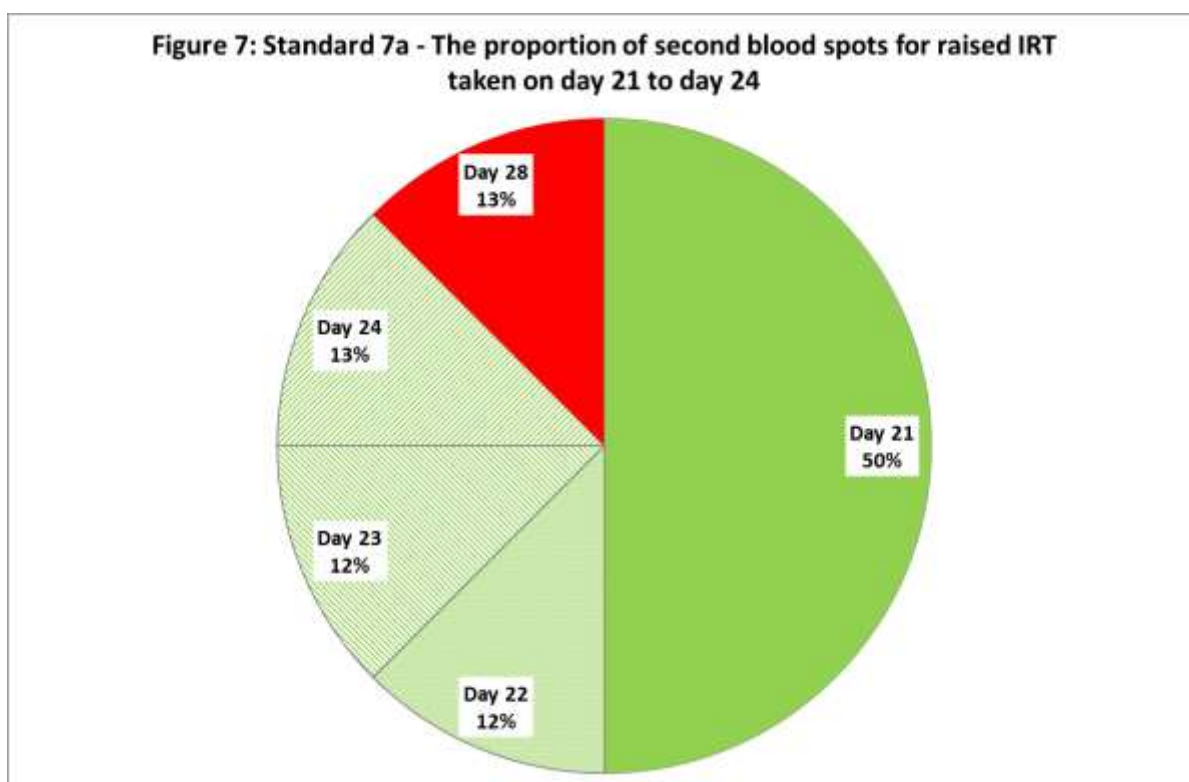
Q1 20-21 Table 1 - Summary of performance				
Trust	STD 3	STD 4	STD 5	STD 6
Blackpool Teaching Hospitals NHS FT	94.7%	95.1%	99.5%	0.6%
Bolton NHS FT	84.3%	94.5%	98.9%	1.6%
East Lancashire Hospitals NHS Trust	93.3%	93.9%	99.9%	0.9%
Lancashire Teaching Hospitals NHS FT	96.5%	94.1%	99.6%	2.0%
Manchester University NHS FT	95.0%	94.9%	99.8%	1.6%
Pennine Acute Hospitals NHS Trust	82.5%	90.2%	97.0%	1.3%
Southport & Ormskirk Hospital NHS Trust	61.2%	93.4%	76.2%	3.3%
Stockport NHS FT	85.9%	94.4%	99.5%	2.1%
Tameside And Glossop Integrated Care NHS FT	88.6%	94.3%	98.5%	0.9%
University Hospitals of Morecambe Bay NHS FT	94.0%	93.5%	95.0%	0.3%
Wrightington, Wigan and Leigh NHS FT	25.9%	93.8%	97.7%	1.8%

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

Acceptable: ≥ 95% of second blood spot samples taken on day 21 to day 24

Achievable: ≥ 70% of second blood spot samples taken on day 21

Standard 7a was not met. During quarter 1 there were 8 repeats for raised IRT (CF inconclusive). Of these, 50% (4) were collected on day 21 and 88% (7) 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.



