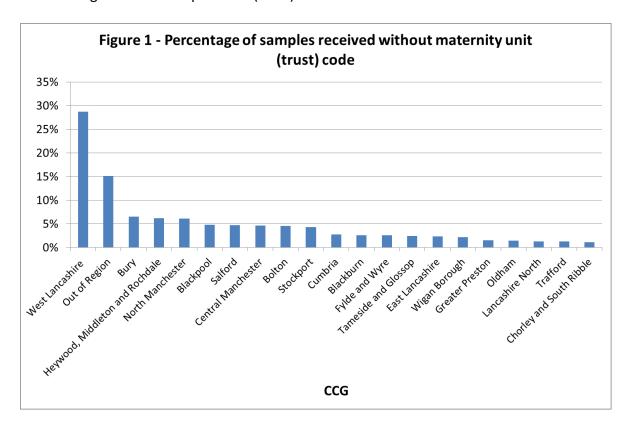
# Manchester Newborn Screening Laboratory Quarterly Blood Spot Screening Report: Quarter 2 2018-19

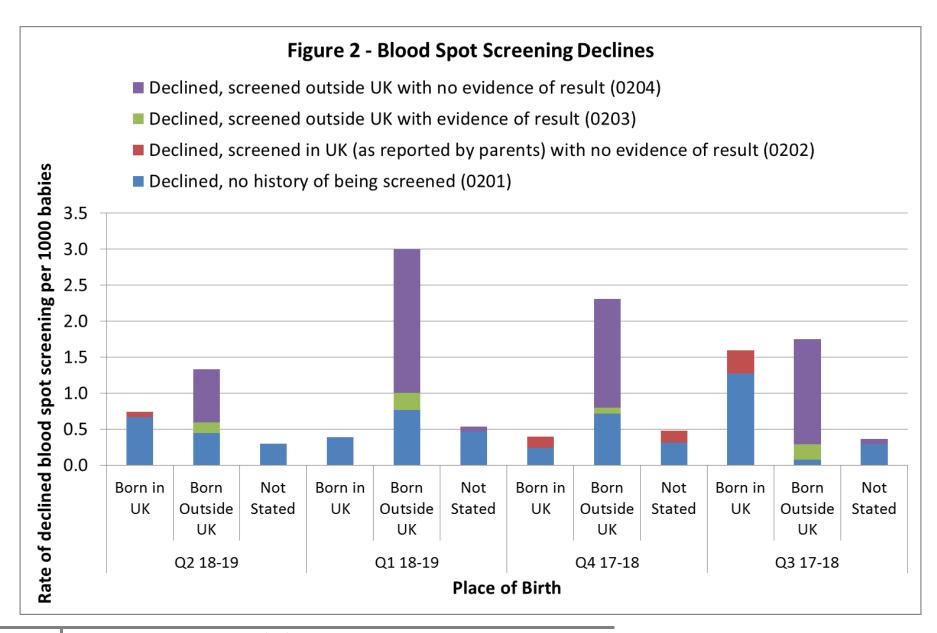
Manchester Newborn Screening Laboratory, which serves babies born in Greater Manchester, Lancashire and South Cumbria, received 14,454 blood spot samples between 1<sup>st</sup> July and 30<sup>th</sup> September 2018. This report describes performance against the NHS Newborn Blood Spot Screening Programme 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 559 sample cards (3.8%).



#### **Declines**

In quarter 2 the laboratory received 32 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.



