UNIVERSITY HOSPITALS BIRMINGHAM NHS FOUNDATION TRUST
BOARD OF DIRECTORS
THURSDAY 29 JULY 2021

Title:	**CLINICAL QUALITY MONITORING REPORT**
Responsible Director:	Prof. Simon Ball, Chief Medical Officer
Contact:	Mariola Smallman, Head of Chief Medical Officer's Services, 13768

Purpose:	To present an update to the Board	
Confidentiality Level & Reason:	None	
Strategy Implementation Plan Ref:	#2 Eliminate unwarranted variation in services for patients through aligning and standardising pathways and service delivery #3 Provide the highest quality of care to patients through a comprehensive quality improvement programme #4 Meet regulatory requirements and operational performance standards, in line with agreed trajectories	
Key Issues Summary:	• Latest performance for a range of mortality indicators (CUSUM, SHMI, HSMR). • Summary of Serious Incidents (SIs) meeting Never Event criteria reported between 8th April and 13th July 2021 • Learning from Deaths, Quarter 1, 2021/22 • Child Death Reviews, Quarter 4, 2020/21 • Perinatal Mortality Reviews, Quarter 3, 2020/21	
Recommendations:	To discuss the contents of this report.	
Approved by:	Prof. Simon Ball	Date: 16/07/2021

UNIVERSITY HOSPITALS BIRMINGHAM NHS FOUNDATION TRUST

BOARD OF DIRECTORS
THURSDAY 29 JULY 2021
CLINICAL QUALITY MONITORING REPORT
PRESENTED BY CHIEF MEDICAL OFFICER

1. Introduction

The aim of this paper is to provide a patient safety update to the Board of Directors, based on information reported as part of the Clinical Quality Monitoring Group (CQMG) and the Clinical and Professional Review of Incidents Group (CaPRI) meetings. The Board of Directors are requested to discuss the contents of this report and approve any actions identified.

2. Mortality - CUSUM

UHB had 3 CCS (Clinical Classification System) diagnosis group triggers and 3 groups with higher than expected numbers of mortalities in March 2021. These cases are subject to internal review processes.

- Triggers:
    - Abdominal pain – 1 observed death compared to 0 expected
    - Septicaemia (except in labour) – 39 observed deaths compared to 31 expected
    - Peritonitis and intestinal abscess – 2 observed compared to 1 expected

- Higher than expected:
    - Chronic renal failure – 1 observed death compared to 0 expected
    - Complication of device; implant or graft – 6 observed deaths compared to 3 expected
    - Coronary atherosclerosis and other heart disease – 3 observed deaths compared to 1 expected

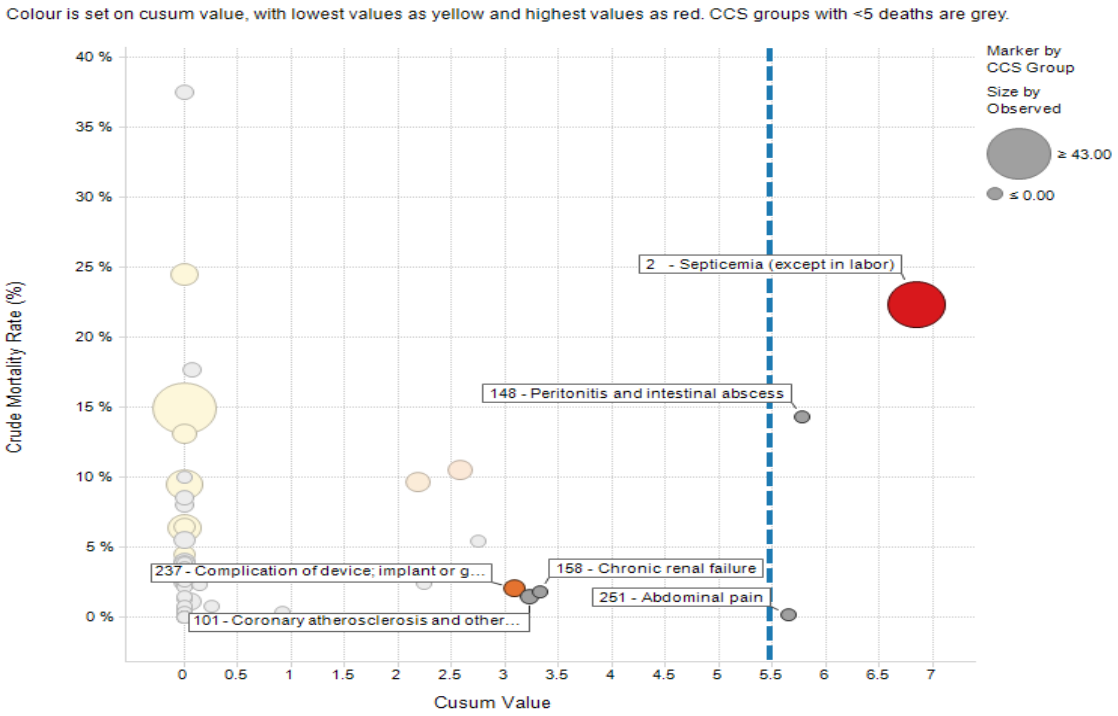


Figure 1: CCS graph for March 2021

3. Mortality - SHMI (Summary Hospital-Level Mortality Indicator)

UHB's SHMI performance during the period March 2020 to February 2021 was 96. The expected level is 100. There were 5292 observed deaths, compared with 5485 expected.

