SHERIFFDOM OF GLASGOW AND STRATHKELVIN AT GLASGOW

[2025] FAI 25

GLW-B1053-22

DETERMINATION

BY

SHERIFF BARRY JOHN DIVERS

UNDER THE INQUIRIES INTO FATAL ACCIDENTS AND SUDDEN DEATHS ETC (SCOTLAND) ACT 2016

into the death of

FREYA MURPHY

GLASGOW, 6 May 2025

DETERMINATION

The sheriff having considered the information presented at a Fatal Accident Inquiry on 28 to 31 October 2024 and 1 to 7 November 2024; written submissions and oral submissions made on 13 and 14 January 2025; under section 26 of the Inquires into Fatal Accidents and Sudden Deaths etc. (Scotland) Act 2016, finds and determines that:-

Findings

F1 In terms of section 26(2)(a) of the Inquires into Fatal Accidents and Sudden Deaths etc. (Scotland) Act 2016 ("the Act"), Freya Murphy (hereinafter referred to as "Freya") born 21 July 2018 at 0931 hours, within Queen Elizabeth University Hospital Glasgow ("QEUH"), died there on 28 July 2018. Freya was seven days and 12 hours old.

F2 In terms of section 26(2)(b) of the Act, no accident took place and therefore no finding requires to be made.

F3 In terms of section 23(2)(c) of the Act, the cause of Freya's death was:

(i) 1a. Global ischemic brain injury associated with acute chorioamnionitis.

F4 In terms of section 23(2)(d) of the Act, there was no accident and therefore no finding requires to be made.

F5 In terms of section 26(2)(e) of the Act, there were no precautions which could reasonably have been taken and had they been taken might realistically have resulted in Freya's death being avoided.

F6 In terms of section 26(2)(f) of the Act, there were no defects in any system of working which contributed to Freya's death.

F7 In terms section 26(2)(g) of the Act, there are no facts which are relevant to the circumstances of Freya's death.

Recommendations

The sheriff having considered the information presented at the Inquiry, makes the following recommendation in terms of section 26(1)(b) and section 26(4) (b) and (d) of the Act.

(i) In terms of section 26(4)(b) and (d) of the Act, that Greater Glasgow Heath Board (GGHB) should review staffing levels across all shifts to ensure that its labour wards, post-natal wards, maternity assessment

units and other hospital maternity related areas are adequately staffed at the weekend and in the evening such as to allow, in the case of an emergency where two patients require admission to theatre at the same time, for the opening of a second operating theatre, within a suitably expeditious time and where such a second theatre is available.

(ii) In terms of section 26(4)(d) of the Act, that GGHB should formerly request that the United Kingdom National Screening Committee (UKNSC) give urgent consideration to a review of whether pregnant women routinely be offered screening for Group B Streptococcus ("GBS"). That if such a review is under way, then a copy of this determination be provided to the UKNSC for consideration in that review.

NOTE:

Introduction

[1] This was a Fatal Accident Inquiry ("FAI") into the death of Freya. Preliminary hearings in this case took place on around 17 occasions going back to September 2022. There were three discharged evidential hearings. Against that background, it is incumbent upon me to say a little about both the number of preliminary hearings and also the length of time which it took in this FAI before evidence was led.

[2] On each of the occasions when a preliminary hearing was fixed, the court was, for a variety of reasons, left with little choice but to fix the further preliminary hearing which was requested.

[3] This was a case with a considerable amount of medical evidence, records and expert reports. Prior to my involvement (in November 2023) there was also a focus on an important matter which was understandably considered to be of relevance. This properly required the recovery and thereafter detailed consideration and redaction of third party medical records, prior to all parties agreeing that evidence on the issue was not required.

[4] I acknowledge elsewhere the considerable amount of work which all parties did in narrowing the focus of what was a far from straightforward FAI. However, for this case to take over two years to get from the first preliminary hearing to an evidential hearing is simply too long. Mr and Mrs Murphy have borne this passage of time with a dignified stoicism.

[5] Counsels of perfection from the court as to what should or should not be done are, sometimes, unfair and unhelpful. They are made with the benefit of a cooler reflection and hindsight denied to those who actually labour "in the arena" of court proceedings. However, it does seem to me that some delay could have been avoided in this case if, prior to even to issuing the Form 3.1 commencing proceedings, the Crown took proactive action on what were reasonably foreseeable potential issues (for example third party records being recovered and redacted). Such "front loading" of proceedings should be encouraged.

[6] Evidence was led over 10 days. The Crown was represented by Ms Allan, procurator fiscal depute, Mr Rodgers, solicitor, appeared for Freya's mother and father, Mr and Mrs Murphy, Ms Rattrey, solicitor, appeared for Dr Ledingham, Consultant in Maternal and Foetal Medicine at the Queen Elizabeth University Hospital (QEUH); Mr Walker, solicitor for Dr Amy Sinclair, who at the time of the events with which this FAI is concerned was a speciality trainee registrar at the QEUH; Mr Muir, solicitor appeared for midwife ("MW") Helen Kidd; Mr Kane appeared for Dr Felicity Watson, who at the time of the events with which this FAI is concerned was working as a specialist trainee registrar at the QEUH and; Mr Fitzpatrick, advocate, appeared for Greater Glasgow and Clyde Health Board ("GGHB"). I am grateful to all parties for the manner and tone in which the hearing was conducted and for their detailed and helpful written submissions, to which were added oral submissions and answers to my many questions.

[7] As mentioned above, I also wish to express my gratitude to the Crown, agents and counsel for their focusing the scope of this FAI.

[8] I heard evidence from 13 witnesses. They were:

(i) MW Helen Kidd.

(ii) MW Catherine Walsh.

(iii) Consultant obstetrician, Dr Marie Anne Ledingham.

(iv) Consultant obstetrician, Dr Amy Sinclair.

(v) Consultant obstetrician, Dr Felicity Watson.

(vi) Paediatric pathologist, Dr Paul French.

(vii) Dr Michael Munro, expert witness in neonatology.

(viii) Dr Rhona Hughes, expert witness in obstetrics.

(ix) Mr Derek Tuffnell, expert witness in obstetrics.

(x) Dr Alistair Campbell, expert witness in obstetrics.

(xi) Jean McConville, expert witness in midwifery.

(xii) Dr Jane Richmond, Clinical Director for Obstetrics and Gynaecology at QEUH and

(xiii) Ms Mairi McDermid, Associate Chief Midwife at QEUH.

[9] I have some comment on an important issue of reliability in respect of one witness later in this determination. However let me say now that, subject to those comments, I found all the witnesses to be credible and reliable. Where there was a dispute on any relevant matter between witnesses, I have explained how I have resolved that dispute.

[10] Parties also entered into a lengthy joint minute which helpfully agreed the evidence set out at paragraphs 17 to 59.

[11] It was clear on the evidence that all those clinicians (doctors and midwifes) who spoke to their involvement with Freya, were motivated in their actions by doing what they thought was best for Freya and Mrs Murphy. It was obvious during their evidence that Freya's tragic death has left a mark upon each of them in different ways which will last for the rest of their professional careers and beyond.

Relevant statutory scheme

[12] This is found at section 26 of the Act and reads as follows:

"(1) As soon as possible after the conclusion of the evidence and submissions in an inquiry, the sheriff must make a determination setting out—

(a) in relation to the death to which the inquiry relates, the sheriff's findings as to the circumstances mentioned in subsection (2), and

(b) such recommendations (if any) as to any of the matters mentioned in subsection (4) as the sheriff considers appropriate.

(2) The circumstances referred to in subsection (1)(a) are—

(a) when and where the death occurred,

(b) when and where any accident resulting in the death occurred,

(c) the cause or causes of the death,

(d) the cause or causes of any accident resulting in the death,

(e) any precautions which—

(i) could reasonably have been taken, and

(ii) had they been taken, might realistically have resulted in the death, or any accident resulting in the death, being avoided,

(f) any defects in any system of working which contributed to the death or any accident resulting in the death,

(g) any other facts which are relevant to the circumstances of the death.

(3) For the purposes of subsection (2)(e) and (f), it does not matter whether it was foreseeable before the death or accident that the death or accident might occur—

(a) if the precautions were not taken, or

(b) as the case may be, as a result of the defects.

(4) The matters referred to in subsection (1)(b) are—

(a) the taking of reasonable precautions,

(b) the making of improvements to any system of working,

(c) the introduction of a system of working,

(d) the taking of any other steps,

which might realistically prevent other deaths in similar circumstances.