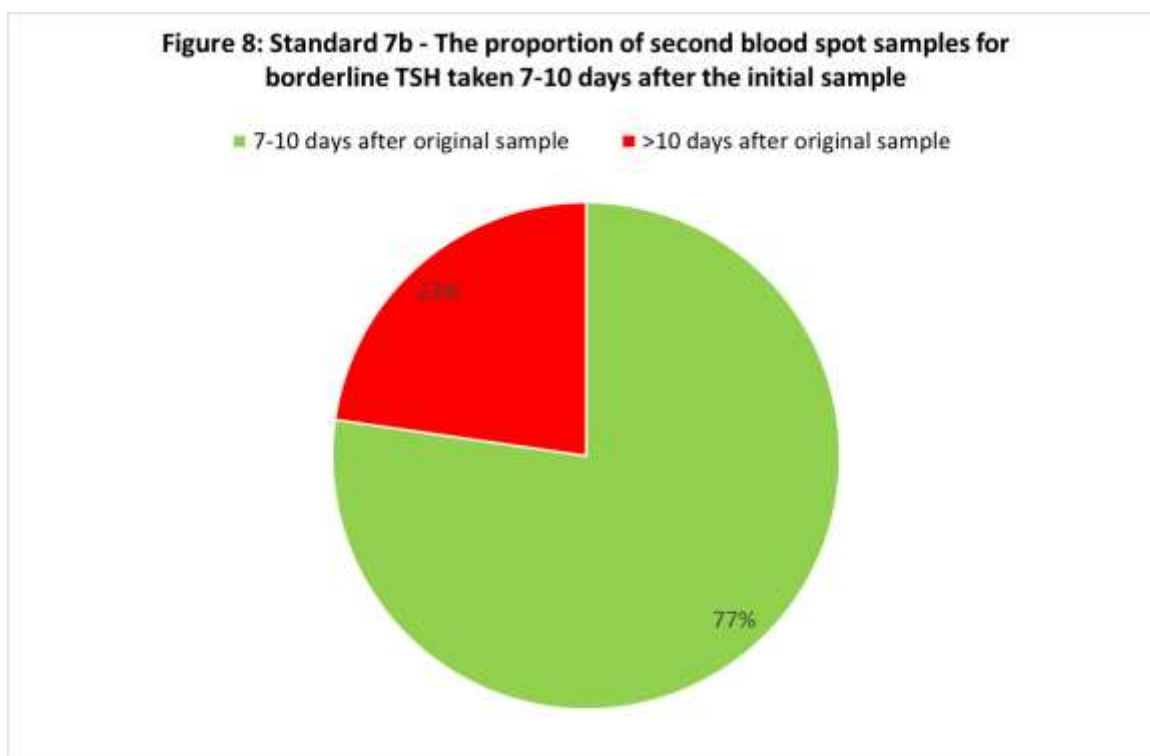
Q1 Table 2 - Standard 7a								
Child Health Department	Age at Collection of CF Inconclusive Repeat (days)					Grand Total	% collected day 21	% collected day 21-24
	21	22	23	24	28			
Bury					1	1	0%	0%
Central Lancashire/Chorley	1					1	100%	100%
Oldham		1	1	1		3	0%	100%
Preston	2					2	100%	100%
Salford	1					1	100%	100%
Grand Total	4	1	1	1	1	8	50%	88%

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: ≥ 95.0% of second blood spot samples taken as defined

Achievable: ≥ 99.0% of second 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.