### 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.

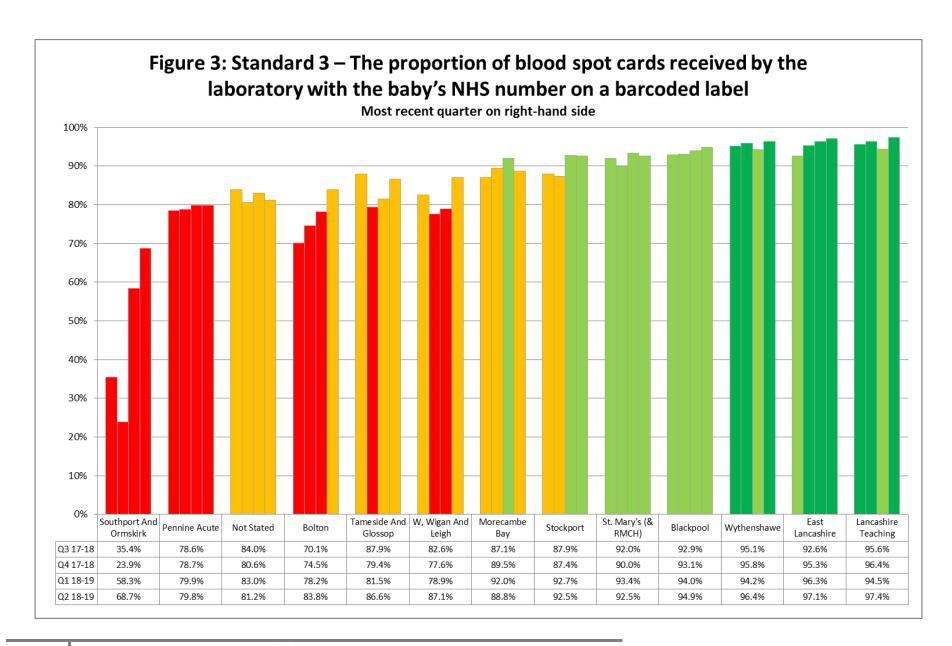
Figure 3 displays performance against standard 3.

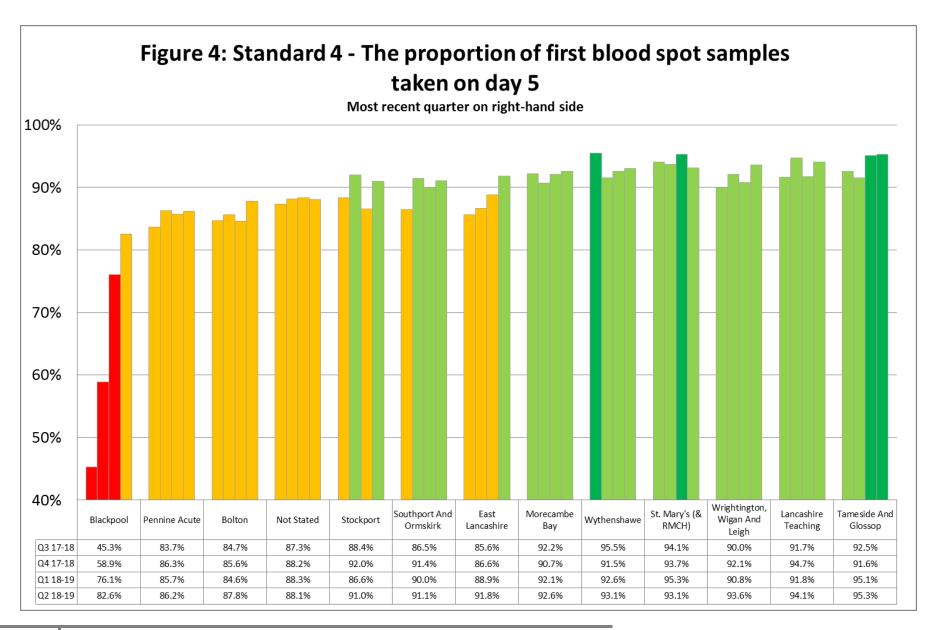
Overall, 88.4% of samples received July to September 2018 had a barcoded NHS number label. Of 12 maternity units, 6 met the standard, including three reaching the achievable threshold (East Lancashire, Lancashire Teaching and Wythenshawe). This has improved slightly compared to quarter 1 (86.7%).

### 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, 89.7% of first samples received July to September 2018 were collected on day 5. Of 12 maternity units, 8 met standard 4, which is similar to quarter 1 (88%; 7 units met the standard). Tameside met the achievable threshold.





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.

