Liverpool Women's NHS Foundation Trust

Trust Board

COVER SHEET

Agenda Item (Ref)	*23/24/097*		Date: 13/07/2023	
Report Title	Mortality and Learning from Deaths Report Quarter 4, 22/23			
Prepared by	Lidia Kwasnicka, Gynaecologist; Ai-Wei Tang, Consultant Obstetrician; Rebecca Kettle, Consultant Neonatologist and **Chris Dewhurst, Deputy Medical Director.**			
Presented by	**Lynn Greenhalgh, Medical Director**			
Key Issues / Messages	The Board is asked to review the contents of the paper and take assurance that there is adequate processes and progress against the requirements laid out by the National Quality Board			
Action required	Approve ☐	Receive ☐	Note ☒	Take Assurance ☒
	To formally receive and discuss a report and approve its recommendations or a particular course of action	*To discuss, in depth, noting the implications for the Board / Committee or Trust without formally approving it*	*For the intelligence of the Board / Committee without in-depth discussion required*	*To assure the Board / Committee that effective systems of control are in place*
	Funding Source (If applicable): N/A			
	For Decisions - in line with Risk Appetite Statement – Y *If no – please outline the reasons for deviation.*			
	It is it is requested that the members of the Board review the contents of the paper and take assurance that there are adequate governance processes in place when learning from deaths. In addition, as per The Learning from Deaths framework requirements the board are requested to note: *• number of deaths in our care* *• number of deaths subject to case record review* *• number of deaths investigated under the Serious Incident framework* *• number of deaths that were reviewed/investigated and as a result considered due to problems in care* *• themes and issues identified from review and investigation* *• actions taken in response, actions planned and an assessment of the impact of actions taken.* *• the care issues identified in the antenatal management from referring trusts. It is recommended that a review of antenatal care findings from the previous PMRT reviews is undertaken and if any common themes identified that this is presented to the local maternity system*			
Supporting Executive:	Lynn Greenhalgh Medical Director			

Equality Impact Assessment *(if there is an impact on E,D & I, an Equality Impact Assessment **MUST** accompany the report)*

Strategy ☐ Policy ☐ Service Change ☐ Not Applicable ☒

Strategic Objective(s)

To develop a well led, capable, motivated and entrepreneurial ***workforce***	☒	To participate in high quality research and to deliver the most ***effective*** Outcomes	☒
To be ambitious and ***efficient*** and make the best use of available resource	☒	To deliver the best possible ***experience*** for patients and staff	☒
To deliver ***safe*** services	☒		

Link to the Board Assurance Framework (BAF) / Corporate Risk Register (CRR)

Link to the BAF (positive/negative assurance or identification of a control / gap in control) *Copy and paste drop down menu if report links to one or more BAF risks*	Comment: N/A
Link to the Corporate Risk Register (CRR) – CR Number:	Comment: No

EXECUTIVE SUMMARY

This "Mortality and Learning from Deaths" paper presents the mortality data for Q4 2022/23 with the learning from the reviews of deaths from Q3 2022/23. The 'learning' can take some time after the death occurs due to the formal processes and MDT review process that occur. This results in the learning being presented a quarter behind the data.

In quarter 4 there were the following deaths:

Adult deaths	**0**
Direct Maternal Deaths	**1**
Stillbirths	**4 (excluding ToP)**
Neonatal deaths	**17 (including 6 in-utero transfers and 3 post-natal transfers)**

The annualised data for 22/23 is:

Adult deaths	**3 (1 unexpected)**
Direct Maternal Deaths	**1**
Stillbirths	**3.5/1000 births (excluding ToP) cf. 4.9/1000 in 21/22**
Neonatal deaths	**6.4/1000 live births (inborn mortality) cf. 3.6/1000 in 21/22**

There was one maternal death in Q4 22/23. There was also a death in Q3 22/23 of a woman who delivered at LWH after transferring her care from another area outside of Cheshire and Mersey. She subsequently died outside of C+M with her death reported to us in Q4.