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		
Blackpool Teaching Hospitals NHS FT		1			1		2	100%
Bolton NHS FT			1			1	2	50%
East Lancashire Hospitals NHS Trust			1				1	100%
Lancashire Teaching Hospitals NHS FT			1	1	1		3	100%
Manchester University NHS FT	1	2	1	1	1		6	83%
Pennine Acute Hospitals NHS Trust			3	1		1	5	80%
University Hospitals of Morecambe Bay NHS FT				1			1	100%
Wrightington, Wigan and Leigh NHS FT						2	2	0%
Grand Total	1	3	7	4	3	4	22	77%

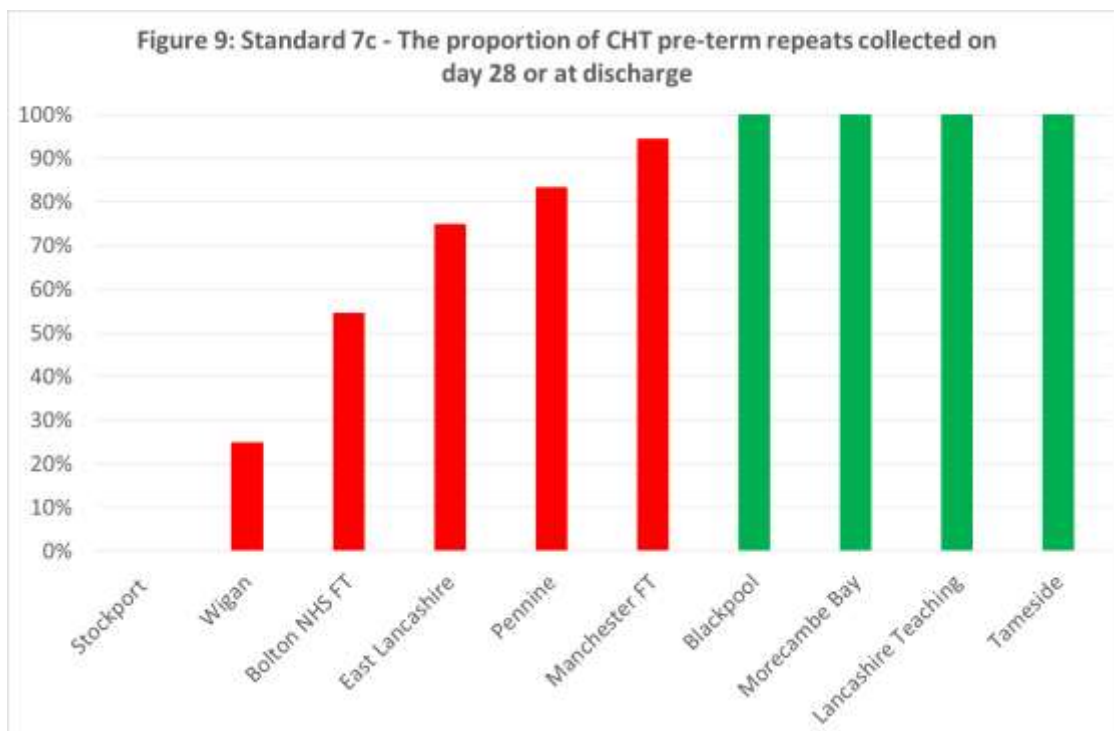
Standard 7c - The proportion of CHT pre-term repeats collected on day 28 or at discharge

Acceptable: ≥ 95.0% of second blood spot samples taken as defined

Achievable: ≥ 99.0% of second blood spot samples taken as defined

Standard 7c was not met. During quarter 1, 109 CHT pre-term repeats (second samples only, avoidable repeats excluded) were received. Performance by trust is displayed in figure 9. 83% were collected on day 28 or at discharge. Less than 1% were collected too early and required a further repeat. 17% were collected after day 28.

Of note, 4 out of 18 babies with samples collected after day 28 had transfusions on days 25-28, which would account for the delayed sampling.



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 13 screen positive samples for CHT during quarter 1. 85% of babies were referred within 3 working days (11/13). One baby was referred 4 working days after sample receipt due to requiring a retest following an analytical failure. Another baby was referred 5 working days after sample receipt. This delay was related to the baby being the subject of a labelling incident on the previous sample which led to a problem with the IT system requesting the correct tests.