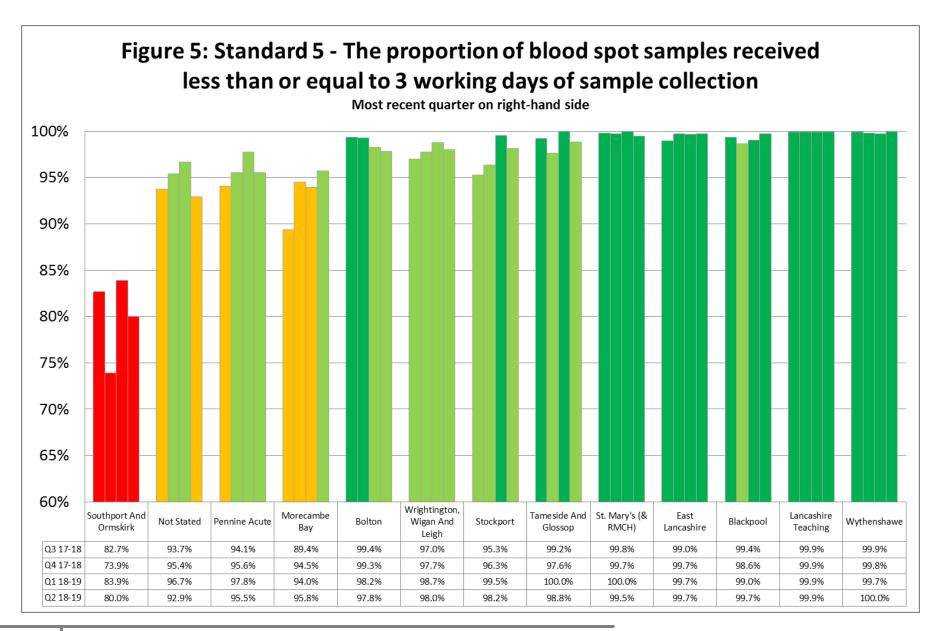
Performance against the transport standard (figure 5) was good. Overall 97.7% samples were received within 3 working days. 11 Trusts met the standard, including 5 reaching the achievable threshold. Performance has slightly declined compared to the last quarter (98.5% samples were received within 3 working days).

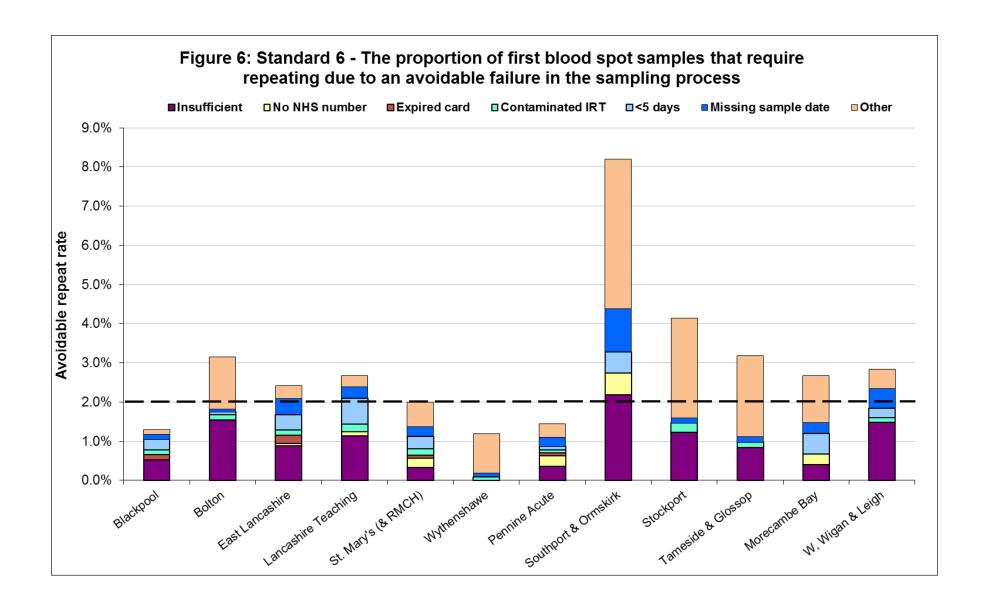
Standard 6 - The proportion of first blood spot samples that require repeating due to an avoidable failure in the sampling process