(5) A recommendation under subsection (1)(b) may (but need not) be addressed to—
(a) a participant in the inquiry,
(b) a body or office-holder appearing to the sheriff to have an interest in the prevention of deaths in similar circumstances.

(6) A determination is not admissible in evidence, and may not be founded on, in any judicial proceedings of any nature."

Areas of potential dispute

[13] These were agreed by parties prior to the leading of evidence as being:

(1) In terms of section 26(2)(e) of the Act, reasonable precautions which could have been taken and had they been taken, might realistically have resulted in the death being avoided:

(i) Whether there was appropriate communication between staff members, including between midwifery and obstetrics staff, in relation to the care and treatment of Mrs Murphy and, in particular, whether there was a clear understanding of the overall clinical picture regarding Mrs Murphy from approximately 0630 hours on the 21 July 2018.

(ii) Whether there was an appropriate handover between staff, particularly in relation to the staff changeovers at approximately 0830 hours for medical staff, in relation to the care, treatment and overall clinical picture of Mrs Murphy on 21 July 2018.

(iii) Whether there was an appropriate plan for care regarding Mrs Murphy following the presence of meconium at approximately 0650 hours on 21 July 2018.

(iv) Whether appropriate and timely review by senior midwifery and/or medical staff of the Cardiotocography ("CTG") which monitored Freya's heart rate and uterine contractions, was performed from approximately 0650 hours on 21 July 2018.

(v) Whether there was any failure associated with the clinical interpretation of the CTG performed from approximately 0650 hours on 21 July 2018, and in particular, whether there was a failure by staff to identify when the CTG became pathological.

(vi) Whether any failure in the clinical interpretation of the CTG performed from approximately 0650 hours on 21 July 2018 impacted upon the management of Mrs Murphy's care.

(vii) Whether there should have been consideration of immediate assisted delivery at the time of medical review by Dr Ledingham at approximately 0843 hours in light of the clinical picture at that time.

(viii) Whether Dr Ledingham should have performed the assisted delivery on examination of Mrs Murphy at approximately 0904 hours.

(ix) Whether the decision of Dr Ledingham to leave Mrs Murphy for Dr Sinclair to undertake the assisted delivery, caused any delay to the delivery of Freya Murphy.

(2) In terms of section 26(2)(f); defects in the system of working which contributed to her death:

(i) Whether staffing levels impacted upon the actions and/or decision making of staff on 21 July 2018 in light of the high level of clinical activity on the labour ward on that date and, in particular, whether there was any delay to the care and treatment of Mrs Murphy and the birth of Freya as a result of that.

(3) Finally, the court was asked to consider what role, if any, GBS played in the death of Freya Murphy.

[14] As matters developed through the FAI, there were no formal findings sought by any party in relation to the issues set at 1(i) to 1(iii) and 1 (viii) and (ix). Of course the court is not bound by this position. But in all the circumstances, I did not consider it necessary to consider those issues in this determination. This determination therefore concentrates upon the remaining points in dispute. The findings and recommendations sought by parties are set out at paragraphs 62 to 75.

[15] In considering these issues and the use of the word dispute, it is important to remember that this was a discretionary FAI under the Act. As we have recently been reminded by Sheriff Collins KC in his determination in the case of *Allan and Brown* 2025 FAI 6 at paragraphs 15 and 19, such an FAI is inquisitorial in nature, not adversarial.

The purpose of an FAI is defined and circumscribed by sections 1(3) and 1(4) of the Act. It is to (a) establish the circumstances of death and (b) consider what steps if any might be taken to prevent other deaths in similar circumstances. It is not the purpose of an FAI to establish civil or criminal liability. It is not the purpose of an FAI to attribute fault whether to individuals or institutions. It is not about seeking to hold any person or institution to account for their deaths or to hold them responsible. The procurator fiscal in an FAI represents the public interest in investigating, arranging and conducting the FAI.

Glossary of relevant medical terms

[16] I considered that it may be helpful to the non-medical reader if I provided a short explanation of certain medical words used in this determination as those words have been taken to mean during this FAI:

(i) Anterior Position ("AP"): Baby is head down but facing the back of the mother's body. The optimal position for child delivery.

(ii) Cardiotocography ("CTG"): This is a way of monitoring a baby's heart rate. CTG tracing is scrutinised for a number of elements, including the baseline (ie the trend of the foetal heart rate), variability (changes in the heart rate), accelerations (increases in the foetal heart rate, being a healthy sign showing a responsive baby) and decelerations (decreases in the foetal heart rate), showing some pressure on the baby.

(iii) Foetal Scalp Electrode ("FSE"): This is used to monitor a baby's heart rate and variability during labour. It is placed on the baby's head.

(iv) Hypoxia: Where the body's tissues do not receive enough oxygen.

(v) Meconium: A foetal waste product. It can be, but is not always a sign of foetal distress.

(vi) Pyrexia: Abnormal elevation of body temperature.

(vii) Right Occiput posterior ("ROP"): a position where the baby is head down but facing the front of the mother's body.

(viii) Syntocinon: This is an intra venous infusion to start contractions with the aim of prompting the release of the natural hormone, oxytocin, which controls the contractions of the uterus.

Agreed facts

[17] Karen Murphy and Martin Murphy lived in Cambuslang, South Lanarkshire. Mrs Murphy was a registered patient of the Craigallian Avenue Medical Practice, Cambuslang. In 2017 she was a healthy 32 year-old teacher with no significant medical history, a non-smoker, and had a BMI of 21.

[18] On 13 November 2017 Mrs Murphy first made contact with the Early Pregnancy Assessment Unit at the QEUH. This contact was by telephone. She had had a positive pregnancy test in October 2017 but was not yet booked for maternity care. Her contact with the Early Pregnancy Assessment Unit was due to "crampy" abdominal pain and

some spotting and bleeding on wiping. She was given worsening advice and an appointment for a scan was scheduled for 16 November 2017.

[19] On 16 November 2017 Mrs Murphy attended at the QEUH for assessment and to book for maternity care. Mrs Murphy was 32 years old at the time of booking. This was her first pregnancy. She received an ultrasound scan on this date which showed an intrauterine pregnancy. A follow up scan on 1 December 2017 showed a viable pregnancy at 7+5-weeks' gestation. She attended for an antenatal booking assessment on 18 December 2017. She was estimated to be 10+1-weeks' gestation. Mrs Murphy was assessed as "Normal Low" risk. She was placed on the "green pathway". The plan for birth was that it would take place at the maternity unit at QEUH, and that Mrs Murphy would receive midwifery-led care. An appointment was scheduled with Mrs Murphy's community midwife at 16-weeks' gestation.

[20] Mrs Murphy attended an ultrasound scan on 5 January 2018. This was recorded to be a dating scan. This scan confirmed a singleton pregnancy, and her expected date of delivery was noted to be 10 July 2018. No abnormalities were recorded.

[21] On 1 February 2018 Mrs Murphy attended for an antenatal assessment. It was recorded that no new pregnancy problems were reported by Mrs Murphy.

[22] On 21 February 2018 Mrs Murphy attended for a second ultrasound scan. This was recorded to be a detailed foetal anomaly scan. No abnormalities were recorded.

[23] On 8 March 2018 Mrs Murphy attended for a further antenatal assessment. It was again recorded that no new pregnancy problems were reported by Mrs Murphy. Abdominal palpation was performed by the midwife and foetal movements were felt

and discussed with Mrs Murphy. It was recorded that Mrs Murphy had no concerns regarding foetal movements at that time and she was provided a leaflet on foetal movements. The foetal heart rate was also checked using a "Doppler".

[24] On 17 April 2018 Mrs Murphy attended at an outpatient physiotherapy appointment as a result of experiencing lower back pain. Mrs Murphy attended a further antenatal appointment on 19 April 2018. Blood tests were carried out at this appointment and again, no new pregnancy problems were reported. Abdominal palpation was performed which indicated that the foetus was in cephalic presentation (head down). Foetal movements were felt, and no concerns were raised by Mrs Murphy.

[25] Mrs Murphy attended at an antenatal appointment on 17 May 2018. She was around 32-weeks' gestation. No new pregnancy problems were reported. Foetal movements were felt on abdominal palpation and no concerns were raised. The foetus was again recorded as being in cephalic presentation and the foetal heart rate was checked with the Doppler.

[26] On 14 June 2018 Mrs Murphy attended at a further antenatal appointment. She was around 36-weeks' gestation. Abdominal palpation was carried out and the foetal heart rate was checked with the Doppler. Mrs Murphy is recorded as having reported sharp pain in her chest when travelling to the appointment. It was recorded that she was advised to contact the Maternity Assessment Unit if this pain continued. During this appointment Mrs Murphy's birthing plan was discussed. It was recorded that Mrs Murphy preferred to use natural methods for pain relief at first but was open to

other options if required. It was also recorded that due to a prior back injury Mrs Murphy was concerned regarding use of an epidural. It was recorded that Mrs Murphy remained on the green pregnancy pathway at that time.