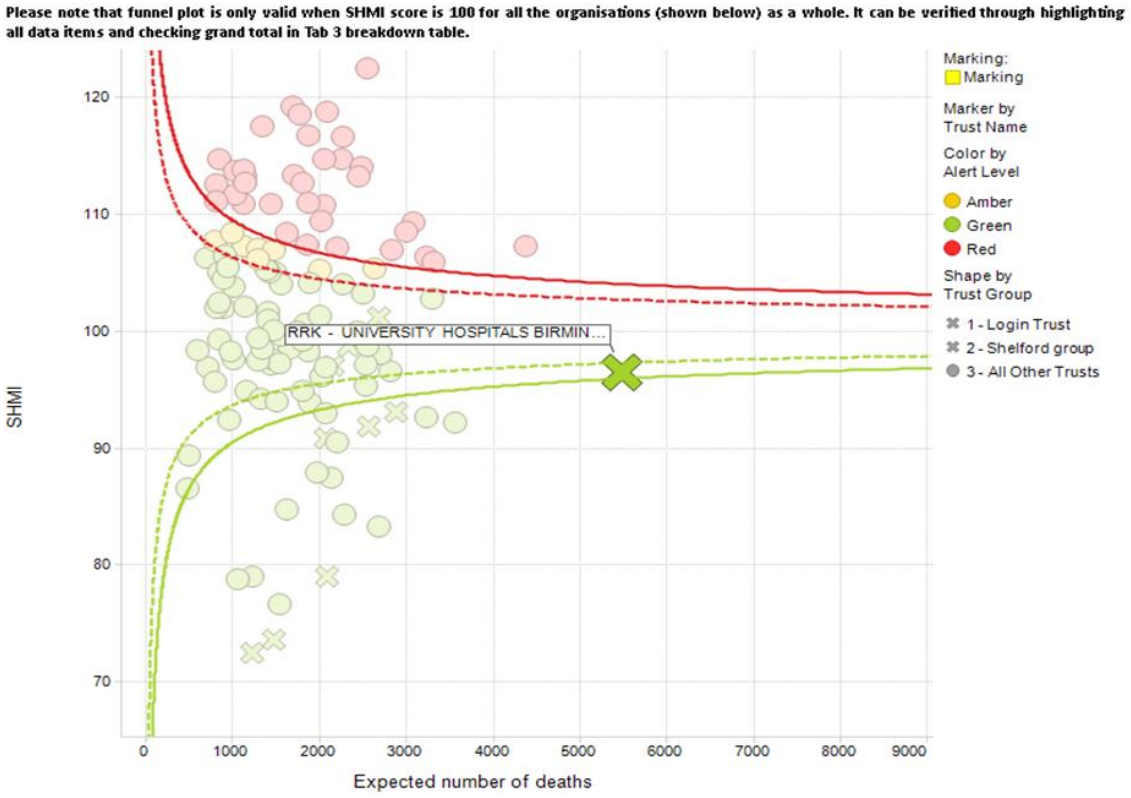


Figure 2: SHMI March 2020 to February 2021

SHMI March 2020 to February 2021						
Treatment Site	SHMI	Expected number of deaths	No. of patients discharged who died in hospital or within 30 days	Number of total discharges	Crude mortality rate	Obs - Exp
Good Hope Hospital	91	1286	1171	41590	2.8%	-115
Heartlands Hospital	100	1782	1775	67535	2.6%	-7
Queen Elizabeth Hospital	99	2235	2218	51916	4.3%	-17
Solihull Hospital	63	174	109	10217	1.1%	-65
Grand total	96	5486	5292	172185	3.1%	-194

4. Trust HSMR (Hospital Standardised Mortality Ratio)

UHB HSMR between April 2020 and March 2021 was 103, due to 3379 observed deaths, compared to 3267 expected.

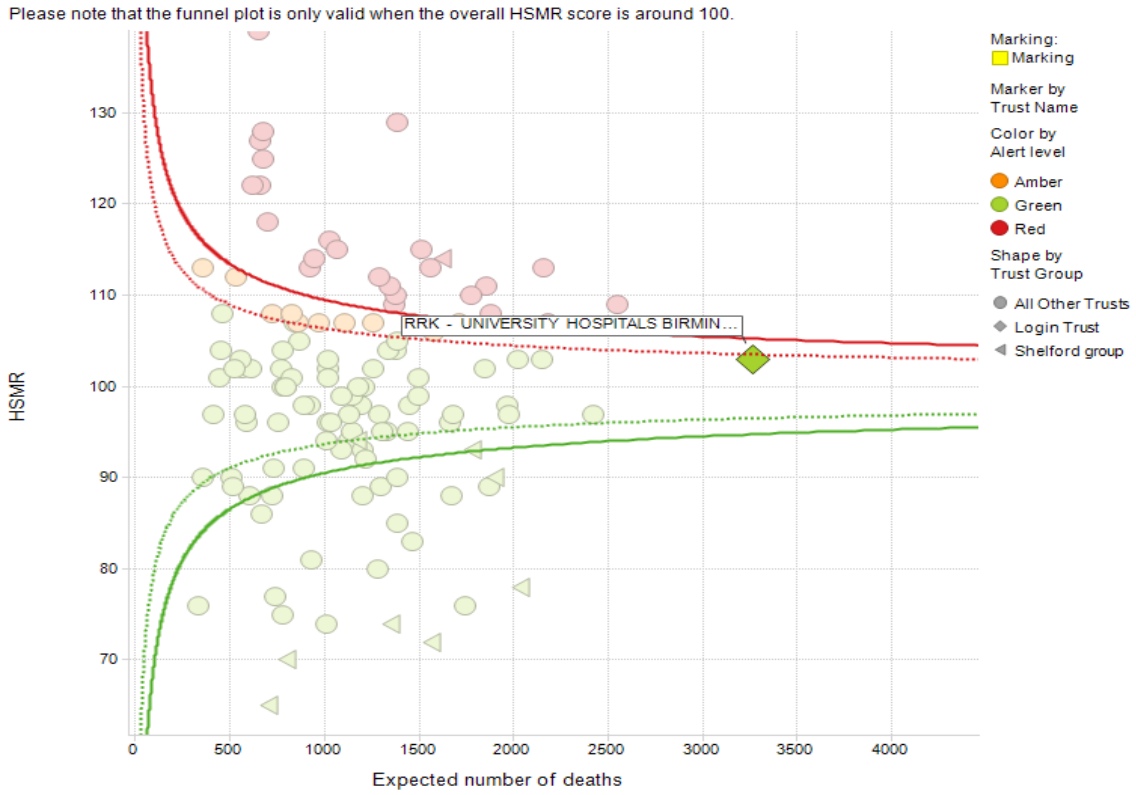


Figure 3: HSMR April 2020 to March 2021

HSMR April 2020 to March 2021						
Treatment Site	Number of discharges	Number of expected deaths	Number of deaths	HSMR	Crude mortality rate	Obs - Exp
Good Hope Hospital	20725	725	808	111	3.9%	83
Heartlands Hospital	27910	1056	1180	112	4.2%	125
Queen Elizabeth Hospital	29259	1412	1344	95	4.6%	-68
Solihull Hospital	9144	55	27	49	0.3%	-28
Grand total	91398	3267	3379	103	3.7%	112

5. Learning from Deaths – Q1 2021/22

The Learning from Deaths, Quarter 1, 2021/22 update is at Appendix A.

6. Child Death Review Process

A summary of child death reviews for Quarter 4, 2021/22, is at Appendix B.

7. Perinatal Mortality Reviews

A summary of perinatal mortality reviews for Quarter 3, 2020/21, is at Appendix C.

8. Never Events

The Trust reported two Never Events between 8th April and 13th July 2021. The first, in May 2021 was a retained guidewire in a femoral dialysis central venous catheter. The second, in June 2021, was the insertion of a wrong power intra-ocular lens implant. Both cases have been reported as Serious Incidents and investigations are underway.