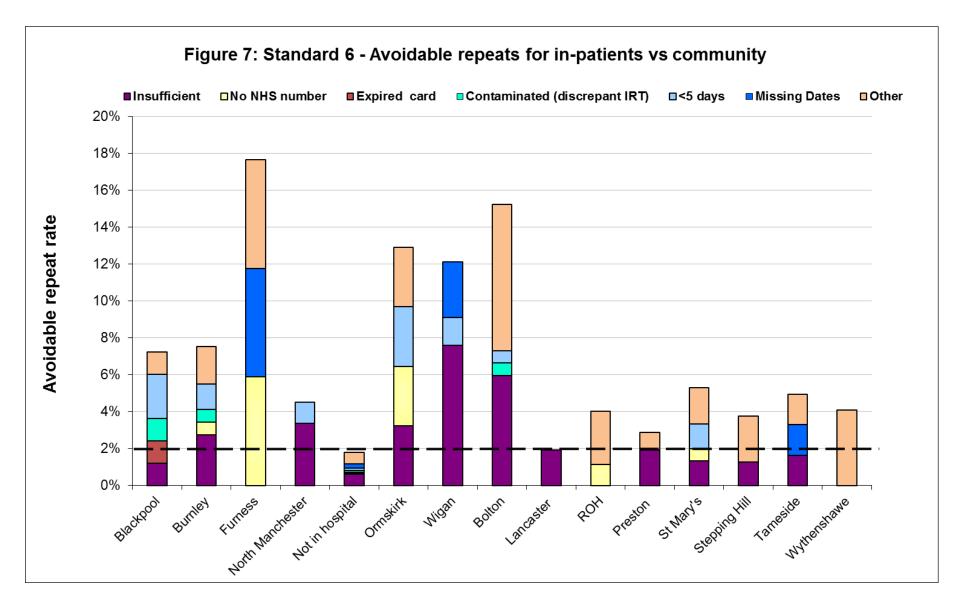
**Acceptable:** Avoidable repeat rate is  $\leq 2.0\%$ 

**Achievable:** Avoidable repeat rate is ≤ 1%

The avoidable repeat rate for quarter 2 was 2.3%, which is an improvement on the previous quarter (2.6%). The performance for each trust is displayed in figure 6. Four Trusts met the standard. Figure 7 compares the avoidable repeat rate for samples collected from inpatients with sample collected from babies at home/ in the community. The rate was 1.8% for babies in the community (1.9% in quarter 1) and 6.6% for samples collected from inpatients (7.9% in quarter 1).







Royal Blackburn Hospital excluded from the chart (2/4 samples; avoidable repeat rate 50%).

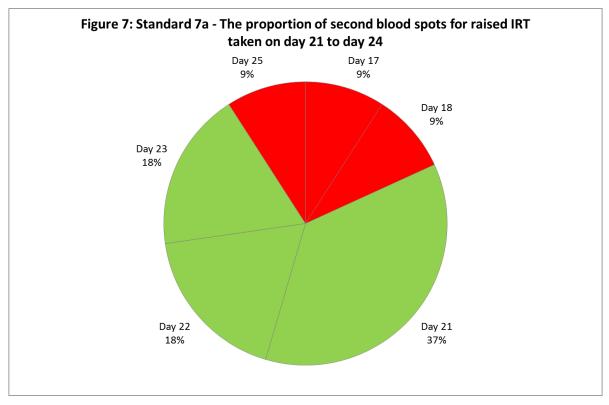
	Q2 18-19 Table 1 - Summary of performance											
Trust	STD 3	STD 4	STD 5	STD 6								
Blackpool Teaching Hospitals NHS FT	94.9%	82.6%	99.7%	1.3%								
Bolton NHS FT	83.8%	87.8%	97.8%	3.1%								
East Lancashire Hospitals NHS Trust	97.1%	91.8%	99.7%	2.4%								
Lancashire Teaching Hospitals NHS FT	97.4%	94.1%	99.9%	2.7%								
Pennine Acute Hospitals NHS Trust	79.8%	86.2%	95.5%	1.4%								
Southport & Ormskirk Hospital NHS Trust	68.7%	91.1%	80.0%	8.2%								
St. Mary's (& RMCH)	92.5%	93.1%	99.5%	2.0%								
Stockport NHS FT	92.5%	91.0%	98.2%	4.1%								
Tameside And Glossop Integrated Care NHS FT	86.6%	95.3%	98.8%	3.2%								
University Hospitals of Morecambe Bay NHS FT	88.8%	92.6%	95.8%	2.7%								
Wrightington, Wigan and Leigh NHS FT	87.1%	93.6%	98.0%	2.8%								
Wythenshawe	96.4%	93.1%	100.0%	1.2%								

### 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 2 there were 11 repeats for raised IRT (CF inconclusive). Of these, 36% (4) were collected on day 21 and 73% (8) 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.