There were 6 IMD screen positives and all were referred within 3 working days.

Standard 11 - Timely entry into clinical care

Data for standard 11 is displayed in table 4.

Table 4: 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%	6	6	100%	
CHT (suspected on first sample)	Attend first clinical appointment by 14 days of age	Acceptable: 100%	7	7	100%	
CHT (suspected on repeat following borderline TSH)	Attend first clinical appointment by 21 days of age	Acceptable: 100%	2	4	50%	Excluded from the standard: 2 further CHT positives following preterm repeat/.
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%	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	0	0	N/A	One positive baby excluded from standard as in the category "CF - previously not suspected" (no mutations). Sick baby with multiple samples. Baby died day 38.
SCD	Attend first clinical appointment by 90 days of age	Attend first clinical appointment by 90 days of age	6	8	75%	2 dates of appointment outstanding

Incidents

We identified or were notified of only 6 incidents in quarter 1 so they are not displayed in chart form. The majority (5/6) were blood spot labelling incidents. A summary table of incidents is included in the appendix.

Appendix

Quarter 1 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	738	738	699	100.0%	94.7%
Bolton NHS FT	1597	1594	1347	99.8%	84.3%
East Lancashire Hospitals NHS Trust	1544	1543	1441	99.9%	93.3%
Health Visitor	105	104	1	99.0%	1.0%
Lancashire Teaching Hospitals NHS FT	1000	999	965	99.9%	96.5%
Manchester University NHS FT	2372	2371	2253	100.0%	95.0%
Not Stated	164	164	133	100.0%	81.1%
Pennine Acute Hospitals NHS Trust	2625	2619	2165	99.8%	82.5%
Southport & Ormskirk Hospital NHS Trust	227	226	139	99.6%	61.2%
Stockport NHS FT	771	771	662	100.0%	85.9%
Tameside And Glossop Integrated Care NHS FT	678	678	601	100.0%	88.6%
University Hospitals of Morecambe Bay NHS FT	584	584	549	100.0%	94.0%
Wrightington, Wigan and Leigh NHS FT	734	732	190	99.7%	25.9%
Grand Total	13139	13123	11145	99.9%	84.8%

Quarter 1 2020-21: Standard 4												
Trust	Number of 1st samples taken on or before day 4	Number of 1st samples taken on day 5	Number of 1st samples taken on day 6	Number of 1st samples taken on day 7	Number of 1st samples taken on day 8	Number of 1st samples taken on or after day 9	Percentage of 1st samples taken on or before day 4	Percentage of 1st samples taken on day 5	Percentage of 1st samples taken on day 6	Percentage of 1st samples taken on day 7	Percentage of 1st samples taken on day 8	Percentage of 1st samples taken on or after day 9
Blackpool Teaching Hospitals NHS FT	2	679	22	6	3	2	0.3%	95.1%	3.1%	0.8%	0.4%	0.3%
Bolton NHS FT	1	1397	58	10	3	10	0.1%	94.5%	3.9%	0.7%	0.2%	0.7%
East Lancashire Hospitals NHS Trust	7	1364	68	7	2	5	0.5%	93.9%	4.7%	0.5%	0.1%	0.3%
Health Visitor	0	1	0	1	0	76	0.0%	1.3%	0.0%	1.3%	0.0%	97.4%
Lancashire Teaching Hospitals NHS FT	0	898	47	3	1	5	0.0%	94.1%	4.9%	0.3%	0.1%	0.5%
Manchester University NHS FT	25	2055	53	15	8	9	1.2%	94.9%	2.4%	0.7%	0.4%	0.4%
Not Stated	3	140	7	3	0	0	2.0%	91.5%	4.6%	2.0%	0.0%	0.0%
Pennine Acute Hospitals NHS Trust	54	2277	141	27	8	18	2.1%	90.2%	5.6%	1.1%	0.3%	0.7%
Southport & Ormskirk Hospital NHS Trust	6	197	6	0	0	2	2.8%	93.4%	2.8%	0.0%	0.0%	0.9%
Stockport NHS FT	0	703	31	6	4	1	0.0%	94.4%	4.2%	0.8%	0.5%	0.1%
Tameside And Glossop Integrated Care NHS FT	1	625	30	3	1	3	0.2%	94.3%	4.5%	0.5%	0.2%	0.5%
University Hospitals of Morecambe Bay NHS FT	13	534	22	1	0	1	2.3%	93.5%	3.9%	0.2%	0.0%	0.2%
Wrightington, Wigan and Leigh NHS FT	4	660	29	5	3	3	0.6%	93.8%	4.1%	0.7%	0.4%	0.4%
Grand Total	116	11530	514	87	33	135	0.9%	92.9%	4.1%	0.7%	0.3%	1.1%