[27] Mrs Murphy attended for an antenatal appointment on 28 June 2018. She was around 38-weeks' gestation. No new pregnancy problems were reported, although it was recorded that Mrs Murphy had attended at A&E on 19 June 2018 complaining of chest discomfort. She was recorded to be "well" at the antenatal appointment that day.

[28] Mrs Murphy attended for a further antenatal appointment on 5 July 2018. Abdominal palpation was carried out and foetal movements felt. The foetus was again recorded in cephalic presentation and the foetal heart rate was checked with the Doppler. No concerns were raised by Mrs Murphy during this appointment.

[29] At around 1000 hours on 11 July 2018 Mrs Murphy made telephone contact with the Maternity Assessment Unit at QEUH She was Term+1-weeks' gestation. She reported having not felt foetal movements since around 0230 hours that morning. Mrs Murphy was advised to attend for assessment. The foetal heart rate was checked with the Doppler and a CTG was performed. The results of the CTG were noted to be "reactive and reassuring" and foetal movements were felt at that time. It was noted that this was the first episode of reduced foetal movements. On abdominal palpation it was noted that the foetal head was now fixed at the pelvic brim. It was further noted that Mrs Murphy had a midwife appointment the following day. Mrs Murphy was discharged to midwifery-led care with advice to re-contact the Maternity Assessment Unit if she had any further concerns regarding reduced foetal movements.

[30] At the antenatal appointment the following day, 12 July 2018, the foetus was again recorded as being in cephalic presentation although the head was not yet engaged in the pelvis. Induction of labour was scheduled for 20 July 2018 (Term+10-days' gestation) should Mrs Murphy not go into spontaneous labour prior to that date. A further appointment was arranged for 17 July 2018.

[31] On 17 July 2018 Mrs Murphy attended for an antenatal appointment. On assessment it was noted that the foetal head was still not engaged. Induction of labour was moved at Mrs Murphy's request to 23 July 2018 (Term+13-days' gestation).

[32] Mrs Murphy attended for antenatal assessment again on 19 July 2018. A full antenatal check was performed including auscultation of the foetal heart which was recorded as 150bpm (beats per minute). At this time, it was noted that the foetal head was 4/5 engaged (meaning that 4/5ths of the foetal head could be felt above the pelvic cavity and 1/5th had descended into the pelvis). It was further noted that Mrs Murphy was experiencing some backache and described active foetal movements. A membrane sweep was carried out with Mrs Murphy's consent, and she was noted to be 1-2cm dilated.

[33] On 20 July 2018, at around 0550 hours, Mrs Murphy telephoned the Maternity Assessment Unit at the QEUH. She spoke to midwife Elaine Dallas. It is recorded that Mrs Murphy described that she had undergone a membrane sweep with her community midwife on 19 July, and reported contractions "on/off" from around 1700 hours the previous day but that she was coping well, and a small amount of fresh red "PV" (per vaginal) bleeding noted on a maternity pad, but reported no active bleeding. She

was contracting 1 in every 8 minutes. She reported foetal movements felt but not over the past two hours. She was advised to take some oral analgesia, eat and drink, and to observe any "PV" loss by using a maternity pad. Mrs Murphy was further advised to re-contact the Maternity Assessment Unit if she had any further concerns or felt ready to attend hospital for labour.

[34] Mrs Murphy contacted the Maternity Assessment Unit again at around 1255 hours on 20 July 2018. She spoke to midwife Elaine Dingwall and reported having experienced spontaneous rupture of membranes ("SRM"; waters breaking) at around 1200 hours and that she was coping well with the contractions which were coming every 4-8 minutes and lasting 60 seconds. The liquor was noted as being "clear-pink" at that time. Mrs Murphy was advised that she would have to attend for assessment in view of the SRM but that she could remain at home until labour was more fully established as she was coping at that time but was also given "call back advice". It was noted that Mrs Murphy was happy to remain at home meantime. Mrs Murphy re-contacted the Maternity Assessment Unit at around 1915 hours reporting an increase in the frequency of contractions to every 3 minutes. She was advised to attend.

[35] Mrs Murphy arrived at the Maternity Assessment Unit at around 2020 hours on 20 July 2018. Mrs Murphy remained in the waiting area until around 2130 hours when she was assessed by midwife Lyn McArthur. Rupture of membranes was confirmed, and it was noted that there was some blood-stained liquor. Mrs Murphy reported that while she was in triage, the midwife informed her that a slight something was shown on one of her pads but that it would not be recorded as meconium. A CTG was

commenced to check the foetal heart activity which was heard and regular at a rate of 144bpm. Mrs Murphy was transferred to the labour suite at around 2220 hours.

[36] On the labour suite Mrs Murphy's care was assumed by midwife Catherine Walsh at about 2240 hours. Mrs Murphy was assessed, and it was noted that Mrs Murphy was coping using hypnobirthing techniques for pain relief. Mrs Murphy was assessed as experiencing regular contractions of 30-50 seconds, 3 every 10 minutes, and the foetal head was now 3/5 engaged. A further CTG was carried out to ensure foetal wellbeing which was peer reviewed by Gillian Robertson and was "reactive and reassuring". It was recorded that Mrs Murphy was keen for low-risk intrapartum care with intermittent foetal monitoring. Mrs Murphy was noted to remain on the green pregnancy pathway at that time which was agreed with the coordinating charge midwife Catherine Zvimba.

[37] Between around 0100 hours and 0130 hours on 21 July 2018 midwife Catherine Walsh was relived for a break and Mrs Murphy's care was assumed by midwife Seonaid Donaldson. Midwife Donaldson noted that she had observed spontaneous rupture of membranes with clear liquor at around 0126 hours. At around 0130 hours it is recorded that midwife Walsh performed an examination to assess progress of labour. Mrs Murphy was recorded as contracting 4 in every 10 minutes, with each contraction lasting 30-50 seconds, and the foetal head was now 1/5 engaged. The liquor was recorded to be clear during the examination.

[38] At around 0530 hours Mrs Murphy was further assessed by midwife Catherine Walsh. It was noted that her cervix was fully dilated at 10cm and that the foetal head was fully engaged.

[39] Mrs Murphy was assessed again by midwife Walsh at around 0630 hours. It is recorded that Mrs Murphy was asked to start pushing at around 0630 hours. At around 0651 hours it is recorded that a small amount of "grade 2" meconium was observed. Continuous CTG monitoring was commenced at around 0650 hours to ensure the well-being of the foetus, the records note that the midwife in charge was informed, and a medical review was requested.

[40] There was no CTG monitoring performed between around 2300 hours, when CTG monitoring was carried out on arrival of Mrs Murphy to the labour suite, and 0630 hours, when continuous CTG monitoring was commenced as a result of the presence of meconium. Intermittent foetal monitoring was carried out during this period using hand-held Doppler.

[41] A review was undertaken by ST4 Obstetric Registrar Dr Felicity Watson at around 0700 hours. Dr Watson carried out a vaginal examination and advised Mrs Murphy that she could have a rest from pushing for a period of 1 hour. Mrs Murphy was recorded as being happy to continue pushing as this felt more comfortable with her contractions. Dr Watson suggested that an intravenous (IV) syntocinon infusion be commenced to improve uterine activity (contractions). Mrs Murphy and her husband are recorded to have agreed to this plan. IV access

was obtained at around 0715 hours and the syntocinon infusion was commenced at around 0720 hours.

[42] Midwife Walsh reviewed Mrs Murphy again at around 0730 hours. At this time, it was noted that the maternal pulse was elevated and that both the maternal and foetal heart rates were similar. Midwife Walsh recorded that she informed Dr Watson of this.

[43] At around 0730 hours there was a handover involving the midwifery staff. At this time there were 12 patients in the labour ward, with 7 women in labour, 3 women post-natal, and 1 woman who was post-natal and also receiving high dependency unit care.

[44] At around 0800 hours midwife Walsh verbally handed over to midwife Helen Kidd who was assigned to assume care for Mrs Murphy. Midwife Walsh remained in the room to complete some electronic clinical notes using the iPad. Midwife Kidd began her own observations.

[45] On assuming care of Mrs Murphy, midwife Kidd noted that the CTG monitoring was satisfactory, with "fleeting deep short lasting early decelerations". A FSE was applied at around 0800 hours. The Syntocinon infusion was increased at around 0750 hours and 0830 hours.