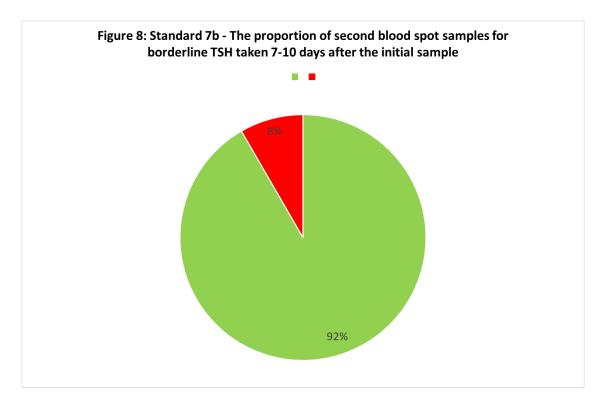


	Q2 Table 2 - Standard 7a													
Child Health Records	Age at Collection of CF Inconclusive Repeat (days)						Grand Total	%	%					
Department	17	18	21	22	23	25	Grana rotar	day 21	day 21-24					
Ashton, Wigan & Leigh					1		1	0%	100%					
Blackburn						1	1	0%	0%					
Lancaster			1				1	100%	100%					
Manchester	1		2				3	<b>67</b> %	67%					
Oldham				1			1	0%	100%					
Rochdale					1		1	0%	100%					
Stockport		1		1			2	0%	50%					
Tameside			1				1	100%	100%					
<b>Grand Total</b>	1	1	4	2	2	1	11	36%	73%					

## 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 2 displays the information by Trust.

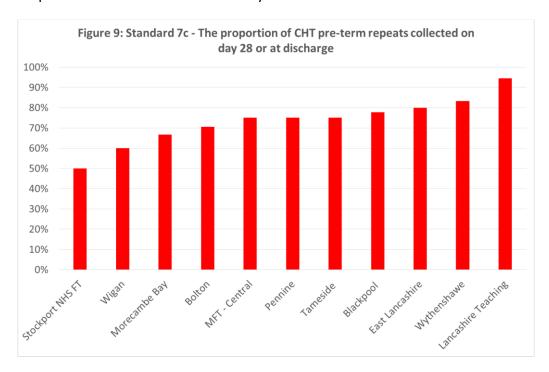


Q2 Table 3: Standard 7b												
Trust			•	betwe ection iple	-	•	Grand Total	% collected 7- 10 days after				
	7	8	9	10	12	13		original sample				
Blackpool Teaching Hospitals NHS FT					1		1	0%				
East Lancashire Hospitals NHS Trust	2	1	1	2			6	100%				
Lancashire Teaching Hospitals NHS FT	1		2				3	100%				
Manchester University NHS FT - SMH & RMCH	2		2				4	100%				
Manchester University NHS FT - Wythenshawe	1			2			3	100%				
Pennine Acute Hospitals NHS Trust		1	1				2	100%				
Stockport NHS FT			1			1	2	50%				
University Hospitals of Morecambe Bay NHS FT	1	1					2	100%				
Wrightington, Wigan and Leigh NHS FT			1				1	100%				
Grand Total	7	3	8	4	1	1	24	92%				

### 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 4, 124 CHT pre-term repeats (second samples only, avoidable repeats excluded) were received. Performance by trust is displayed in figure 9. 75% were collected on day 28 or at discharge. 5% were collected too early and required a further repeat. 20% were collected after day 28.



Of note, 6 out of 20 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

5 samples screened positive for CHT during quarter 2. All babies were referred within 3 working days.

There were 3 IMD positives (excluding HCU) and all were referred within 3 working days.

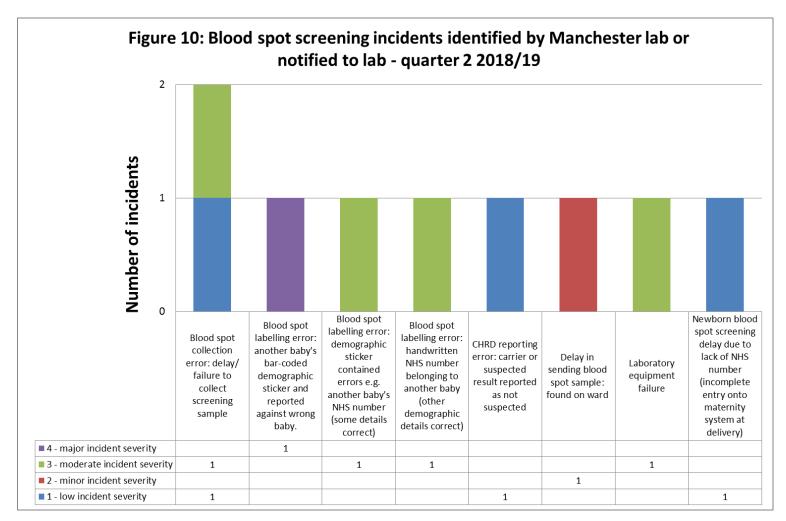
### Standard 11 - Timely entry into clinical care

The data for standard 11 is displayed in table 4.