Quarter 1 2020-21: 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	732	736	99.5%
Bolton NHS FT	1505	1522	98.9%
East Lancashire Hospitals NHS Trust	1489	1491	99.9%
Health Visitor	76	80	95.0%
Lancashire Teaching Hospitals NHS FT	990	994	99.6%
Manchester University NHS FT	2248	2252	99.8%
Not Stated	152	154	98.7%
Pennine Acute Hospitals NHS Trust	2532	2610	97.0%
Southport & Ormskirk Hospital NHS Trust	170	223	76.2%
Stockport NHS FT	764	768	99.5%
Tameside And Glossop Integrated Care NHS FT	664	674	98.5%
University Hospitals of Morecambe Bay NHS FT	553	582	95.0%
Wrightington, Wigan and Leigh NHS FT	715	732	97.7%
Grand Total	12590	12818	98.2%
<i>Excludes day 0 'pre-transfusion' samples and samples with missing date of collection</i>			

Quarter 1 2020-21: Standard 6 by Trust

Status code and description of avoidable repeat	Blackpool Teaching Hospitals NHS FT	Bolton NHS FT	East Lancashire Hospitals NHS Trust	Lancashire Teaching Hospitals NHS FT	Manchester University NHS FT	Not Stated	Health Visitor	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)	0	0	1	0	0	0	0	1	0	0	0	0	1	3
0302: too soon after transfusion (<72 hours)	0	0	5	1	4	0	0	4	0	1	0	1	1	17
0303: insufficient sample	1	13	7	16	14	1	1	9	1	2	2	1	4	72
0304: unsuitable sample (blood quality): incorrect blood application	1	8	1	1	11	1	0	10	3	10	3	1	4	54
0305: unsuitable sample (blood quality): compressed/damaged	0	0	1	0	2	0	0	0	0	0	0	0	0	3
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	1	2	0	0	5	0	0	2	0	2	1	0	0	13
0308: unsuitable sample: NHS number missing/not accurately recorded	0	1	0	1	2	1	0	5	1	0	0	0	2	13
0309: unsuitable sample: date of sample missing/not accurately recorded	1	0	3	1	0	0	0	5	2	2	0	0	2	16
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	0	0	0	0	0	0	0	0	0	0	0
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
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	4	24	13	19	34	3	1	32	7	16	6	2	13	174
Number of first samples received/ babies tested	716	1479	1461	956	2166	157	103	2530	215	747	663	572	706	12471
Avoidable Repeat Requests Rate	0.6%	1.6%	0.9%	2.0%	1.6%	1.9%	1.0%	1.3%	3.3%	2.1%	0.9%	0.3%	1.8%	1.4%
<i>Transfusion Repeats are not included in the Avoidable Repeat calculation</i>														