[46] At around 0830 hours there was a handover involving the medical staff. Midwife Kidd recorded at around 0845 hours that the CTG was now showing "deep early decelerations" and that the labour ward coordinator, midwife Alison Kilic, was made aware of the CTG findings and that medical staff were present.

[47] Mrs Murphy was reviewed by Consultant Obstetrician Dr Marie Anne Ledingham at around 0843 hours. Also present were ST3 Obstetric Registrar Dr Amy Sinclair, midwife Kilic, and a junior doctor.

[48] Both Dr Ledingham and Dr Sinclair then attended to review another patient - Patient A.

[49] Dr Ledingham returned to review Mrs Murphy at around 0904 hours. Dr Ledingham performed a vaginal examination ("VE"). She noted that the CTG monitoring showed a deterioration and that urgent delivery was necessary. She rotated Freya manually as she was ROP. An instrumental delivery was planned to take place in the room. At around 0913 hours Dr Sinclair attended at the room to advise Dr Ledingham that Patient A was being taken to theatre for assisted delivery by forceps. Dr Ledingham left to perform the theatre delivery of Patient A, and Dr Sinclair remained with Mrs Murphy for assisted delivery in the room by ventouse ("suction/kiwi cup").

[50] Dr Sinclair made preparations for delivery at 0914 hours and was assisted by midwives Helen Kidd and Alison Kilic. The neonatal team were requested to attend at the room for delivery, arriving at 0917 hours. Mrs Murphy was given a local anaesthetic and the Syntocinon infusion was increased to expedite delivery. The FSE was removed and the "kiwi cup" was applied. The baby was born over three contractions and "copious thick meconium" was noted at the time of delivery of the head.

[51] Freya Murphy was born at 0931 hours on 21 July 2018.

[52] Freya's cord was immediately clamped, and she was handed to the neonatal team and placed in the resuscitative. A "crash call" was placed for emergency neonatal assistance at 0933 hours, with the team arriving at 0934 hours including two Consultant Neonatologists. Freya was noted to be born in poor condition. She required prolonged resuscitation, including chest compressions, inflation breaths, and IV adrenaline. CPR was continued until 17 minutes of life when Freya's heart rate first increased to more than 100bpm. Freya was then transferred to the neonatal intensive care unit (ICU).

[53] On transfer to the neonatal ICU Freya was suspected to have severe hypoxic ischaemic encephalopathy with evidence of multi-organ failure. Freya remained within the neonatal ICU between 21 July 2018 and 28 July 2018. She received full neuro-intensive care, but despite this remained unresponsive with tests showing evidence of significant brain injury. Freya remained completely dependent on a ventilator. Freya was reviewed by a Consultant Paediatric Neurologist, and it was agreed that continuing with intensive care treatment was not in Freya's best interests and she was unlikely to survive. The decision was taken for care to be re-oriented from full intensive care to palliative care.

[54] Life was pronounced extinct at 2150 hours on 28 July 2018. Freya was 7 days and 12 hours old at the time of her death within Queen Elizabeth University Hospital, Glasgow.

[55] A post mortem examination was conducted on 1 August 2018 at the Queen Elizabeth University Hospital, Glasgow, by Consultant Paediatric and Perinatal Pathologist Dr Paul French, and the cause of death was recorded as:

1a. Global ischaemic brain injury associated with acute chorioamnionitis.

[56] A Significant Clinical Incident Investigation (SCII) was undertaken following the death of Freya Murphy by Greater Glasgow and Clyde Health Board. This review was undertaken by a team who had no prior involvement in the care of Freya or Mrs Murphy and was made up of staff from obstetrics, midwifery, and neonatology. Their report, dated August 2019, details the key findings of their review and comments on particular aspects of the care and treatment provided to both Freya and Mrs Murphy.

[57] The SCII team concluded that there were "issues identified that directly related to the cause of the event". The SCII team's report details 6 recommendations and these are contained at page 37 of their report.

[58] As part of the SCII team's investigation an external review was commissioned into the death of Freya Murphy and the care and treatment provided to Mrs Murphy. This was carried out by Dr Alastair Campbell, Consultant Obstetrician at the Royal Infirmary, Edinburgh.

[59] Dr Campbell's review was based on the electronic patient records of Mrs Murphy and staff statements. Dr Campbell did not have access to the electronic patient records of Patient A.

[60] The six recommendations from the SCII were as follows:

(i) A review of the labour ward should take place so that patients with immediate concerns can be identified and highlighted to the new team.

(ii) All staff should comply with the Scottish Government recommendations for foetal heart monitoring training–local CTG teaching and e-learning package on a 2 year basis.

(iii) An audit of peer review of CTG monitoring should be performed for quality assurance.

(iv) Completion and distribution of GG&C Guidelines on Pathology examination of placenta after delivery.

(v) Review of the GG&C syntocinon guidelines to include an assessment of the foetal heart rate with syntocinon use.

(vi) Medical and midwifery staff involved in the labour ward care of the patient should be supported to participate in a professional debrief and reflection on the care they provided. The debrief should focus on CTG interpretation; prioritising patients; planning of care particularly relating to change of risk status; leadership; escalation of care and team communication.

[61] These recommendations were accepted and implemented by QEUH.

Findings and recommendations sought

Crown

Section 26(2)(e)

[62] To make a finding in terms of this section that Freya's death might realistically have been avoided if a VE had been carried out and delivery undertaken at the time of Dr Ledingham's attendance in Mrs Murphy's room at around 0843 hours.

Section 26(2)(f)

[63] To make a finding in terms of this section, that a systemic defect that contributed to Freya's death related to staffing levels on the labour ward during the relevant period.

Section 26(2)(g)

[64] To make a finding in terms of this section, that the CTG was not appropriately reviewed during the relevant period that Mrs Murphy was in active labour.

[65] To make a finding in terms of this section, that the documentation and recording of information was insufficient.

Section 26(1)(b) and 26(4)

[66] To make a recommendation under these sections, that GGHB should review staffing levels across all shifts to ensure that staffing is sufficient to meet the needs of patients within the labour ward, postnatal ward, maternity assessment unit and any other maternity-related areas; in particular staffing should be sufficient such that where

theatres are available, there is suitable staffing levels to ensure that all available theatres can be utilised.

[67] To make a recommendation under these sections, that GGHB should remind their staff that all records created on BadgerNet (the NHS electronic healthcare record system) must be accurate, comprehensive and contemporaneous. Health Boards should audit BadgerNet and documentation to ensure that the expected standard of documentation is being achieved and maintained and that any changes made to BadgerNet should be highlighted as having been made in retrospect.

[68] To make a recommendation under these sections, that GGHB should ensure that auditing is undertaken in relation to peer review of CTG monitoring for quality assurance and ensure that all staff are appropriately trained in the interpretation of CTG.

Mr and Mrs Murphy

Section 26(2)(e)

[69] To make a finding under this section, that a reasonable precaution would have been for MW Kidd to either properly raise her concerns about Mrs Murphy's CTG between 0810 and 0835 on 21 July 2018; or sufficiently review the CTGs over the same period which would have led to earlier medical review.

[70] To make a finding under this section that a reasonable precaution would have been for Dr Ledingham to carry out a VE of Mrs Murphy at her 0843 hours review.

Section 26(2)(f)

[71] To make a finding under this section that the staffing levels of the labour ward were, at the relevant time, inadequate.

Section 26(2)(g)

[72] To make a finding under this section, that note taking at the relevant time was inadequate.

Section 26(1)(b) and section 26(4)

[73] To make a recommendation under these sections, that GGHB carry out a review as to whether mandatory screening for GBS be introduced in respect of pregnant women under their care irrespective as to whether this is their first pregnancy or not, or whether GBS has been detected previously.

[74] To make a recommendation that GGHB revisit their staffing level protocols.

Other parties

[75] On behalf of MW Kidd, I was asked to accept the submissions made by the Crown in terms of section 26(2)(f) of the Act. No other party to the FAI invited the court to make any findings or propose recommendations.

Structure

[76] I have not summarised all the evidence led on these matters. As requested I have not made formal findings in fact. I have concentrated upon that evidence which was of most relevance. Given the obvious link in evidence between certain findings and recommendations, I will consider them together. I take the findings and recommendations in the following order and chapters:

Section 26(2)(e)

(i) The findings sought in paragraphs 62 and 70, under the chapter heading of "Earlier Delivery".

(ii) The finding sought in paragraph 69 under the chapter heading of "CTG Interpretation and Action Thereon".