9. Recommendations

The Board of Directors is asked to:

Discuss the contents of this report.

Prof Simon Ball
Chief Medical Officer

Appendix A

Learning from Deaths
Quarter 1, 2021/22

1. Introduction

The purpose of this report is to provide the Board of Directors with a summary of the all inpatient death Medical Examiner reviews between 1st April and 30th June 2021.

2. The Trust's process for reviewing inpatient deaths

The Trust has a process for escalating reviews of inpatient deaths and outcomes of Medical Examiner and Morbidity and Mortality (M&M) reviews.

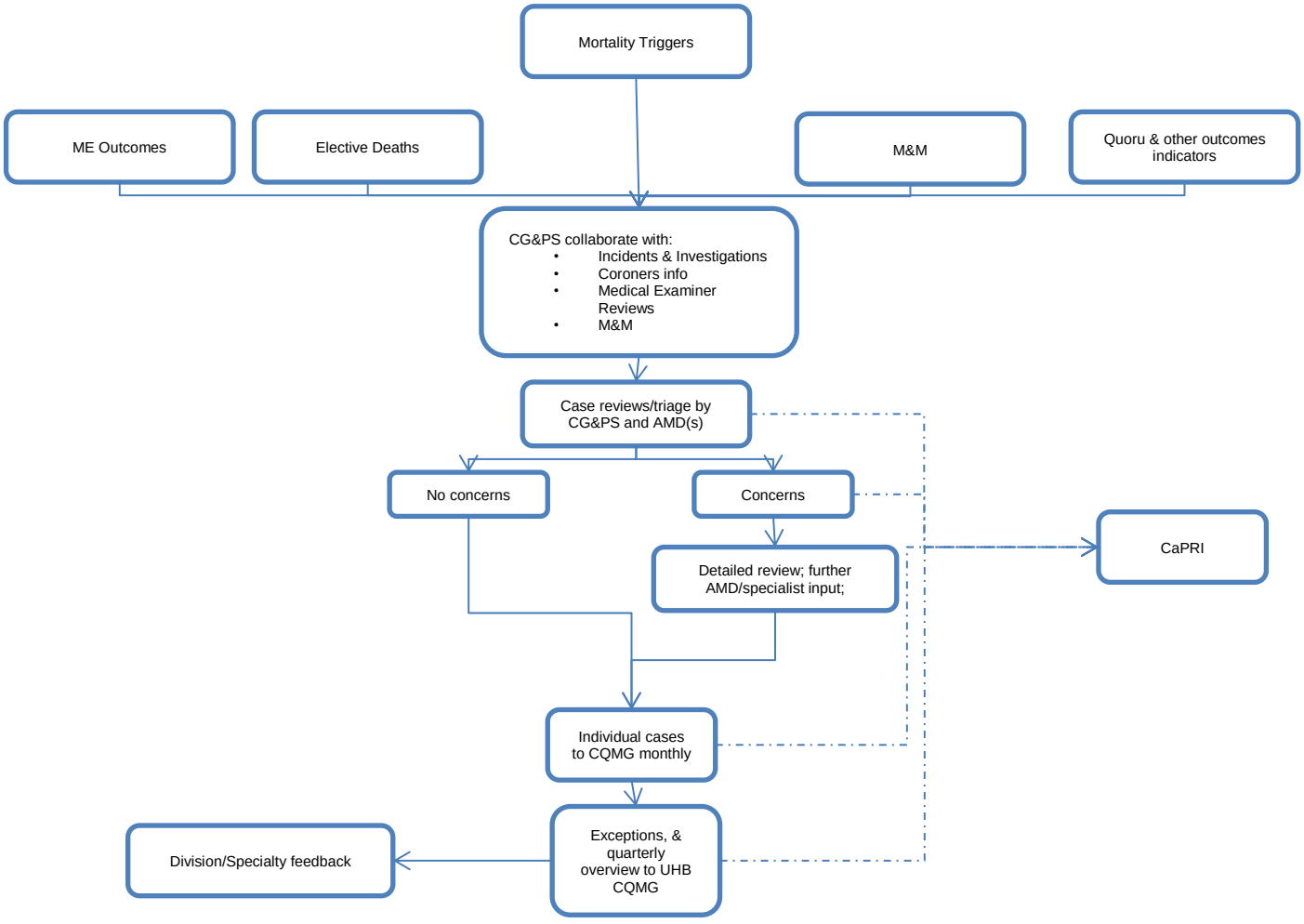


Figure 1: Trust Mortality Review Process

3. External Measures

In accordance with the National Quality Board's Learning from Deaths guidance, the Trust is required to include the following information in a public board paper on a quarterly basis:

- The total number of inpatient deaths in the Trust
- The total number of deaths receiving a front line review
- The number identified to be more likely than not due to problems in care

University Hospitals Birmingham's (UHB) definition of more likely than not due to problems in care is based on the Royal College of Physician's (RCP) Avoidability of Death scoring system. Any case that scores a 3 or less is considered to be possibly due to problems in care and therefore a possibly avoidable death.

The RCP Avoidability scoring system is defined as follows:

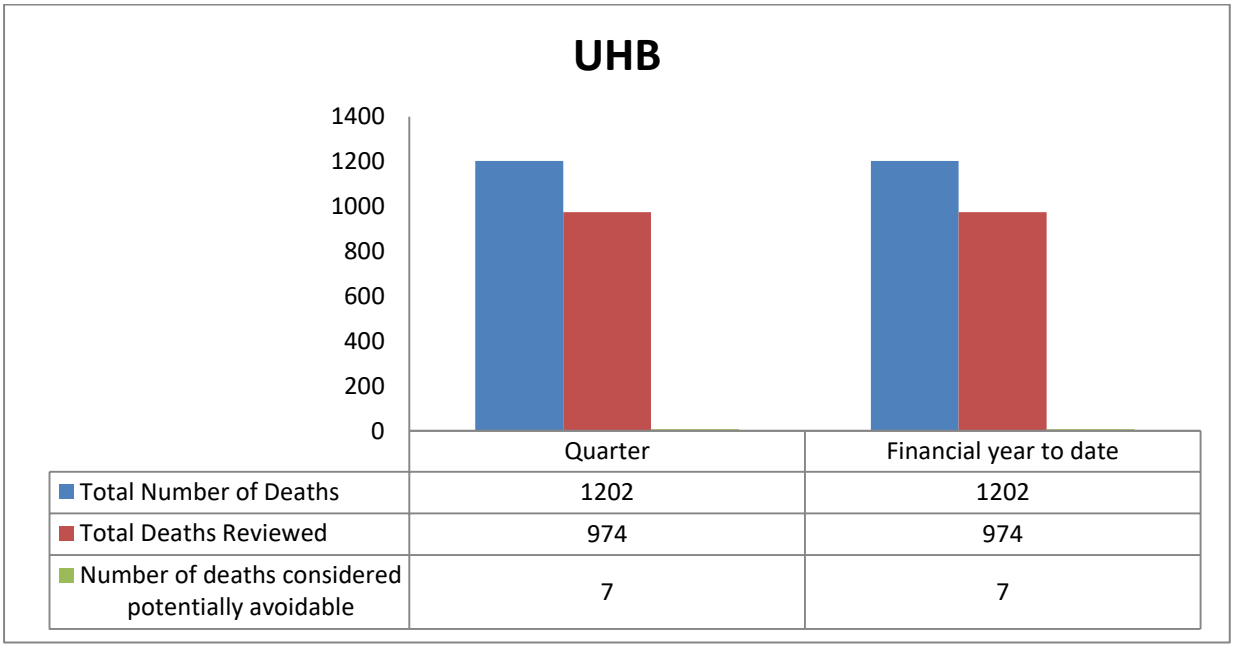
- Score 1: Definitely avoidable
- Score 2: Strong evidence of avoidability
- Score 3: Probably avoidable
- Score 4: Possibly avoidable but not very likely
- Score 5: Slight evidence of avoidability
- Score 6: Definitely not avoidable