The stillbirth rate was lower in 23/24 than last year and is similar to 2020-21. Benchmarking data is presented for 23/24 which shows that LWH stillbirth rate is below the average for similar sized maternity services.

There was an increase in Neonatal mortality in 2022/23 with 6.4/1000 live births (n=58) deaths in 2022/23 compared with 3.6/1000 live births in 2021/22 (41 in 21/22). The

Learning from PMRT reviews is presented with more detailed information relating to the reviews in the paper.

The MBRRACE data for 2021 was reported in 2021 and is included in this paper. Given LWH outlier status there is a requirement for these data and actions to prevent unavoidable deaths to be reviewed by the Trust board. Given we had already identified high stillbirth rates in 2021, a thematic review of stillbirths and an ODN review of mortality has already been presented to the board for this period.

Recommendation: It is it is requested that the members of the Board review the contents of the paper and take assurance that there are adequate governance processes in place when learning from deaths. In addition, as per The Learning from Deaths framework requirements the board are requested to note:

- number of deaths in our care
- number of deaths subject to case record review
- number of deaths investigated under the Serious Incident framework
- number of deaths that were reviewed/investigated and as a result considered due to problems in care
- themes and issues identified from review and investigation
- actions taken in response, actions planned and an assessment of the impact of actions taken.

- the care issues identified in the antenatal management from referring trusts. It is recommended that a review of antenatal care findings from the previous PMRT reviews is undertaken and if any common themes identified that this is presented to the local maternity system

MAIN REPORT

This is the quarter 4 2022/23 mortality report for adults, stillbirths and neonates. The report is part of the regular reporting schedule of the Trust to ensure that there is oversight and assurance monitoring of the mortality rates related to the clinical activity of the Trust. This is in accordance with recommendations by the National Quality Board "National Guidance on Learning from Deaths" and the Care Quality Commission. It outlines the work taking place operationally and being overseen by the Safety and Effectiveness Sub - Committee and Quality Committee.

The data presented in this report relates to Q4 2022-23. The learning relates to deaths in Q3 2022-23. This is due to the multidisciplinary review of deaths not occurring in the quarter when the death occurred.

Additional data/information relating to mortality is presented in the embedded word document.

1 Adult Mortality

The data relating to adult mortality is pure data and is not standardised mortality data (such as SHMI) due to the low number of deaths in our care and the complexity of the patients cared for by the Trust. The use of pure data and not standardised mortality rates has been previously agreed with the CCG as the Trusts approach to monitoring mortality rates.

1.1 Obstetric Mortality Data Q4 2022/23

There was 1 direct maternal death (deaths within 42 days of delivery) in Q4. This related to the death of a woman at 18 weeks gestational age who deteriorated whilst an in-patient at LWH. She was transferred to LUFHT where she sadly died. This death will be investigated via HSIB and the coroner.

1.2 Learning from Obstetric Mortality Data Q3 2022/23

There was a death of a woman in late Q3 who was originally booked in a hospital outside of the Cheshire and Merseyside network. She delivered at LWH due to a fetal/neonatal condition which resulted in a neonatal death. She was discharged to her local hospital subsequently home, where she died unexpectedly. This is not recorded as an LWH maternal death death due to the antenatal and postnatal care being provided by another organisation. This death will be investigated via HSIB and the coroner with the Trust contributing to these investigations. The learning will be presented in due course.

In Q3 2021/22, there was one death of a woman who died approximately 8 weeks after delivery. This case is subject to a Coronial investigation and, as per the requirements of the Ockenden review, a multiagency review has been completed. The Coroner's inquest has not yet taken place but is planned for Q2/3 22/23. The internal SI has been completed with learning included in previous 'Learning from Deaths' report. The outcome from the Coroner's investigation will be included in this report when available.

1.3 Gynaecology Mortality data Q4 2022/23

There were 0 deaths within Gynaecology Oncology in Q4 2022/23.
There were 0 unexpected deaths within Gynaecology services in Q4 2022/23.