Section 26(f) and section 26(1)(b) and section 26(4)

(iii) The finding sought at paragraphs 63 and 71 and the recommendations sought at paragraphs 66 and 74 under the chapter heading "Staffing".

Section 26(2)(g) and section 26(1)(b) and section 26(4)

(iv) The finding sought at paragraph 68 under the chapter heading "CTG Review".

(v) The finding sought at paragraph 65 and 72 and the recommendation sought at paragraph 67 under the chapter heading of "Documentation and Note Taking".

Section 26(1)(b) and section 26(4)

(vi) The recommendation set out at paragraph 73 under the chapter heading of "GBS Screening".

Earlier delivery

[77] The importance of this possible lost outcome, was that all the relevant experts (Doctors Campbell, Hughes and Munro) were clear in their evidence that, while it was impossible to say if Freya would have been alive if she had been delivered at any of the possible earlier occasions, there was no doubt that her chance of survival improved with the earlier she was delivered. I will come back to this evidence in greater detail at a later stage.

Vaginal examination and earlier delivery

[78] Before considering this issue, it is appropriate at this stage that I say something here about the interpretation of CTG generally. It is tolerably clear from the considerable evidence which the court heard, that the interpretation of CTG results is not an exact science.

[79] It is of note that at the time of the events with which this FAI is concerned, there was no foetal monitoring guideline in place at QEUH for interpreting CTGs. There were National Institute for Clinical Excellence (NICE) Guidelines ("The Guidelines"). However these were not incorporated into a policy at QEUH until 2019. The language used in the Guidelines was referenced by the experts in expressing their opinions. This caused some confusion when these findings were put to medical staff who rightly pointed out that these particular terms were not in use at QEUH in July 2018. Be that as it may, what the CTG shows has not changed and the issue is whether that should have triggered a different response from those clinicians who were treating Mrs Murphy and Freya.

[80] Based on the guidelines a CTG can be classified as reassuring, non-reassuring or abnormal. This is then used to classify a CTG as normal, suspicious or pathological.

[81] All the experts appearing before me agreed that Freya's CTG was normal up to 0750 hours.

Expert evidence of Dr Munro

[82] He is a consultant neonatologist at Aberdeen Maternity Hospital. He was asked by the Crown to prepare a report in this case.

[83] That the brain injury which Freya suffered affected the function of the placenta. It deprived the placenta of oxygen. This in turn deprived Freya of oxygen. Freya asphyxiated. In such a situation the earlier a delivery could take place then the more chance of that making a difference. Studies in animals had shown that asphyxiation

could take place in less than 30 minutes. However, this was in a situation where the cord to the mother had been cut completely. He could not say when an earlier delivery would have made a difference to Freya surviving. If Freya had been born 10 or 20 minutes before the time when she was born, he could not say if she would have survived. It was impossible to say with any certainty as to whether, and if so at what time, earlier delivery would have avoided brain injury and death in Freya's case.

Expert evidence of Dr Campbell

[84] He is a consultant obstetrician and gynaecologist at the Royal Infirmary Edinburgh. He was asked by GGHB to prepare an external review of Freya's case. He had also prepared an updated report on this case.

[85] The report of Dr Campbell states that between 0800 hours and 0840 hours there was a significant deterioration in the CTG with the presence of deep variable decelerations. This was concerning in the context of meconium stained liquor, foetal malposition and suboptimal uterine activity. He considered that the CTG (on its own) was, in the language of the Guidelines now applying, pathological at 0845 hours. That a VE should have been carried out at 0843 hours.

[86] Dr Campbell's evidence was that if he had been in the position of Dr Ledingham at 0843 hours then, assuming that a VE had been carried out and Freya noted as ROP, then he would have done exactly as Dr Ledingham said she would have done, which was to admit Mrs Murphy to theatre. His evidence was that a manual rotation was difficult. That it was a skill.

[87] It was the evidence of Dr Campbell that he would have hoped that delivery could have taken place in theatre in around 30 minutes. Starting from 0843 hours then this would have resulted in delivery of Freya some 15 minutes earlier at around 0915 hours.

Expert evidence of Dr Hughes

[88] Dr Hughes, now retired, had been latterly the Clinical Director of Obstetrics and Neonatology at NHS Lothian as well as being a consultant obstetrician and gynaecologist and Director of Feto–Medicine Simpson Centre for Reproductive Health Edinburgh. She was called as an expert by the Crown.

[89] Dr Hughes agreed with Dr Campbell's assessment of the CTG and the need to do a VE. She agreed with Mr Tuffnell's assessment that from around 0845 hours the CTG was pathological and had been abnormal for around 15 minutes.

[90] On the issue of whether to admit Mrs Murphy to theatre or to deliver in the room, Dr Hughes' view was that Dr Ledingham should have proceeded to perform manual rotation at 0843 hours and then delivered Freya in the room. She thought that the decision at 0843 hours should have been for delivery of Freya. Her evidence was that if Dr Ledingham had performed this procedure then she would have been able to perform this quicker than Dr Sinclair did, in around 15-20 minutes. That the delivery of Freya 20-30 minutes earlier would have had benefits for Freya. She could not understand why a decision would be made to transfer Freya to theatre at 0843 hours

but not at 0904 hours. However, she accepted that performing a manual rotation was unusual. She accepted that she did not perform manual rotations in her own practice.

Expert evidence of Mr Tuffnell

[91] Mr Tuffnell, now retired, was a consultant in obstetrics and gynaecology at Bradford Hospitals from 1994 till 2019. He was a member of the development group for The Guidelines. He was called as an expert witness on behalf of Dr Ledingham.

[92] His evidence was that the CTG should be classified as normal, suspicious pathological. That this is assessed by considering the features of the CTG as to whether they are reassuring, non–reassuring or abnormal. For a CTG to be considered pathological, then there have to be non-reassuring or abnormal features for around 30 minutes. That in this case the CTG became abnormal after the FSE was applied at 0806 hours. That after 0840 hours it could be classified as pathological. Accordingly, it was pathological at around the time of the medical review by Dr Ledingham.

[93] In his opinion it was reasonable for Dr Ledingham not to carry out a VE at 0843 hours as she could see Freya's head. Thereafter, it was reasonable to wait for another 15 minutes for delivery to take place naturally. That the average time to achieve birth from a decision to deliver to an assisted vaginal birth in theatre is around 30 minutes.

Expert evidence of MW McConville

[94] MW McConville, now retired, was a midwife from 1984. She was latterly the Clinical MW Manager for NHS Grampian. She was called as an expert witness on behalf of Mr and Mrs Murphy.

[95] Ms McConville's evidence was that the CTG was pathological at 0836 hours.

Dr Ledingham's evidence

[96] On 21 July 2018 Dr Ledingham was the on call consultant for the obstetrics ward at QEUH. She is not expected to be in the hospital for the entire 12 hour period. She is expected to attend at hospital at 0830 hours and commence a ward round. If, as a result of that ward round there are no concerns, then the consultant may go home where she remains on call until 2030 hours. On such a shift she would work with a registrar and junior doctor. Prior to the ward round beginning, there would be a handover between the doctors who were coming off duty and those who were about to start. Ideally this would involve a formal sit down process where each patient in the ward would be discussed and along with any clinical concerns. There would also be a discussion about patients who might be admitted. Ideally this meeting should take around 15 minutes.

[97] On the morning of 21 July 2018, Dr Ledingham arrived to find a very busy labour ward. There were 12 labour rooms. There were 12 patients in the labour ward who were either in labour or had delivered their babies. In addition there were patients in the High Dependency Unit and in the Observation Area. This busy picture resulted in

a somewhat truncated handover. The handover consisted of a conversation between Dr Ledingham and Dr Watson, the registrar who had been on duty overnight.

[98] In that handover, she was told that Dr Watson was particularly concerned about Mrs Murphy and another patent on the ward ("Patient A").

[99] Patient A was said to be fully dilated for 45 minutes. There had been a prolonged deceleration in her CTG of more than 3 minutes.

[100] Dr Ledingham was told that Freya was ROP. The challenge caused by this situation is that the position of a baby's head does not fit with the shape of the mother's pelvis to allow for easy delivery through the mother's pelvis. That Mrs Murphy had been fully dilated since around 0530 hours. She had been pushing since 0630 hours. That meconium had been noted at 0650 hours. That an FSE had been applied at 0806 hours.

[101] Dr Ledingham's evidence was that prior to entering the room she was aware from the medical staff handover that Freya's was in the ROP position as at 0806 hours. That Mrs Murphy's contractions had decreased in frequency and strength. That syntocinon had been commenced at 0720 hours.