Quarter 1 2020-21: 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 Hospital	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	Wythenshawe Hospital	Tameside General Hospital	UK Out of region	Grand Total
0301: too young for reliable screening (≤ 4 days)	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
0302: too soon after transfusion (<72 hours)	0	5	0	0	0	0	1	0	0	1	0	4	1	4	1	0	0	0	17
0303: insufficient sample	0	1	0	1	61	0	1	0	2	0	0	1	1	2	0	2	0	0	72
0304: unsuitable sample (blood quality): incorrect blood application	0	0	1	1	36	1	0	1	2	0	0	3	1	2	1	3	1	1	54
0305: unsuitable sample (blood quality): compressed/damaged	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	3
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	0
0307: unsuitable sample for CF: possible faecal contamination	0	0	0	0	8	0	0	0	0	0	0	0	0	4	0	0	1	0	13
0308: unsuitable sample: NHS number missing/not accurately recorded	0	0	0	0	9	1	1	0	1	0	0	0	0	1	0	0	0	0	13
0309: unsuitable sample: date of sample missing/not accurately recorded	0	0	0	0	15	1	0	0	0	0	0	0	0	0	0	0	0	0	16
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	0
0311: unsuitable sample: expired card used	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	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	0
Number of Avoidable Repeat Requests	0	1	1	2	134	3	2	1	5	0	0	4	2	10	1	5	2	1	174
Number of first samples received/ babies tested	68	100	9	84	11201	16	34	1	153	35	14	167	91	269	57	108	63	1	12471
Avoidable Repeat Requests Rate	0.0%	1.0%	11.1%	2.4%	1.2%	18.8%	5.9%	100.0%	3.3%	0.0%	0.0%	2.4%	2.2%	3.7%	1.8%	4.6%	3.2%	100.0%	1.4%

Transfusion Repeats are not included in the Avoidable Repeat calculation

Quarter 1 2020-21: Standard 7c						
Trust	Number of Pre-term CHT second samples collected:				% Prem repeats collected on day 28 or at discharge	% Prem repeats collected on day 28 or earlier
	Early	On time	Late	Total		
Blackpool Teaching Hospitals NHS FT	0	14	0	14	100%	100%
Bolton NHS FT	0	6	5	11	55%	55%
East Lancashire Hospitals NHS Trust	0	9	3	12	75%	75%
Lancashire Teaching Hospitals NHS FT	0	11	0	11	100%	100%
Manchester FT	0	17	1	18	94%	94%
Pennine Acute Hospitals NHS Trust	0	20	4	24	83%	83%
Southport & Ormskirk Hospital NHS Trust	0	3	0	3	100%	100%
Stockport NHS FT	0	0	2	2	0%	0%
Tameside And Glossop Integrated Care NHS FT	0	1	1	2	50%	50%
University Hospitals of Morecambe Bay NHS FT	0	8	0	8	100%	100%
Wrightington, Wigan and Leigh NHS FT	1	1	2	4	25%	50%
Grand Total	1	90	18	109	83%	83%

Incident Number	Incident Date	Incident Severity	Incident Harm	Summary of incident	Further details	MFT or external	Lab/ Ward/ Maternity Unit
2125487	29/04/20	1 - low	1 - no harm	Blood spot labelling error: unlabelled/ inadequately labelled sample found on ward		MFT	Ward 68, SMH (NICU)
2126552	06/05/20	1 - low	1 - no harm	Blood spot collection error: delay/ failure to collect screening sample	Baby had been on NNU at Wythenshawe. Under care of ORC outreach team at day 5.	MFT	Neonatal Outreach Team MFT
2130331	04/06/20	1 - low	1 - no harm	Blood spot labelling error: unlabelled/ inadequately labelled sample found on ward	Day 0 sample	MFT	Ward 68, SMH (NICU)
2132175	17/06/20	1 - low	1 - no harm	Blood spot labelling error: unlabelled/ inadequately labelled sample found on ward	Day 0 samples on twins	MFT	Ward 68, SMH (NICU)
2132645	09/06/20	4 - major	2 - slight	Blood spot labelling error: demographic sticker contained errors e.g. another baby's NHS number (some details correct)	Error picked up on failsafe. Positive CHT labelled with an NHS number for a different baby.	MFT	Ward 68, SMH (NICU)
2133530	20/06/20	3 - moderate	2 - slight	Blood spot labelling error: handwritten NHS number belonging to another baby (other demographic details correct)	Error picked up at data entry	External	Postnatal Ward, Royal Bolton