1.4 Learning from Gynaecology Mortality Q3 2022/23

There were no deaths to review from Q3 2022/23. From Q2 2022/23 There was one death of a woman who had surgery at LWH before being transferred to LUFHT where she later died. This death is reported as an LUFHT death but was subject to SI at both organisations. The learning form this SI included that CT scanning, rather than abdominal x-ray is indicated in the management of post-surgery bowel obstruction. The lack of onsite surgical team, CT scan and radiology was identified as the root cause.

Of note we are aiming to identify deaths of women who die following in-patient transfer and/or in the post operative period, who die in other organisations. Whilst these deaths are not included in our required reporting data, we recognise the potential learning that is within these cases.

2 Stillbirths

2.1 Stillbirth data

There were 4 stillbirths, excluding terminations of pregnancy (TOP) in Q4 2022/2023. This has resulted in an adjusted stillbirth rate of 2.3/1000 live births for Q3. This is the lowest stillbirth rate for past 3 years although caution must be taken in interpreting small numbers.

STILLBIRTHS	Apr-22	May - 22	June-22	July-22	Aug-22	Sept-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	TOTAL 2022/23
Total Stillbirths	3	4	3	7	3	3	2	2	6	2	4	1	40
Stillbirths (excluding TOP)	1	4	2	3	3	1	1	2	5	1	3	0	26
Births	602	654	613	645	659	656	649	596	619	630	519	613	7455
Overall Rate /1000	3.3	6.1	4.9	10.9	4.6	3.0	4.7	6.7	9.7	3.2	7.7	1.6	5.4
Rate (excluding TOP)/1000	1.7	6.1	3.3	4.7	4.6	1.5	1.6	3.4	8.1	1.6	5.8	0	3.5
Pregnancy loss 22-24 weeks (excluding TOP)	0	0	0	0	0	1	1	1	1	1	0	0	5

Table 1 Stillbirth rates > 24 weeks for 2022-23. The annual stillbirth rate is 3.5/1000 births

Quarter	Rate 2019/20	Rate 2020/21	Rate 2021/22	Rate 2022/23
Q1	4.0	5.5	4.0	3.7
Q2	4.1	2.5	5.3	3.6
Q3	1.5	2.7	5.1	4.3
Q4	1.7	3.2	5.0	2.3
ANNUAL	2.9	3.4	4.9	3.5

Table 2: Quarter and Annual Stillbirth rate/1000 births since 2019/20 (excluding terminations)