Medical Examiners (MEs) will not have had any input into the care of the patient they are reviewing and are not specialists in the clinical specialty of the deceased patient. This is intended to provide an independent opinion into the case. MEs are expected to be overly critical and cautious, to prompt further review into cases where there is the suggestion of shortfalls in care. Any cases which are identified by MEs as having potential shortfalls in care are escalated for further review as per usual Trust processes.

Emergency legislation (Coronavirus Act 2020) includes changes to death certification, registration and cremation paperwork. During the pandemic it was necessary to temporarily suspend scrutiny. However, retrospective scrutiny was subsequently completed for approximately half of these cases, and any meeting the criteria for further follow-up were escalated via usual governance processes. Oversight of coroner referrals and death certification continues during any period of temporary scrutiny suspension.

4. UHB Quarter 1, 2021/22, Summary

The graph overleaf shows the total number of deaths within the Trust during the last quarter, the total number of deaths reviewed by MEs, and the number considered potentially avoidable.



	Quarter	Financial year to date
Total Number of Deaths	1202	1202
Total Deaths Reviewed	974	974
Number of deaths considered potentially avoidable	7	7

Figure 2: Number of front line reviews of deaths and those considered avoidable (a score of 3 or less on the RCP Avoidability of Death scoring system) based on front line Medical Examiner reviews.

Seven deaths received a score of three or less, therefore meeting the criteria for being classified as potentially avoidable. Of these cases, three had been flagged for higher investigation prior to the ME review. Four have been assessed and are being investigated via the appropriate governance route. (The remaining three are pending review at CaPRI to determine the appropriate level of investigation).

The four cases being investigated are:

I. A patient was referred by a GP to a UHB acute medical unit for suspected DVT/PE. There was a delay in clerking the patient and after an initial dose of enoxaparin the patient had a cardiac arrest and died. The case is being investigated as an Executive RCA.

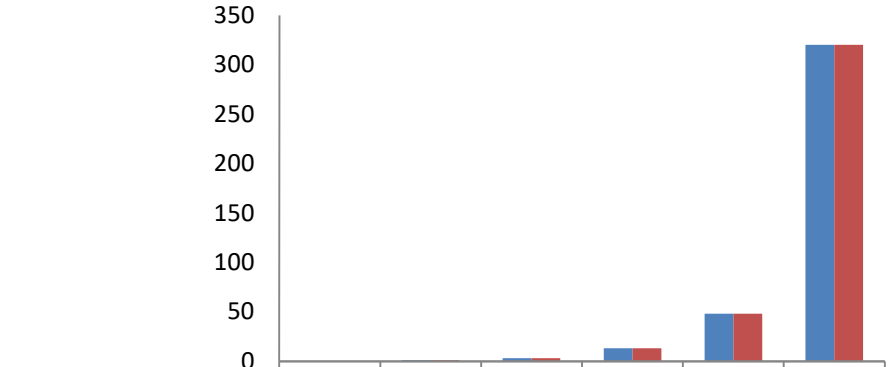
II. A patient was brought in by ambulance following an alcohol withdrawal seizure and a bleeding tongue. The patient was fully alert at initial assessment. The patient went into cardiac arrest soon after arrival. The case will be reviewed locally by the ED Morbidity and Mortality meeting.

III. A patient was on the waiting list for laparoscopic cholecystectomy following a bout of gallstone pancreatitis. They had an acute admission presenting with severe acute necrotising pancreatitis leading to multiple organ failure and the patient subsequently died. The case will be reviewed locally and as part of a harm review process.

IV. A patient attended QE ED via ambulance presenting with suspected urinary sepsis. There was a delayed ambulance offload and the patient died soon after arrival in the department. Issues concerning the patient's wishes regarding ceilings of treatment and management in the ambulance are being investigated as a Serious Incident by West Midlands Ambulance Service.

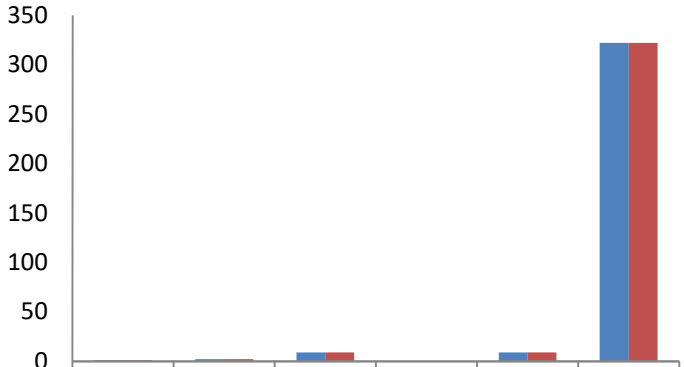
The graphs below show the breakdown of scoring against the avoidability measures across the 4 hospital sites.