[102] Her evidence was that she was concerned that Mrs Murphy had been dilated since 0530 hours. She was concerned about the position of Freya being ROP and also about the fact that there had been meconium staining. Her priority following the handover was to see Mrs Murphy first.

[103] When Dr Ledingham entered the room, Mrs Murphy was still trying to deliver Freya. Dr Ledingham said that she could see that there were decelerations on the CTG

which had been present for just over 30 minutes. However the baseline heart rate was normal with good variability. Importantly she could see the hair of Freya's head. She took this to mean that Freya had turned around into the optimal AP. In all those circumstances she considered that labour was progressing and that it was reasonable to give Mrs Murphy another 10 to 15 minutes to see if Mrs Murphy could deliver Freya. She was also candid in saying that she was also aware that she needed to review other patients in the labour ward, especially Patient A. She told Mrs Murphy of this proposed course of action.

[104] Dr Ledingham's evidence was that she did not perform a VE because she saw Freya's hair. If she had performed such an examination then she would have noted that Freya was ROP. If that had been noted, then, in all the circumstances, she would have made the decision to instruct immediate arrangements to be made for Mrs Murphy to be transferred to theatre for an assisted delivery. It was her practice not to perform a rotation of a baby in a room. That is something which she would ordinarily only do when in theatre after a spinal anaesthetic had been administered for pain relief. She had only performed a manual rotation at 0904 hours because she was concerned by the CTG by that time. The decelerations were taking longer to recover with a decreased variability, she was also aware of the potential competing interests posed by Patent A.

[105] Dr Ledingham's evidence was that if she admitted Mrs Murphy to theatre then the average time for delivery would have been around 50 minutes, though in practice it could be sooner. To have performed a VE would have taken around 10 minutes. Her

evidence was that GGHB's Guidelines, at this time, required a consultant to be present in theatre for an assisted birth in case a caesarean was necessary.

Submissions

[106] What was clear from the experts was that in assessing the stress on a baby in these circumstances, reliance should not just be placed in the CTG reading. This should be read in accordance with the full clinical picture. The concerning features in this case were the earlier presence of meconium, the fact that Freya was ROP and the length of labour.

[107] Against that background, it was the position of the Crown and Freya's mother and father that Dr Ledingham should have carried out a VE at 0843 hours. That this VE would have identified that Freya had not in fact turned to the AP. Thereafter however, the reasonable precautions sought, differ.

[108] The Crown suggests that such a discovery by way of VE should then have led Dr Ledingham to have rotated Freya in the room and then proceeded to perform an assisted delivery in the room.

[109] On behalf of Mr and Mrs Murphy, it was said that the performance of a VE should have led to Mrs Murphy being admitted to theatre for delivery.

[110] What each of these proposed findings were said to have in common was that would have resulted in Freya being delivered earlier and therefore having a realistic possibility of survival.

[111] In connection with whether what was being proposed amounted to a reasonable precaution in terms of the Act, my attention was drawn by the Crown to a recent opinion of Lady Haldane in the case of the *Petition of Karen Duncan* 2024 CSOH 114. This decision arose from an FAI into the death of a child. In her determination the sheriff had made a finding that it would have been a reasonable precaution, which might have resulted in the death of that child being avoided, if the petitioner had referred the child to the paediatric assessment unit of a hospital. In rejecting a challenge to this finding as amounting to a reasonable precaution, the court adopted and endorsed what was said by Sheriff Braid, as then was, in his determination in the case of *Bellfield:*

> "I do not see why it is not open to me to hold that, even though what was done was reasonable, other reasonable precautions might also have been taken which might have prevented the death."

[112] As identified by Lady Haldane in *Duncan*, if there is evidence before me, which I accept, to the effect that a VE was a precaution which could reasonably have been taken which might have avoided the death of Freya, then I am entitled, indeed mandated, to include such a finding to that effect in my determination.

[113] On behalf of Dr Ledingham it was submitted that, if a VE had been carried out, then Dr Ledingham would have decided to admit Freya to theatre. This would have not have resulted in Freya being born any earlier than she was. Further to have proceeded with the delivery at 0843 hours would have left Patient A without a consultant review for an hour (accepting Dr Ledingham's evidence as to how long it could take for theatre delivery). That this could have resulted in tragedy for Patent A's baby. I was also

referred to the evidence of Mr Tuffnell who said that Dr Ledingham's decisions had been reasonable.

[114] In respect of the GGHB, it was accepted that the SCII had found that Dr Ledingham should have carried out a VE at 0843 hours. However, reference was made to the opinion of Lord Armstrong in *Sutherland* v *Lord Advocate* 2017 CSOH 32. In reference to this authority, it was submitted that the court should avoid determining that the possibility of a different decision taken in an exercise of clinical judgment by a clinician could amount to a reasonable precaution within the meaning of the Act despite that possibility having been the better option.

[115] No other party made submissions on these proposed recommendations.

Findings on whether carrying out a VE at 0843 was a reasonable precaution

[116] The SCII found that a VE should have taken place at 0843 hours. Dr Hughes was of the opinion that a VE should have taken place at 0843 hours. Dr Campbell was of the opinion that a VE should have taken place at 0843 hours. Dr Tuffnell's evidence was that the decision not to carry out a VE at this time was a reasonable one.

[117] It was obvious from the way in which she gave her evidence, that Dr Ledingham has been deeply affected by Freya's death. She said in her evidence that there was not a day which went past when she did not think about what had happened. She is clearly a dedicated consultant who was trying to provide the best care possible in extremely trying circumstances.

[118] Upon arriving at her work on Saturday morning the 21 July 2018, she was instantly confronted with a challenging work load, in terms of both numbers and complexity. It was a perfect storm of competing pressures. In that fast moving and fluid context she had to make important decisions about what to do and when to do it. She now finds that decision making process subject to detailed, minute by minute analysis by those operating in much calmer conditions and many years later.

[119] Dr Ledingham of course was up against time pressures. This was a busy ward. Patient A and Mrs Murphy were of particular concern. However, from Dr Ledingham's evidence, from the handover, she had decided that Mrs Murphy was the priority for her to see.

[120] From the evidence of Dr Ledingham and all the relevant experts, the possibility of Freya being in the ROP position was a matter of concern. If Freya was in the ROP position, then an assisted delivery would be required. Whether in the room or in theatre. Whether that was the case could have been determined by a VE. I heard evidence that such an examination, for the limited purpose of determining simply the position of Freya, could be done while on a ward round and would not be time consuming (around 10 minutes). I note that Dr Tuffnell's opinion was that Dr Ledingham's decision not to perform a VE at 0843 hours was reasonable. However, as was said by then Sheriff Baird in Bellfield and approved by Lady Haldane in *Duncan*:

> "I do not see why it is not open to me to hold that, even through what was done was reasonable, other reasonable precautions might also have been taken which might have prevented the death."

Given the importance of knowing Freya's position, the relatively short time which would be involved in carrying out a VE and the fact that it would put Freya's position beyond doubt and taking in to account the other expert evidence which I heard on this matter, I am clear that the performance of a VE at 0843 hours was a reasonable precaution which should have been taken by Dr Ledingham.

[121] However the importance of this precaution is only material if it might have afforded a realistic possibility of avoiding Freya's death by way of earlier delivery, either in room, or in theatre.

In room delivery

[122] It was clear from the evidence of Doctors Campbell and Hughes that the performance of a manual rotation is something which is normally, if not exclusively, performed in theatre with an anaesthetic. Dr Ledingham decision to perform this procedure in Mrs Murphy's room, without an anaesthetic, was unusual and bold. Dr Campbell evidence was that he would not have performed a manual rotation at 0843 hours but would have admitted Mrs Murphy to theatre. Dr Hughes' evidence was that a manual rotation should have been performed in the room at this time. However she accepted that this was not something which she would carry out in her practice.

[123] Because Dr Ledingham performed a manual rotation at 0904 hours when she knew Freya was ROP, I do not find that this means that she should have done this at 0843 hours if she had been armed with similar information. That was Dr Ledingham's

evidence. She explained why she felt the situation was more urgent at 0904 hours than at 0843 hours. This was due to the deterioration in the CTG. I accept that evidence. Accordingly, I cannot accept the Crown's position that Dr Ledingham would have manual rotated Freya and then proceeded to delivery in room if she had performed a VE at 0843 hours. Even if this had happened, for the reasons set out below, I cannot find that this would have resulted in a realistic possibility of Freya's death being avoided.