		Ta	ble 4: Standard 11	1		
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%	3	3	100%	
CHT (suspected on first sample)	Attend first clinical appointment by 14 days of age	Acceptable: 100%	2	2	100%	
CHT (suspected on repeat following borderline TSH)	Attend first clinical appointment by 21 days of age	Acceptable: 100%	1	1	100%	2 further CHT positive results on repeat samples are excluded from this standard as the first TSH was not borderline. One baby had a normal TSH on a multi-spotted sample and the other had a positive result on the day 28 preterm repeat.
CF (2 CFTR mutations detected)	Attend first clinical appointment by 28 days of age	Acceptable: ≥ 95.0% Achievable: 100%	2	2	100%	
нси	Attend first clinical appointment by 28 days of age	Acceptable: ≥ 95.0% Achievable: 100%	1	1	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%	Repeat collected day 25, received day 29, referred day 30, appointment with CF team day 37
SCD	Attend first clinical appointment by 90 days of age	Attend first clinical appointment by 90 days of age	N/A (too soon after referral to assess peformance against standard)	7	N/A	

#### **Incidents**

Figure 10 displays blood spot screening incidents identified by the lab or notified to the lab. A summary table of moderate and severe incidents is included in the appendix.



### Appendix

	Quar	ter 2 2018-19: Standa	rd 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	786	786	746	100.00%	94.91%
Bolton NHS FT	1591	1590	1334	99.94%	83.85%
East Lancashire Hospitals NHS Trust	1602	1601	1556	99.94%	97.13%
Health Visitor	95	95	6	100.00%	6.32%
Lancashire Teaching Hospitals NHS FT	1112	1111	1083	99.91%	97.39%
Manchester University NHS FT - SMH & RMCH	1461	1459	1352	99.86%	92.54%
Manchester University NHS FT - Wythenshawe	1133	1133	1092	100.00%	96.38%
Not Stated	559	558	454	99.82%	81.22%
Pennine Acute Hospitals NHS Trust	2651	2643	2115	99.70%	79.78%
Southport & Ormskirk Hospital NHS Trust	198	197	136	99.49%	68.69%
Stockport NHS FT	870	870	805	100.00%	92.53%
Tameside And Glossop Integrated Care NHS FT	767	767	664	100.00%	86.57%
University Hospitals of Morecambe Bay NHS	783	780	695	99.62%	88.76%
Wrightington, Wigan and Leigh NHS FT	846	846	737	100.00%	87.12%
Grand Total	14454	14436	12775	99.88%	88.38%

Quarter 2 2018-19: Standard 4												
		Numbe	r of first sar	nples taken	on day:			Percenta	tage of first samples taken on day:			
Trust	4 or earlier	5	6	7	8	9 or later	4 or earlier	5	6	7	8	9 or later
Blackpool Teaching Hospitals NHS FT	2	635	93	33	6	0	0.26%	82.57%	12.09%	4.29%	0.78%	0.00%
Bolton NHS FT	1	1255	129	25	9	11	0.07%	87.76%	9.02%	1.75%	0.63%	0.77%
East Lancashire Hospitals NHS Trust	8	1361	91	16	3	3	0.54%	91.84%	6.14%	1.08%	0.20%	0.20%
Health Visitor	0	0	0	0	0	79	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Lancashire Teaching Hospitals NHS FT	7	985	44	5	4	2	0.67%	94.08%	4.20%	0.48%	0.38%	0.19%
Not Stated	0	451	42	5	2	12	0.00%	88.09%	8.20%	0.98%	0.39%	2.34%
Pennine Acute Hospitals NHS Trust	2	2196	270	47	14	19	0.08%	86.19%	10.60%	1.84%	0.55%	0.75%
Southport & Ormskirk Hospital NHS Trust	1	164	12	1	0	2	0.56%	91.11%	6.67%	0.56%	0.00%	1.11%
Stockport NHS FT	0	745	56	11	1	6	0.00%	90.96%	6.84%	1.34%	0.12%	0.73%
Tameside And Glossop Integrated Care NHS FT	0	688	29	2	2	1	0.00%	95.29%	4.02%	0.28%	0.28%	0.14%
University Hospitals of Morecambe Bay NHS FT	4	690	36	6	3	6	0.54%	92.62%	4.83%	0.81%	0.40%	0.81%
Wrightington, Wigan and Leigh NHS FT	2	758	43	4	0	3	0.25%	93.58%	5.31%	0.49%	0.00%	0.37%
Manchester University NHS FT - SMH & RMCH	4	1162	58	14	2	8	0.32%	93.11%	4.65%	1.12%	0.16%	0.64%
Manchester University NHS FT - Wythenshawe	0	1020	61	9	3	3	0.00%	93.07%	5.57%	0.82%	0.27%	0.27%
Grand Total	31	12110	964	178	49	155	0.23%	89.79%	7.15%	1.32%	0.36%	1.15%
Excludes samples with missing dates												