Figure 3 - QEH



	Score 1	Score 2	Score 3	Score 4	Score 5	Score 6
Most recent quarter	0	1	3	13	48	320
Financial Year to Date	0	1	3	13	48	320

Figure 4 - BHH

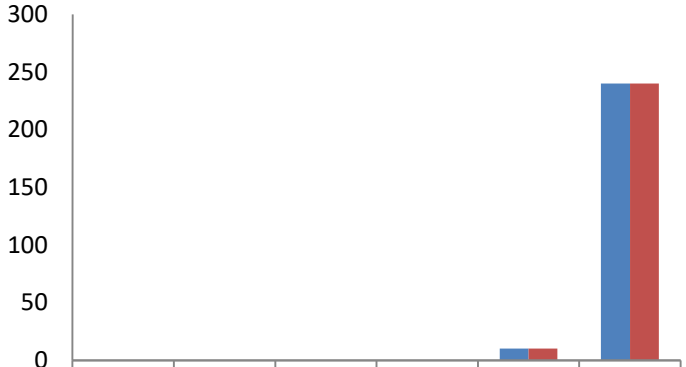


	Score 1	Score 2	Score 3	Score 4	Score 5	Score 6
Most recent quarter	1	2	9	0	9	322
Financial Year to Date	1	2	9	0	9	322

Figure 5 - SH

	Score 1	Score 2	Score 3	Score 4	Score 5	Score 6
Most recent quarter	0	0	0	0	0	0
Financial Year to Date	0	0	0	0	0	0

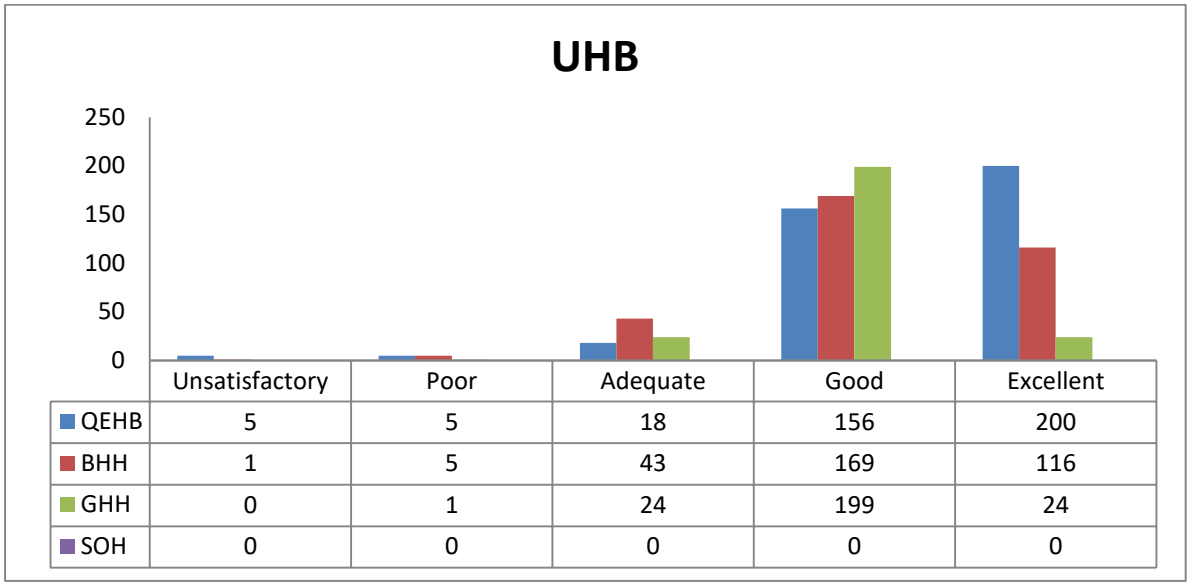
Figure 6 - GHH



	Score 1	Score 2	Score 3	Score 4	Score 5	Score 6
Most recent quarter	0	0	0	0	10	240
Financial Year to Date	0	0	0	0	10	240

5. Medical Examiner Scoring of Care

This section summarises Medical Examiners overall scoring of care, which is based on the RCP Summary Category of Care scoring system. This scoring system is only monitored and reported internally. Internal scoring of care focuses mainly on the quality of care provided, regardless of the effect on the patient's outcome, whereas the external avoidability measure is focused on outcomes.



	Unsatisfactory	Poor	Adequate	Good	Excellent
QEHB	5	5	18	156	200
BHH	1	5	43	169	116
GHH	0	1	24	199	24
SOH	0	0	0	0	0

Figure 7: UHB Scoring of Care by Hospital Site for the quarter

The RCP Summary Category of Care scoring system is defined as follows:

- Excellent care: This was excellent care with no areas of concern.
- Good care: This was good care with only one or two minor areas of concern and no potential for harm to the patient.
- Adequate care: This was satisfactory care with two or more minor areas of concern, but no potential for harm to the patient.
- Poor Care: Care was suboptimal with one or more significant areas of concern, but there was no potential for harm to the patient.
- Unsatisfactory care: Care was suboptimal in one or more significant areas resulting in the potential for, or actual, adverse impact on the patient.

Six cases were found to have unacceptable care. Two of the cases marked as unsatisfactory care this quarter were the same cases found to have been potentially preventable as described above (case ii and another which is being reviewed to determine the appropriate level of investigation). Two are being investigated as per below. (The remaining two are being reviewed to determine the appropriate level of investigation.)

1. A patient with a background of mental health issues was brought in by ambulance with a headache, chest pain, lethargy, and vomiting. The patient was un-cooperative and refused observations several times. The patient deteriorated later in the day in the Emergency Department and was transferred to ITU where they were found to have a non-survivable brain injury. This case is being investigated as a Serious Incident.

2. A patient with a background of type-two diabetes and splenectomy was admitted with a 3-day history of loose bowels, wobbly legs and feeling generally unwell. The patient was found to have a severe acute kidney injury and was anaemic. During the admission the patient had periods of hypoglycaemia which were treated. The patient subsequently died of aspiration pneumonia and was not resuscitated as a DNACPR was in place. The case is being investigated as a Divisional RCA.

6. Deaths in Patients with Learning Disabilities

There were seventeen deaths in patients with Learning Disabilities reviewed by the Medical Examiners within Quarter 1, 2021/22, at UHB.

In terms of avoidability, one of the cases was found to be possibly avoidable and have unacceptable care. The case is being reviewed to determine the appropriate level of investigation. All of the remaining cases were found to be definitely not avoidable.

In terms of the standard of care, one case was found to have poor care. The patient was an end of life baby with an advanced care plan in place. A rapid release was not possible due to COVID rules, and it may be that the family may have chosen to take the baby home if they were aware.

All of the remaining cases were found to have adequate (2), good (11) or excellent (2) care.

Learning Disability cases are subject to LeDeR reviews.

Appendix B

Child Death Review Process
Quarter 4, January to March 2021

1. Introduction

The purpose of this report is to provide the Board of Directors with a summary of the child death reviews for the period 1st January 2021 to 31st March 2021.