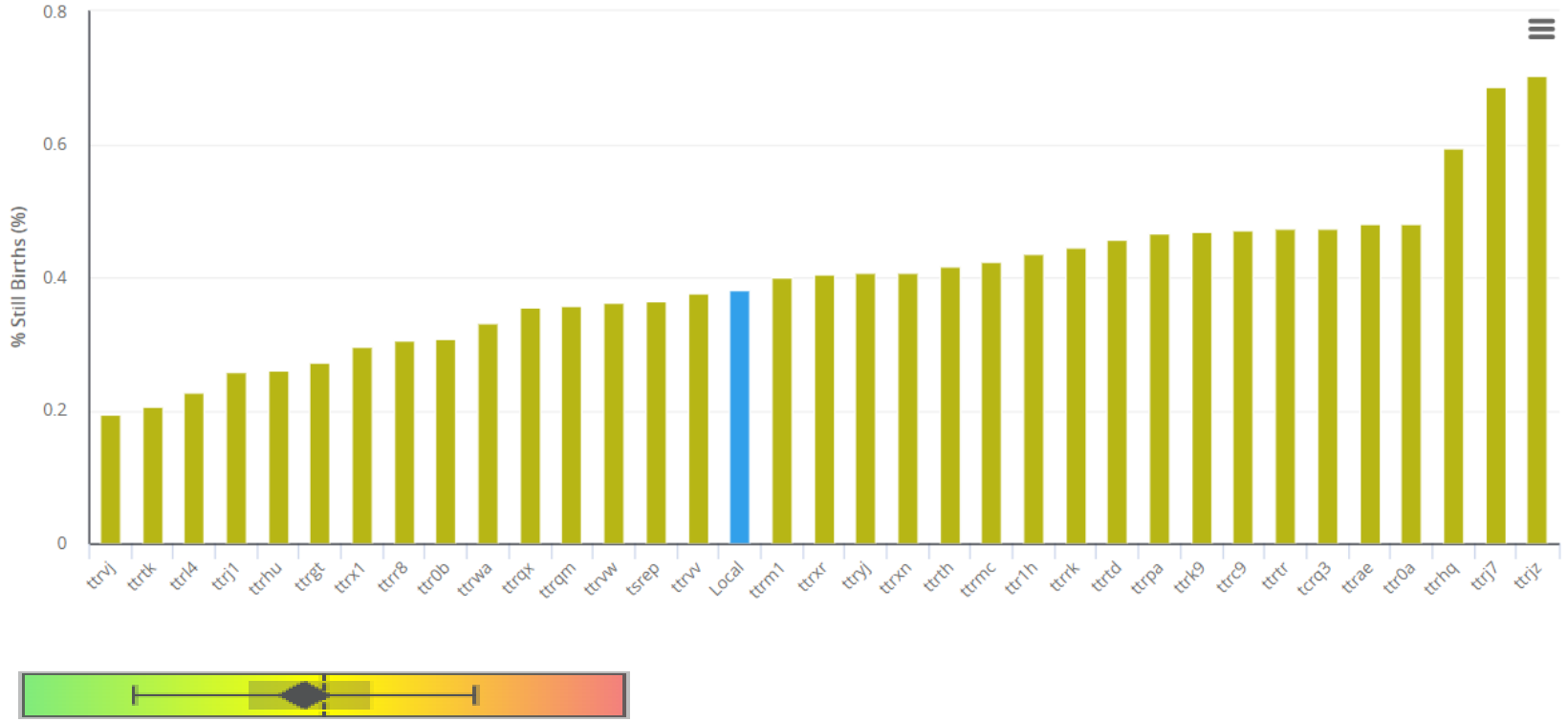

Figure 1 and 2. Stillbirth data for with LWH benchmarked against other large maternity services (>7000 deliveries) 2022-23. The blue bar and triangle are LWH data demonstrating the observed rate is below the average for comparator organisations