Admission to theatre

[124] The position of Mr and Mrs Murphy is that Dr Ledingham should (having carried out a VE) have admitted Mrs Murphy to theatre at 0843 hours. Dr Ledingham of course accepted that if she had carried out a VE this is what she would have done. Standing my comments above, I find that if a VE had been performed, then this is the course of action which would have been followed by Dr Ledingham. This then raise the issue of whether this precaution might realistically have avoided the death of Freya.

In room delivery at 0843 - How much earlier might Freya have been born?

[125] Clearly timings on these hypothetical alternative scenarios cannot be precise. However, I did hear evidence which allowed informed estimates to be made. From Dr Ledingham returning to the room at 0904 hours to Freya being delivered at 0931 hours took 27 minutes. Accordingly, if the in room delivery process had started at 0843 hours as the Crown contends should have been the case and not 0904 hours as was the case, then Freya would have been born at around 0910 hours, around

21 minutes earlier than she was born. Taking Dr Hughes evidence, then she might have been born around six minutes earlier than that.

Theatre delivery decision at 0843 - How much earlier would Freya have been born?

[126] If a decision had been made for Mrs Murphy to be admitted to theatre, then, taking the evidence of Dr Ledingham, Campbell and Tuffnell together (and allowing for Dr Ledingham's suggestion that birth could be earlier than her estimate of around 50 minutes), then Freya would have been born around 30 minutes after 0843 hours, at 9:13 hours. So around 18 minutes earlier than was the case (0931 hours).

Realistic possibility of avoiding death

[127] The only potentially realistic way in which Freya's life might have been saved is if she had born earlier. Would either of the proposed courses of action have resulted in Freya being born at an earlier time such that there would be a realistic possibility of her surviving?

[128] In defining what is meant by a realistic possibility, I adopt what was said by Sheriff Collins in his determination in the recent case of *Allan* and *Brown*:

> "..The precaution must be one which if taken might realistically have resulted in the death being avoided. Accordingly it is not necessary for the court to be satisfied that the precaution would necessarily have had this result, or even that it would probably have done so. What is required is rather a realistic possibility that the death might have been avoided, or put in other ways, an actual rather than a fanciful possibility, a real rather than a remote chance"

[129] Dr Munro would not commit to Freya surviving if she had been born 10 or 20 minutes earlier. He did not commit to any earlier time. Clearly the earlier Freya had been born on this morning, the better. However, absent any evidence that Freya would have survived if she had been born around 18 or 21 or 27 minutes earlier, I find it impossible to say that any of the potential precautions suggested might realistically have resulted in Freya's death being avoided. Accordingly, on the evidence before me, I am unable to make either of the findings sought by the Crown and Mr and Mrs Murphy.

[130] I turn now to the next proposed finding.

CTG interpretation and action thereon between 0800 hours and 0843 hours

Evidence of MW Kidd

[131] That at around 0820 hours as she was concerned about the CTG with regular decelerations developing, she went to see Dr Watson. She left Mrs Murphy and shared her findings with Dr Watson in the duty room. This was an unusual step for a midwife to take. Mrs Murphy's CTG was visible on a screen in the duty room. MW Kidd pointed to the screen. She told Dr Watson that she was concerned. Dr Watson said that "She knew" but that "She (Mrs Murphy) is not for me." Dr Watson was busy at this time preparing for handover. She felt reassured by what Dr Watson said. She accepted that she did not keep a note of this conversation on BadgerNet.

[132] At 0841 hours she heard a deep prolonged concerning deceleration on the CTG. She considered pressing the room buzzer but was not sure whether staff would be available to assist her as the ward was extremely busy. She realised that the CTG

tracing had some concerning features. She opened the door of the room to see if there were staff in the corridor. She shouted to MW Kilic and Dr Ledingham whom she saw in the corridor, that she was concerned about the CTG as the decelerations were deeper and more prolonged and the baseline had jumped up. MW Kilic stated "they are busy they are going to theatre". MW Walsh took the "they" to mean the doctors who were on duty. Having raised concerns, she returned to Mrs Murphy.

[133] That when Dr Ledingham entered Mrs Murphy's room at 0843 hours, she was on her own. It did not seem to be part of the ward round as usually all the doctor's starting their shift would be present. That when Dr Ledingham had left the room she had not communicated any plan for the delivery of Freya.

[134] She pressed the patient buzzer at 0858 hours. She was looking for help. A nursing auxiliary came straightaway. She told the auxiliary that there had been a prolonged deep deceleration and that she should fetch the medical staff immediately. If they could not be found she was going to press the emergency buzzer.

[135] When Dr Ledingham returned to the room at 0904 hours she was concerned that Freya was still not going to be delivered. She asked Dr Ledingham "Can you not just weech it out?" She was concerned that Dr Ledingham did not seem to be in a hurry to do anything.

[136] She felt Dr Watson and Dr Ledingham did not take her seriously. She had conveyed her concerns. She accepted that she did not keep a record of her concerns or her conversations with Doctors Ledingham and Watson on BadgerNet. Her explanation

for this was that she had been concentrating on providing care to Mrs Murphy. She felt she had done the best which she could.

[137] It was accepted by her that she had retrospectively amended BadgerNet records in relation to certain matters without marking them as having been retrospectively made. For instance approximately 24 hours later she had added, beside the time 0904 hours, the words "late decelerations locating Dr Ledingham, took time to locate medical staff as in theatre all extremely busy, consultant now in room to review at 0904". This entry was made by her on the 22 July at 0915 hours. Further, in an entry recorded beside the time of 0855 hours on 21 July, but made on 22 July she had added the words "overall acceptable for second stage".

Evidence of Dr Watson

[138] It was the evidence of that Dr Watson that MW Kidd had not raised any concerns with her at 0820 hours. She had spoken with MW Kidd sometime between 0805 hours and 0815 hours at which time MW Kidd informed her that a FSE had been applied. If she had concerns re the CTG, then MW Kidd should have paused the synotopin and requested a medical review.

[139] In preparing for handover to the day shift medical staff between 0815 hours and 0830 hours, she had noted the decelerations on Mrs Murphy's CTG, which seemed to have begun shortly before. She assessed the CTG trace via the screen in the duty room at around 0825 hours. The baseline and the variability appeared to be maintained between the decelerations which were occurring with less than 50% of the contractions.

Some of them seemed to be early in nature and others more typically variable. She felt these were consistent with second stage of labour. Dr Watson also recalled seeing and hearing a concerning deceleration on Mrs Murphy's CTG trace at around 0835 hours.

Dr Ledingham's evidence

[140] Dr Ledingham denied that prior to commencing her ward round, MW Kidd had called out of Mrs Murphy's room and asked for her and MW Kilic to come and assess Mrs Murphy.

Expert evidence of MW Jean McConville

[141] She explained that a deceleration is the foetal heart's response to the uterus contracting. It shows the baby's heart is getting tired. It is the heart rate slowing. It shows the baby becoming tired. There is a need to look at the whole picture. The first concern was about 0810 hours. To be pathological there would require to be non-reassuring indications for 30 minutes. At this time MW Kidd should have sought a medical review from a doctor.

Submissions

[142] On behalf of Mr and Mrs Murphy it was submitted that it would have been a reasonable precaution for MW Kidd to either properly raise her concerns about Mrs Murphy's CTG between 0810 hours and 0835 hours or sufficiently review the CTGs over the same period which would have led to earlier medical review.

[143] That the CTG was visibly concerning at 0835 hours. Despite this, the notes made by MW Kidd reflect no such concern. That no concern was raised with Dr Ledingham at 0843 hours. That if concern had been raised at 0835 hours, then Dr Watson was still on ward and that Mrs Murphy would have been taken to theatre before Patient A. That Freya may have been delivered around 30 minutes earlier. That this may have given her a realistic chance of survival.

[144] The Crown made no submissions under this heading. They did not invite me to find that this was a reasonable precaution.

[145] On behalf of Doctors Ledingham, Watson and Sinclair and GGHB, I was invited to make no finding.

[146] On behalf of Doctors Watsons and Ledingham, I was asked to prefer their evidence with regard to what was, or was not said between them and MW Kidd.

[147] On behalf of MW Kidd, I was asked to prefer her evidence as to her expressing concerns to Drs Watson and Ledingham re the CTG. I was reminded that the SCII had accepted that MW Kidd had spoken to these doctors. I was reminded that even if the court were to find that these discussions did not take place, that both doctors had reviewed the CTG for themselves.

Findings

[148] The first issue which requires to be considered under this heading is to resolve the conflicting contradictory evidence given by Doctors Ledingham and Watson and

MW Kidd. Resolving this requires consideration of issues of credibility and/or reliability.