Quarter 2 2018-19: 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 in 3 or fewer working days of sample being taken								
Blackpool Teaching Hospitals NHS FT	783	785	99.7%								
Bolton NHS FT	1479	1512	97.8%								
East Lancashire Hospitals NHS Trust	1530	1534	99.7%								
Health Visitor	84	88	95.5%								
Lancashire Teaching Hospitals NHS FT	1103	1104	99.9%								
Manchester University NHS FT - SMH & RMCH	1317	1324	99.5%								
Manchester University NHS FT - Wythenshawe	1130	1130	100.0%								
Not Stated	498	536	92.9%								
Pennine Acute Hospitals NHS Trust	2515	2633	95.5%								
Southport & Ormskirk Hospital NHS Trust	156	195	80.0%								
Stockport NHS FT	852	868	98.2%								
Tameside And Glossop Integrated Care NHS FT	752	761	98.8%								
University Hospitals of Morecambe Bay NHS FT	744	777	95.8%								
Wrightington, Wigan and Leigh NHS FT	825	842	98.0%								
Grand Total	13768	14089	97.7%								

		*			Quarter 2	2 2018-19: Star	ndard 6 b	y 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 - SMH & RMCH	Manchester University NHS FT - Wythenshawe	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	<b>Grand Total</b>
0301: too young for reliable screening (≤ 4 days)	2	1	6	7	4	0	0	0	2	1	0	0	4	2	29
0302: too soon after transfusion (<72 hours)	0	4	2	1	9	1	0	0	5	0	0	0	1	0	23
0303: insufficent sample	4	22	13	12	4	0	0	5	9	4	10	6	3	12	104
0304: unsuitable sample (blood quality): incorrect blood application	1	18	5	3	7	11	0	0	6	7	19	15	9	4	105
0305: unsuitable sample (blood quality): compressed/damaged	0	1	0	0	1	0	0	0	3	0	2	0	0	0	7
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	1	2	2	2	2	1	0	0	2	0	2	1	0	1	16
0308: unsuitable sample: NHS number missing/not accurately recorded	0	0	1	1	3	0	0	0	7	1	0	0	2	0	15
0309: unsuitable sample: date of sample missing/not accurately recorded	1	1	6	3	3	1	0	1	6	2	1	1	2	4	32
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	1	0	3	0	1	0	0	0	2	0	0	0	0	0	7
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	10	45	36	28	25	13	0	6	37	15	34	23	20	23	315
Number of first samples received/ babies tested	770	1431	1486	1050	1249	1097	519	86	2555	183	820	723	748	813	13530
Avoidable Repeat Requests Rate	1.3%	3.1%	2.4%	2.7%	2.0%	1.2%	0.0%	7.0%	1.4%	8.2%	4.1%	3.2%	2.7%	2.8%	2.3%