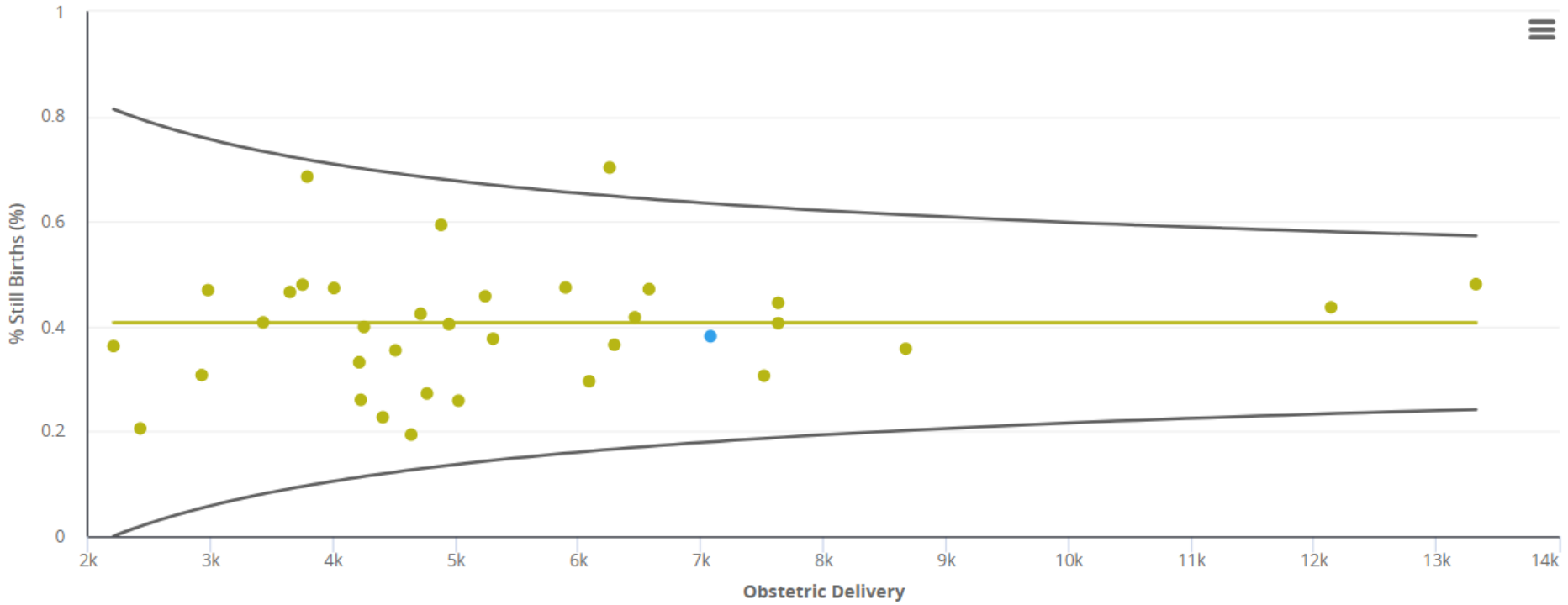

Fig 3 Funnel Plot demonstrating LWH stillbirth rate is within the expected range and below average for comparator trusts

The stillbirth rate for Q4 22/23 is the lowest since 2019/20. The stillbirth rate in 2022-23 is also lower than seen in 2021-22. There was one pregnancy losses (excluding TOP) born between 22 – 24 weeks gestational age.

All stillbirths in Q4 were of white ethnicity and spoke English as a first language. 3/5 (60%) of pregnancy losses from 22 weeks gestational age live in the most deprived decile. 4/5 (80%) were non-smokers.

2.1 Learning from Stillbirth and PMRT reviews Q3 2022-23 N=11

All eligible cases (Stillbirths > 22 weeks but excluding ToPs) underwent a full multidisciplinary team PMRT review with external clinician presence. Care from across the antenatal and intrapartum period was subject to clinical and managerial scrutiny. All bereaved parents were invited to be involved in the review process by submitting comments and questions via the Honeysuckle Team for discussion at the MDT Review.

The reviews of Q3 stillbirths (n=11) identified that 4 (37%) cases had no antenatal care issues identified and 6 (55%) had care issues identified which would not have changed the outcome of the pregnancy. There was 1 case (9%) where care care issues were identified which may have affected the outcome of the pregnancy. This was related to a delay in arranging investigations following CTG. The antenatal CTG guideline is being updated and a change to FMU scanning procedures has been implemented.

5 (45%) cases had issues identified in the postnatal care. Of note, incomplete investigations being completed occurred and has been highlighted in previous reports. A pictogram has been developed to assist in ensuring all investigations are completed.

Grade	Care in antenatal period	Percentage (%)	Care provided after Stillbirth	Percentage (%)
A	4	36.4	6	54.5
B	6	54.5	3	27.3
C	1	9.1	2	18.2
D	0	0	0	0

Table 3 PMRT review panel grading of care provided in cases of Stillbirth (N=11)

The attached appendices provide information on progress with on-going actions from related to prior stillbirths.

3. Neonatal Mortality

3.1 Neonatal mortality Data Q4 2022/23

Neonatal deaths can be reported in several ways. The population can include in-born babies only, LWH booked pregnancies or all babies cared for in LWH (including babies transferred to LWH from other care providers). Deaths may be those within 28 days (reported in MBRRACE), those occurring prior to discharge from the NICU and those who die following transfer to another hospital. The data may include or exclude babies with congenital anomalies. The table below presents the total mortality at LWH, and mortality for those babies born at LWH in a rolling 12-month period.