The Trust introduced the Child Death Review Process, following the transfer of this responsibility from the Department of Education to the Department of Health and Social Care. The aim of the Child Death Review Process is to identify learning to prevent future child deaths. These reviews are in addition to other existing governance processes as appropriate such as: Sudden and Unexpected Deaths in Children (SUDIC) multi-agency reviews; safeguarding; and learning disabilities.

2. UHB Child Death Review Process

The Child Death Review meeting is chaired by a Deputy Chief Medical Officer and includes consultants (paediatrics, neonatology and obstetrics) and senior nursing and midwifery leads. Other attendees include clinicians who were directly involved in the care of the child during their life, the Clinical Service Lead, and any professionals involved in the investigation into the death.

Child Death Review meetings usually take place on a bi-monthly basis and aim to review deaths within a recommended period of three months. Child Death Review meetings include:

- A review of the background history, treatment, and outcomes of investigations, to determine, as far as is possible, the likely cause of death.
- Ascertaining contributory and modifiable factors across domains specific to the child, the social and physical environment, and service delivery.
- A review of support provided to the family.
- Identification of any learning arising from the death and, where appropriate, to identify actions to improve the safety or welfare of children.

There has been some disruption to the timetable due to the pandemic but additional monthly meetings have been scheduled to address the backlog.

3. UHB Quarter 4, 2020/21, Summary

There were 12 neonatal deaths during quarter 4, 2020/2021 and 4 paediatric deaths.

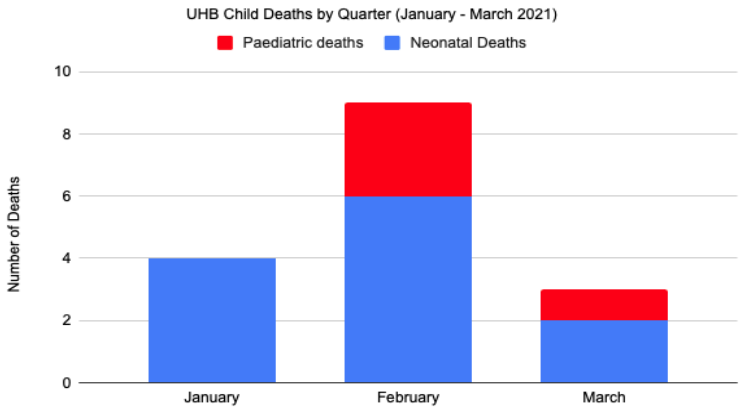


Figure 1: Paediatric and Neonatal Deaths reported by month

Data from the previous quarters for comparison are shown below:

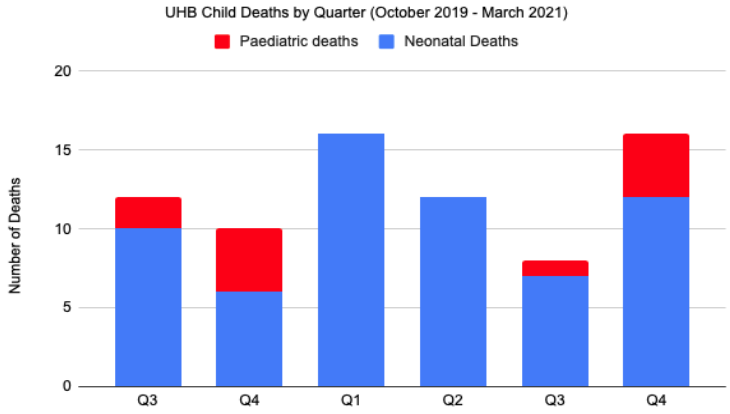


Figure 2: Paediatric and Neonatal Deaths reported by quarter

3.1. Neonatal deaths

Of the twelve neonatal deaths, 9 of these were early deaths (between 5 minutes – 7 days) and, with the exception of 3 babies, all were all born prematurely (gestation range from 16 weeks to 39 + 5 weeks). Two of the babies were out born, being transferred into Birmingham Heartlands Hospital for level three neonatal intensive care.

Ten of the neonatal deaths (80 %) were categorised as perinatal/neonatal events with two deaths categorised as a chromosomal/genetic/congenital anomaly (20%). Five babies died very shortly after birth (less than four hours).

Twenty two weeks and above (9 babies)

PMRT[1] reports are produced for all babies born at 22 weeks and over (9 babies).

PMRT reviews include a grading system to apply a quality of care level to a number of different areas; antenatal care, neonatal care and bereavement care. The grading is as follows:

- A - No issues with care identified;
- B - Care issues identified that would have made no difference to the outcome;
- C - Care issues identified which may have made a difference to the outcome;
- D - Care issues identified which were likely to have made a difference to the outcome.

[1] **PMRT:** Perinatal Mortality Review Tool. The aim of the PMRT programme is to support standardised perinatal mortality reviews across NHS maternity and neonatal units in England, Scotland and Wales.

From the PMRT reports available to the CDRM, there were either no issues identified (A) or some care issues; although the reviews identified that this would not have changed the outcome for the babies (graded as B).

The exception to this was one review where it was concluded there were care issues during the neonatal period that might have made a difference; the panel graded this as C for neonatal care. A baby of 26 weeks gestation had a profound brain hypoxic injury as a result of prolonged cardiopulmonary arrest during a reintubation attempt. Intubation was extremely challenging. The case was referred to the Coroner because of the airway issues that occurred. Actions include re-circulation of Newborn Life Support (NLS) guidelines alongside a number of simulation sessions to further develop skills.

The CDR group has noted there are an increased number of trainees which means there is less opportunity to develop skills in the intubation of premature infants. As a result, some staff feel less confident and skilled in managing tiny airways. This is not an issue that is specific to UHB and a national review of training of neonatal medical and nursing staff is anticipated.

Below 22 weeks

There were three babies born below 22 weeks (16 weeks; 20+3 weeks and 21+4 weeks).

In response to the Coronavirus Pandemic, the Government approved medical abortion pills to be taken at home. Via the British Pregnancy Advisory Service (BPAS), the National Unplanned Pregnancy Advisory Service (NUPAS) and other providers, it is possible, following a consultation and medical assessment over the telephone, to receive 'abortion pills' to end a pregnancy at an early gestation. In the majority of cases, there is no need to attend a clinic first and an ultrasound scan is not required. A remote abortion is considered suitable for women up to 10 weeks pregnant.

Following self-administration of this medication at home, a patient went into labour and delivered a baby that was significantly more developed than expected. The baby was resuscitated on the way to the hospital. However, following assessment and discussion with the family, care was re-orientated to comfort care due to the baby's extreme prematurity.

The method by which duration of the pregnancy is assessed for remote medical abortions is not known to the CDR group. The Chair of the CDRM (a Deputy Chief Medical Officer) is going to report this incident to both HM Coroner and also the Medical Director of BPAS.