					Qu	arter 2 20	018-19: S	tandard 6	by Curre	nt Hospit	al							
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	Grand Total
0301: too young for reliable screening (≤ 4 days)	2	2	0	1	16	1	1	1	1	0	0	0	0	4	0	0	0	29
0302: too soon after transfusion (<72 hours)	0	2	0	0	1	0	0	0	4	1	0	5	1	9	0	0	0	23
0303: insufficent sample	1	4	0	3	72	1	5	0	9	1	0	0	2	4	1	1	0	104
0304: unsuitable sample (blood quality): incorrect blood application	1	3	1	0	69	1	0	0	12	0	0	4	1	5	2	1	5	105
0305: unsuitable sample (blood quality): compressed/damaged	0	0	0	0	5	0	0	0	0	0	0	1	0	1	0	0	0	7
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	13	0	0	0	1	0	0	0	0	0	0	0	0	16
0308: unsuitable sample: NHS number missing/not accurately recorded	0	1	1	0	8	1	0	0	0	0	0	2	0	2	0	0	0	15
0309: unsuitable sample: date of sample missing/not accurately recorded	0	0	1	0	28	0	2	0	0	0	0	0	0	0	0	1	0	32
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	1	0	0	0	5	0	0	1	0	0	0	0	0	0	0	0	0	7
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	6	11	3	4	216	4	8	2	23	1	0	7	3	16	3	3	5	315
Number of first samples received/babies tested	83	146	17	89	12038	31	66	4	151	52	8	175	104	302	80	61	123	13530
Avoidable Repeat Requests Rate	7.2%	7.5%	17.6%	4.5%	1.8%	12.9%	12.1%	50.0%	15.2%	1.9%	0.0%	4.0%	2.9%	5.3%	3.8%	4.9%	4.1%	2.3%

Quarter 2 2018-19: Standard 7c												
Trust	Number of	Pre-term CHT :	% Prem repeats collected on day	% Prem repeats collected on day								
	Early	On time	Late	Total	28 or at discharge	28 or earlier						
Blackpool Teaching Hospitals NHS FT	0	7	2	9	78%	78%						
Bolton NHS FT	2	12	3	17	71%	82%						
East Lancashire Hospitals NHS Trust	0	4	1	5	80%	80%						
Lancashire Teaching Hospitals NHS FT	0	17	1	18	94%	94%						
Manchester University NHS FT - SMH &	0	9	3	12	75%	75%						
Manchester University NHS FT -	0	5	1	6	83%	83%						
Pennine Acute Hospitals NHS Trust	1	9	2	12	75%	83%						
Southport & Ormskirk Hospital NHS Trust	1	0	0	1	0%	100%						
Stockport NHS FT	0	3	3	6	50%	50%						
Tameside And Glossop Integrated Care NHS	0	6	2	8	75%	75%						
University Hospitals of Morecambe Bay NHS	0	2	1	3	67%	67%						
Wrightington, Wigan and Leigh NHS FT	1	3	1	5	60%	80%						
Grand Total	5	77	20	102	75%	80%						

Summary of Newborn Blood Spot Incidents Q2 2018-19												
Incident Number	Incident Date	Incident Severity	Incident Harm	Summary of incident	Further details	Lab/ Ward/ Maternity Unit						
2014620	14/06/18	3 - moderate	2 - slight	Blood spot labelling error: handwritten NHS number belonging to another baby (other demographic details correct)		Ward 10C, Burnley General Hospital						
2018606	26/07/18	1 - low		CHRD reporting error: carrier or suspected result reported as not suspected	Entered by Manchester CHRD	Bury Child Health						
2019927	03/08/18	2 - minor	1 - no harm	Delay in sending blood spot sample: found on ward	Day 28 found in drawer on day 44. Repeat sample sent.	Ward 68, SMH (NICU)						
2021440	13/08/18	4 - major	2 - slight	Blood spot labelling error: another baby's bar- coded demographic sticker and reported against wrong baby.	Two day 28 samples labelled with Twin 1 stickers. Results reported on one sample (other reported as not required)	Stepping Hill Hospital NNU						
2023767	27/08/18	1 - low	1 - no harm	Newborn blood spot screening delay due to lack of NHS number (incomplete entry onto maternity system at delivery)	Collected day 5, received day 7	Ward 68, SMH (NICU)						
2024231	30/08/18	3 - moderate	1 - no harm	Blood spot collection error: delay/ failure to collect screening sample	Collected day 11. Missed by NMGH Children's Ward on day 5.	Children's Ward, NMGH						
2025057	04/09/18	3 - moderate	2 - slight	Blood spot labelling error: demographic sticker contained errors e.g. another baby's NHS number (some details correct)	NHS number generated incorrectly on CIMIS	SMH Community Midwives						
2025840	30/07/18	3 - moderate	1 - no harm	Laboratory equipment failure	Both AutoDELIFAs down at the same time. No delay to patient results on this occasion.	NBS Lab						
2028336	20/09/18	1 - low	1 - no harm	Blood spot collection error: delay/ failure to collect screening sample	Baby in-patient on day 5. Sample collected at home day 12.	Ward C2, Wythenshawe						