	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	March-23	Total
Total Mortality	3	7	3	7	3	4	5	5	6	**7**	**3**	**7**	58
INBORN Neonatal Mortality	**2**	**4**	**3**	**5**	**3**	**4**	**5**	**5**	**5**	**6**	**2**	**6**	**48**
BORN + DIED LWH Neonatal Mortality	---	---	---	---	---	---	1	2	3	***5***	***2***	***5***	
Births	602	654	613	645	659	656	649	596	619	**630**	**519**	**613**	7455
INBORN Neonatal Mortality Rate/1000LB	**3.3**	**6.1**	**4.9**	**7.6**	**4.6**	**6.1**	**7.7**	**8.4**	**8.1**	**9.5**	**3.9**	**9.8**	**6.4**

Table 4: NICU Mortality by month for the past 12 months.

Quarter	NMR all babies	NMR *in born*
Q1 (22_23)	7.0	4.8
Q2 (22_23)	7.2	6.2
Q3 (22_23)	8.6	8.0
Q4 (22_23)	9.6	7.9
Annual	7.8	6.4

Table 5: Neonatal Mortality Rate per quarter. Annual inborn mortality was 6.4/1000 live births.

In this quarter there was a total of 17 deaths. 6/17 (35%) of these babies were born following an in-utero transfer from another hospital provider. 3/17 was a postnatal transfer (18%). The cause of death was attributed to congenital anomalies in 3/17 (18%) of deaths. 11/17 babies (65%) were born at < 28 weeks gestational age.

16/17 (94%) were born to mothers of white British background. All (100%) families spoke English as a first language. In 13 babies, deprivation data was obtainable with 4/13 (30%) born to mothers in the lowest decile for deprivation.

The annual inborn mortality rate for neonatal deaths is higher in 2022/23 than in 2021/22 (6.4/1000 vs 3.6/1000) The previous year's mortality rate was particularly low and it may be that this is "regression to the mean". However, a review of the annual neonatal mortality for 2022/23 will be undertaken. This will include a review of the data related to IUTs and antenatal care received in other organisations. On reviewing the benchmarking data reported through the Vermont Oxford Network, it is reassuring that the mortality for in-born babies <1500g remains low for 2022. (see below).