4. Paediatric/adolescent death

There were four paediatric deaths during this quarter; the age range was 15 – 16 years. Two deaths were cancer related, one death was as a result of a road traffic collision and the fourth case was a patient brought in by ambulance and is being investigated as a potential suicide by the mental health trust.

Appendix C

Perinatal Mortality Reviews
Quarter 3, 1st October – 31st December 2020

1. Introduction

The purpose of this report is to provide a summary of the Perinatal Mortality Review Tool (PMRT) for the period 1st October to 31st December 2020.

2. Background

The Trust has an established PMR process as part of the Trust's approach to identify learning to prevent future deaths.

Output from the Trust's PMR Process is reported internally within the Division and to the Clinical Quality Monitoring Group.

The Trust's PMR Process is complementary to other existing governance processes as appropriate such as: Sudden and Unexpected Deaths in Infancy /Childhood (SUDI/C) multi-agency reviews; Learning from Deaths (adult cases until the statutory Medical Examiner system is introduced); safeguarding; and learning disabilities (LeDeR), etc. Where appropriate, 'Perinatal deaths' are also subject to internal incident investigation processes.

3. UHB Perinatal Mortality Review Process

The PMR meeting is a multi-professional meeting chaired by a Consultant Obstetrician and Feto Maternal Medicine, and includes senior nursing and midwifery leads and neonatal consultant colleagues. The purpose of the PMRT, designed by MBRRACE (UK Mothers and Babies: Reducing Risk through Audits and Confidential Enquiries across the UK) in 2018, is to facilitate comprehensive, robust and multidisciplinary reviews of all perinatal deaths from 22+0 gestation, to 28 days after birth, including those babies who die after 28 days following neonatal care.

PMR meetings take place on a monthly basis to ensure:

- A comprehensive case review is completed utilising the standard PMRT;
- The identification of any learning and actions to prevent re-occurrence;
- The identification of cases requiring escalation to the Chief Medical Officer for further review and decision to initiate formal / serious incident investigations.

4. PMR Standards

	Trust Compliance
Standard A I. All perinatal deaths eligible to be notified to MBRRACE-UK from 1 October 2020 onwards must be notified to MBRRACE-UK within seven working days and the surveillance information where required must be completed within four months of the death. II. A review using the Perinatal Mortality Review Tool (PMRT) of 95% of all deaths of babies, suitable for review using the PMRT, from 20 December 2019 to 30 September 2020 will have been started by 31 December 2020. This includes deaths after home births where care was provided by your Trust staff and the baby died. III. A review using the Perinatal Mortality Review Tool (PMRT) of 95% of all deaths of babies, suitable for review using the PMRT, from 1 October 2020 will have been started within four months of each death. This includes deaths after home births where care was provided by your Trust staff and the baby died.	I. Not applicable for this Quarter. II. **Achieved: 100%** All eligible cases have their review started on PMRT III. Not applicable for this Quarter
Standard B I. At least 75% of all deaths of babies (suitable for review using the PMRT) who were born and died in your Trust, including home births, from 20 December 2019 to 31 July 2020 will have been reviewed using the PMRT, by a multidisciplinary review team. Each review will have been completed to the point that at least a PMRT draft report has been generated by the tool by 31 December 2020. II. At least 40% of all deaths of babies (suitable for review using the PMRT) who were born and died in your Trust, including home births, from 1 August 2020 to 31 December 2020 will have been reviewed using the PMRT, by a multidisciplinary review team. Each review will have been completed to the point that at least a PMRT draft report has been generated by the tool.	I. **Achieved**: **100%** (requirement was 75%) all eligible cases had their review completed and report published. II. **Achieved: 100%** (requirement was 40%)
Standard C I. For 95% of all deaths of babies who were born and died in your Trust from 20 December 2019, the parents will have been told that a review of their baby's death will take place, and that the parents' perspectives and any concerns they have about their care and that of their baby have been sought. This includes any home births where care was provided by your Trust staff and the baby died. If delays in completing reviews are anticipated parents should be advised that this is the case and be given a timetable for likely completion.	I. **Achieved: 100%** (requirement was 75%) for all eligible cases parental concerns were sought and inputted on the tool
Standard D I. Quarterly reports will have been submitted to the Trust Board from 1 October 2020 onwards that include details of all deaths reviewed and consequent action plans. The quarterly reports should be discussed with the Trust maternity safety champion.	I. **Achieved:** Reporting established.

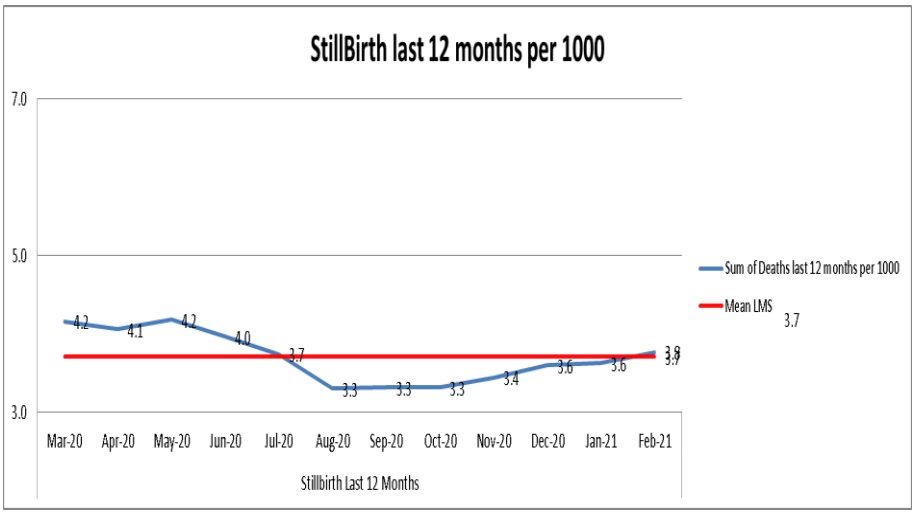
5. Summary

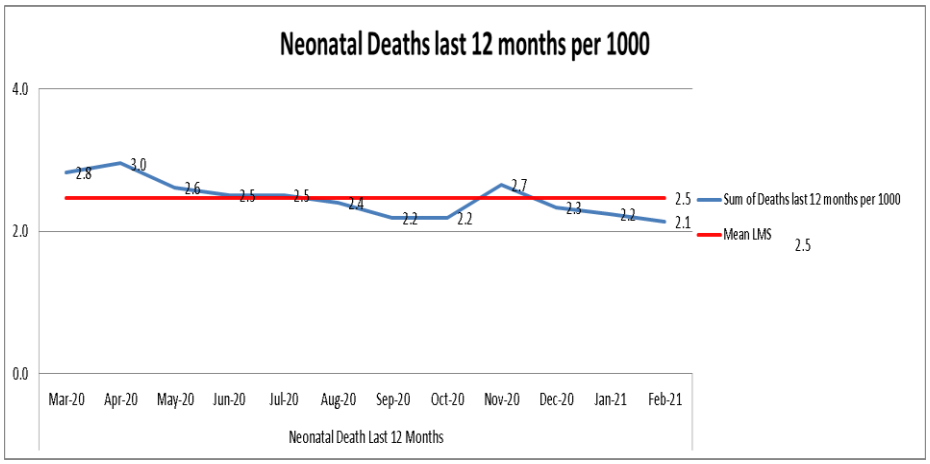
The outcomes of the Q4 PMRT (Calendar) and associated action plans were reported to CQMG. A summary of the outcomes reported were:

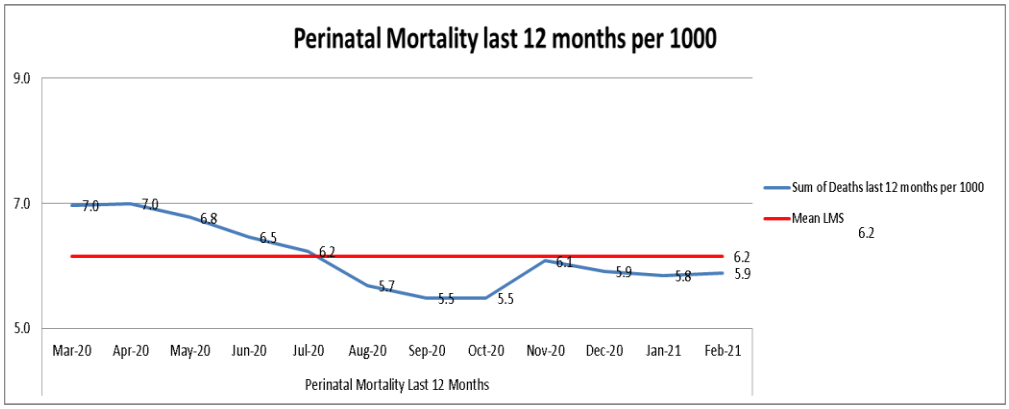
- 2 out of 17 cases (11.76%) the outcome would/may have been different.
- 17.6% cases had good care.
- 70.5% cases had care issues or learning identified which would have not changed the outcome.
- Safety Action 1 has been met for this quarter.
- National Ambition of 20% reduction in still births by end of 2020: achieved 25%/ 4.9 to 3.6)
- PNMR worsened during this quarter from 5.5 to 5.9 but improved overall from 7.7 in Jan 2020 to 5.9 in Dec 2020

Next steps:

- Continued focus on Education
    - Learning from PMRT/PEM-G Stillbirth and Neonatal Death reviews
    - Focussed interventions(Saving babies Lives –2)
    - Robust Action Plans and audit compliance
- Annual PNMR Rolling audits
- Sustain progress and continue improvement
- Reporting to new Joint Clinical Quality Assurance Group from April 2021







6. Learning and Actions:

6a. Immediate Learning:

Themes	Actions: All completed
1. Review Sepsis pathway and monitoring of MEWS training	1. Guideline completed and sent to Controlled Documents for approval
2. Remind to administer Antibiotics for preterm labour	2. Mid-week message (March 2021) and more explicit in the PT GL (under ratification
3. To ensure that Lead professional is documented on BadgerNet for all Bookers.	3. Staff notified via Ecomms, emails and mid-week messages (Lead professional)
4. To aim for 'Delayed cord clamping' for all preterm babies	4. Staff notified via 'Did you know series' and L ward forums (Feb 2021)
5. To follow the BPAM guidance and new thresholds of viability with regard to preterm pathway	5. Midweek message March 2021 (BAPM)
6. To ensure to send MSU at booking visit for every booker	6. Team communication to community midwifery teams (Jan 2021)
7. To document the next community midwife appointment on BadgerNet following the review by community midwife	7. Team communication to community midwifery teams (Dec 2021)
8. To ensure change of plan if any following detection of a fetal anomaly is clearly and formally communicated between fetal medicine, community midwives and antenatal clinic	8. FM Team brief (May 2021)
9. To ensure appropriate documentation of initial assessment in NNU	9. Neonatal Governance newsletter (March 2021)
10. To ensure Thermal management in NNU at all times	10. Neonatal Governance newsletter (Regular Reminders)
11. To ensure Resuscitation of the baby follows the Neonatal Life Support (NLS) guidelines	11. Reminder in mid-week message and governance newsletter for staff involved with neonatal resuscitation to be up-to-date with NLS updates.
12. There is written documentation on the resuscitation within the paper notes. This should be recorded onto BadgerNet rather than paper.	12. Reminder to use the neonatal BadgerNet delivery suite death via neonatal governance newsletter
13. To ensure skin care of the baby during the first 24 hours of arrival on the neonatal unit is appropriate	13. Nursing staff on importance of metrics (July 2021)

6b. Systems Learning:

Themes	Actions: 3x completed 11x in Progress
1. Explore and establish centralised and dedicated twins clinic service	1. The Twin Service Established at BHH from 1st April 2021
2. Simulation of extreme premature delivery at Good Hope	2. Extreme premature Simulation complete 15th March 2021
3. Update of the Covid Surveillance guideline to address non-responders	3. Covid guidance updated to include this (April 2021)
4. Re- Audit of Aspirin and PET risk assessment to ensure compliance	4. Re-Audit of Aspirin and PET risk assessment: Due in June Q&S speciality.
5. Embed in existing ANC pathway to ensure appropriate risk assessment for aspirin and VTE	5. The ANC Transformation Pathway process to ensure appropriate risk assessment for aspirin and VTE for every booker attending hospital at time of their dating scans
6. Discuss and explore feasibility of integrated system of working between hospital and out of area community midwives.	6. Ongoing: Part of SI Investigation.
7. Ensure that patients are booked at the appropriate AN clinics to meet their risks and needs	7. New triage tool and pathway to be rolled out as part of ANC Transformation (July 2021)
8. To ensure that the lead professional is documented on BadgerNet for all Bookers.	8. Audit of a sample of patients from ANC re documentation of lead professional—Ockenden documented on to the BadgerNet system (Ongoing)
9. Education and awareness regarding the need of immediate presentation with reduced fetal movements.	9. Working Group on RFM, communication via audio in different languages.
10. Thermal management in NNU at all times	10. New SOP in progress particularly for the temperature control of extremely pre-term infants. This is also part of NNAP data and is reported regularly at a number of meetings, including at divisional level.