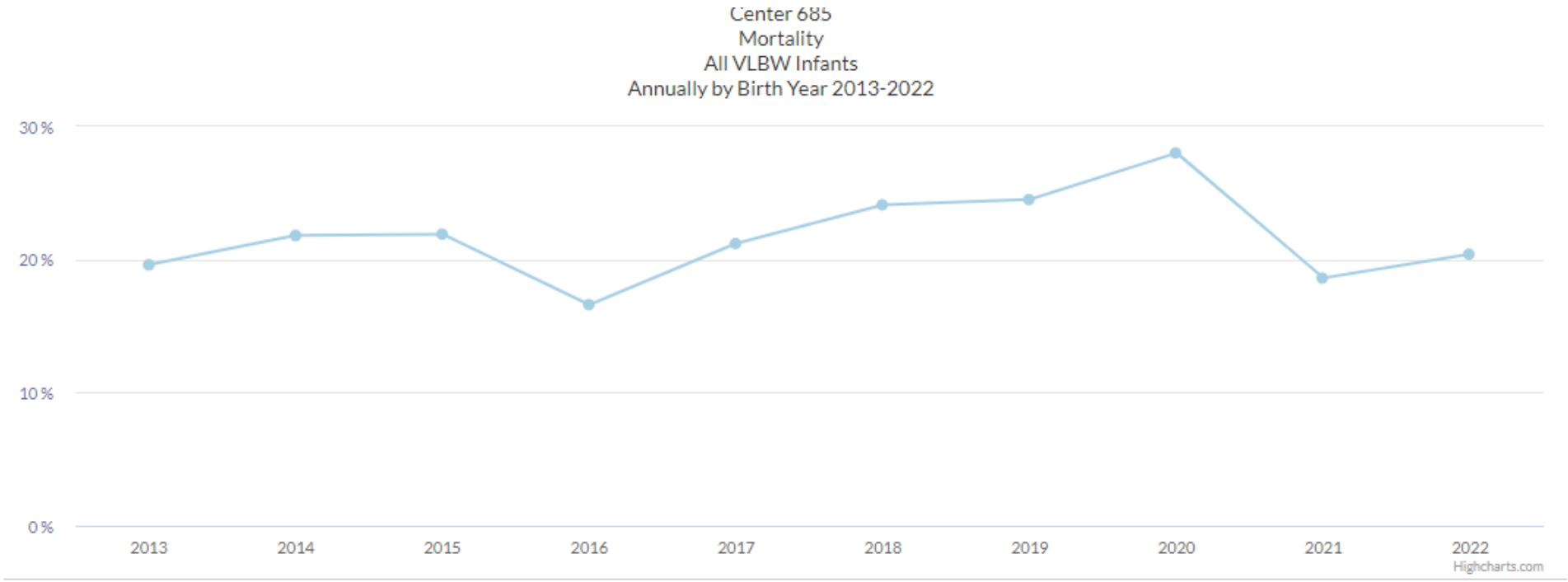

Figure 3. Mortality for inborn VLBW babies (<1500g) 2013 - 2022. This demonstrates the improvement in mortality in this population in 2021 has been sustained in 2022.

3.3. Learning from neonatal mortality reviews for Q3

There were 9 deaths subject to a PMRT review. There were no cases identified with care issues which were likely to have made a difference to the outcome. There was 1 (25%) cases where issues were identified in the antenatal care that may have affected the outcome. This was related to the escalation of ruptured membranes from the MAU. The MAU triage process is being reviewed as part of a the MAU QI project.

There were two cases (22%) where neonatal care issues that may have affected the outcome. One related to insertion of a line that was thought to be venous but was, in fact, arterial. This has been subject to an SI with an action plan developed to manage line

insertion. The other identified several issues relating to hypothermia, a delay in blood transfusion and positioning of the endotracheal tube. All have actions assigned and will be monitored within division.

There were three cases (19%) identified where antenatal care issues may have made a difference to outcome. This related to communication issues. There were 7/16 (44%) incidents of neonatal care that may have made a difference to the outcome. Airway management was identified in 3 of these with an ongoing QI project underway to address this issue.

Other Learning included the following:

- Non-colocation with other paediatric specialities remains an issue, resulting in delayed transfer for specialist input.

The attached appendices provide information on progress with on-going actions from related to prior deaths.

4. MBRRACE Report for Perinatal Mortality in 2021 (see Appendix for report)

In May 2023, the MBRRACE data for 2021 was published. MBRRACE report on stillbirths and neonatal deaths within 28 days of life (extended perinatal mortality). These data provide benchmarking data for perinatal services, with LWH compared against other trusts with a level 3 NICU and neonatal surgery service.

The data is stabilised and adjusted to account for mother's age, socio-economic deprivation, baby's sex and ethnicity, multiplicity, and (for neonatal deaths only) gestational age at birth. Of note, however, the adjustment for deprivation is at the quintile level. This means that populations such as Liverpool's can appear to be similar to those in other cities (eg Manchester), however if deprivation deciles are reviewed, the populations look different (e.g. Liverpool having 49.6% and Manchester having 33.2% in the lowest decile).

The LWH data for 2021 shows that the stabilised and adjusted mortality is >5% higher than the average for similar trusts. As LWH is >>5% higher than the average for similar trusts, the Trust should review their PMRT and HSIB investigations to identify any avoidable causes of mortality in their organisation. This information should also be discussed at trust board level and shared with Local Maternity and Neonatal Systems and Integrated Care Boards to ensure early action and support. (see letter in appendices). This has already been completed with the thematic review of stillbirths presented to QC in Q2 22/23 and the neonatal review of mortality by the ODN including this time-period. Action plans for both reducing stillbirths and neonatal mortality have been developed and monitored through division.

It is important to note that as we provide both surgical and cardiac services via our FMU, neonatal unit and in partnership with Alder hey Children's Hospital we have higher rates of babies born with congenital abnormalities. Once congenital anomalies are removed from the MBRRACE data, the mortality rates for LWH are all within 5% of the average for comparator trusts. This is the first time the mortality for neonatal deaths has been within this measure (see Fig 4 below).

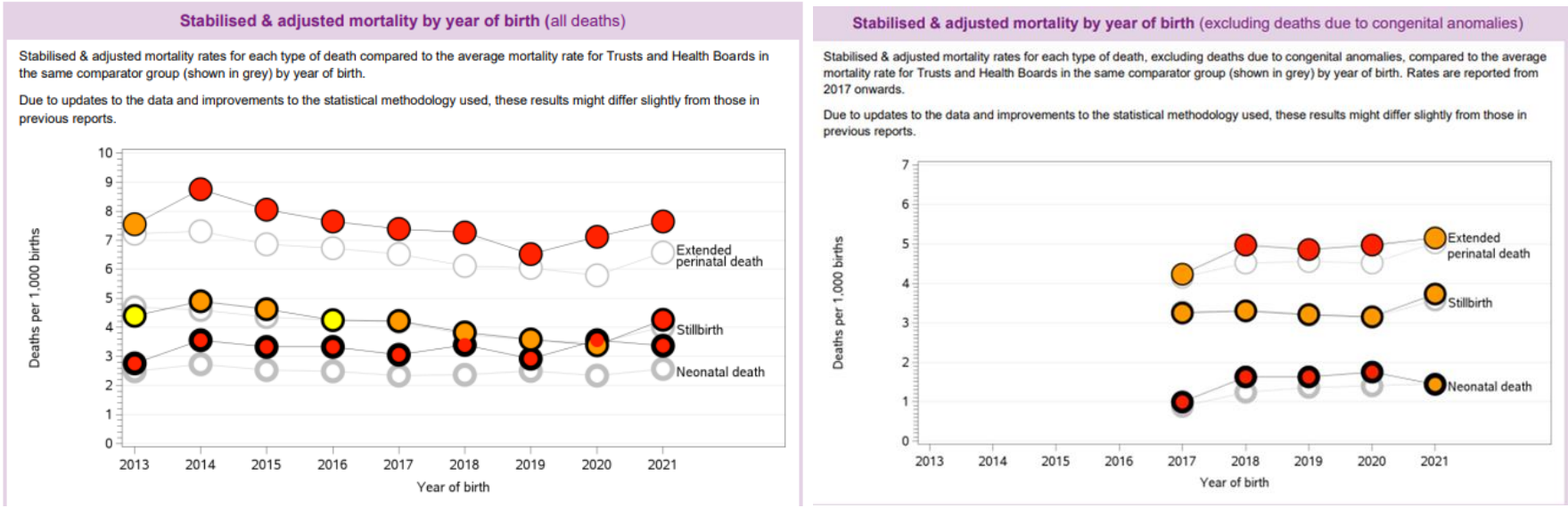

Fig 4. Stabilised and Adjusted Mortality per year of birth. Left = includes congenital anomalies. Right = excludes congenital anomalies.

5. Recommendations

It is it is requested that the members of the Board review the contents of the paper and take assurance that there are adequate governance processes in place when learning from deaths. In addition, as per The Learning from Deaths framework requirements the board are requested to note:

- number of deaths in our care
- number of deaths subject to case record review
- number of deaths investigated under the Serious Incident framework
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- themes and issues identified from review and investigation
- actions taken in response, actions planned and an assessment of the impact of actions taken.

The increased mortality rate for neonatal in-born babies will be reviewed with data presented to QC.

It is recommended that the Trust board via QC receive the MBRRACE data for 2021 and are assured that both the neonatal and stillbirth data have already been reviewed as part of the focus on neonatal mortality and stillbirths.

6. Appendices

Available to Board members in the supporting documents folder in AdminControl

Stillbirth report

Neonatal Mortality Report

MBRRACE report 2021

MBRRACE letter May 2023