[149] There are obvious competing versions of events as to whether MW Kidd expressed concern re Mrs Murphy's CTG to Drs Ledingham and Watson. On this point I find MW Kidd's evidence to be unreliable and I prefer the evidence of Dr Watson and Dr Ledingham where there is a conflict in their evidence and that of MW Kidd.

[150] Decisions on credibility and reliability are, of course, matters for me. I do not accept that these two doctors are unreliable or incredible on whether these discussions occurred. In assessing the witnesses, I note that both doctors showed themselves willing to make appropriate concessions, contrary perhaps to their own interests, on other matters. Further, none of what MW Kidd said happened is found within her notes on BadgerNet. I accept that the purpose of such notes is not to leave a record for potential court proceedings. Also there is no doubt that MW Kidd was busy providing care to Mrs Murphy and rightly her concentration was upon that role. Further, conversations said by other witnesses to have occurred are not recorded in BadgerNet. However, I cannot accept a picture of a midwife so concerned about a patient's CTG that she was leaving the room to bring this to the attention of Dr Watson and shouting out of the room to Dr Ledingham and MW Kilic and yet nothing of this being noted on BadgerNet. Nor is anything noted on BadgerNet of her having any concern re the CTG readings.

[151] Finding as I do that MW Kidd did not bring her concerns to the attention of Drs Watson and Dr Ledingham, should she have?

[152] As is pointed out on behalf of Mr and Mrs Murphy, the interpretation of CTG is not an exact science. However, all the relevant experts were in agreement that the CTG was concerning by around 0835 hours. I accept the evidence of MW McConnville that by about that time MW Kidd should have sought a medical review.

[153] However, even if this had been done, I do not find that it might realistically have avoided the death of Freya. This is for two reasons. Firstly, notwithstanding MW Kidd's failure to proactively bring the matter to the attention of doctors, two doctors did view the CTG during this period. Dr Watson, at 0825 hours in preparing for the handover, and Dr Ledingham at 0843 hours when she came to see Mrs Murphy. Neither sought to immediately admit Mrs Murphy to theatre. Secondly, even if at around 0835 hours, MW Kidd had expressed concern to them and this had then triggered a medical review and in turn a decision to admit to theatre, for the reasons outlined at paragraph 129, I cannot find that Freya's death might realistically have been avoided.

[154] Accordingly, I do not make the finding sought by Mr and Mrs Murphy under this heading.

Staffing levels

Dr Ledingham's evidence

[155] Dr Ledingham gave evidence regarding the staff complement for the labour ward in so far as doctors are concerned at the weekend (21 July 2018 was a Saturday). As the consultant, she was on call. This meant that she was on call from 0830 hours until

2030 hours. She required to attend the hospital at 0830 hours. She then would be expected to stay at the hospital for around four hours before being able to potentially return home, subject to the pressure of business. Within the ward there is a registrar and a very junior doctor. There are 12 rooms on the ward. Each room has a patient. Each room is staffed by a midwife. The position is different during the week. At this time the consultant is "on shift". This means that they are present during the day.

[156] That on the day of Freya's birth the ward was exceptionally busy. All 12 rooms were occupied. When she arrived, she heard the unit co-ordinator for midwifes trying to find more midwifes to attend for a shift as they had insufficient midwifes in the labour ward. Not only were the patient numbers high, but the acuity was also challenging. Mrs Murphy and Patient A were both patients about whom she was concerned. Each might require to be admitted to theatre. There was another patient in the High Dependency Unit. Part of her decision making around Mrs Murphy was influenced by the fact that she knew that she had two women who needed to go to theatre, but that only one theatre was available. She had competing priorities. She described how this contrasted with the position during weekday business hours. At this time, there are two theatres. One of these theatres is performing elected, planned procedures, most commonly caesarean sections. However, this list can be interrupted at a suitable point to accommodate an emergency. Further, that during the week there will be anaesthetists and midwifes necessary for a second theatre to be properly staffed. This is not the case at the weekend. She also gave evidence that while there is a similar complement of doctors available from the gynaecology ward, they will often be very

busy themselves. On the weekend Freya was born, she did not see her colleagues from that department. She could ask for a second theatre to be opened up, but that this would involve a transfer to another building in the hospital estate with the delays which would come from that and then there would still need to be staff available.

[157] In response to a question from the court, Dr Ledingham's evidence was to agree that women in labour can experience emergencies at any time and that the difference in staffing levels of doctors between "business hours" during the week and at weekends and at night time, "did not make sense".

Dr Watson's evidence

[158] The labour ward was exceptionally busy when she handed over to Dr Ledingham. If she had needed to open a second theatre during the evening, then she would not have been able to do that. There were two patients of concern (Mrs Murphy and Patient A, who both needed urgent delivery. She agreed that this presented a horrendous perfect storm. There were competing interests. If this had happened during the working week then there would have been no shortage of doctors. This would have made matters easier.

Dr Richmond's evidence

[159] She is a consultant obstetrician. She is also the Clinical Director for GGHB. She is responsible for the strategic operation of QEUH 's labour ward. This includes staffing. The staffing complement for the labour ward is the same at the weekend as

it in the evenings. There is one consultant obstetrician, one registrar and one junior doctor. However, at the weekends and in the evenings, the consultant may be on call. During the working week other doctors are available in the hospital because they are engaged in other activities. The basis for this compliment is not a national guideline but rather is found in historical workload. On 18 July 2018 the expected number of doctors were on shift. The gynaecology team is available if additional help is required.

[160] That in terms of midwifes, they were three midwifes short of establishment. That the level of establishment is calculated at a corporate level.

[161] That working in the labour ward can be challenging at peak times both in terms of the number of patients and the acuity of those patients. The position is the same for theatres at the weekend. There is one theatre for planned procedures and one for unscheduled procedures. If a second theatre is needed, separate staff can be brought in. There is even the possibility of opening a third theatre. It is usually possible to stagger cases in theatre. Lots of procedures can be carried out by a registrar on her own. There are frequently two theatres operating at the weekend. The view of Dr Ledingham that there was inadequate staff was a personal comment upon which she could not comment.

Dr Tuffnell's evidence

[162] That based on his experience, the medical staffing of the maternity unit at QEUH on the 21 July 2018 was entirely in line with other units in the country. That there was a

degree of risk in any healthcare system. That it would be expensive to increase the number of consultants and there would not be enough to go around.

Submissions

[163] The Crown submitted that the staffing levels on the maternity ward contributed to Freya's death. That this was a systemic defect in the system of working.

[164] The focus of the Crown's attention was upon the difference in staffing levels at the weekend as compared to during a week day. It was said that no satisfactory explanation had been given for such a difference. That women will go into labour at any time of the week and there is no justification for having a reduced staffing complement at the weekend. That the evidence described a situation where it was difficult if indeed impossible to get assistance at the weekend.

[165] On behalf of Mr and Mrs Murphy, a similar submission was made.

[166] On behalf of MW Kidd, I was invited to accept the Crown submission in terms of section 26(2)(f). No other party invited me to make any findings or recommendations under this heading.

[167] On behalf of the GGHB, I was told that the Health and Care (Staffing) (Scotland) Act 2019 came into force on 1 April. That this legislation sets out requirements for safe staffing across both health and care services. That duties are placed on inter - alia Health Boards to ensure that at all times the appropriate number of qualified staff are working to meet the needs of patients.

[168] With regard to the staffing levels on 21 July 2018, I was reminded of the evidence of Dr Richmond that every shift is covered by the same number of medical professionals (albeit at weekends the consultant may be on call) and that in an emergency at weekends and in the evening, other staff are available from elsewhere in the hospital.

[169] That the position with regard to staffing was similar to that which exists across the country. That prioritising clinical care can be challenging and complex regardless of whether it is a weekday, overnight or the weekend. That in the scenario of two women needing access to theatre at the same time, then with good communication and team work this can be accommodated.

Findings/recommendations

[170] The clear evidence of Dr Watson and in particular Dr Ledingham was that having two women who might need to admit to be admitted to theatre as emergencies at the same at the weekend created a problem. That problem was that there was insufficient staff for them to open a second theatre to allow both to be dealt with simultaneously.

[171] I accept the evidence of Dr Richmond as to the principle of how practices and procedures should operate. However, I place great reliance on the evidence of the doctors who were "on the ground" on 21 July 2018 and described those practices and procedures being tested in a real world situation. Dr Ledingham was very clear in stating that opening a second theatre within the time which it would be required would not be a possibility. The reason for that being that she could not be sure that there

would be enough doctors or midwifes to staff that theatre. She was equally clear that if this same situation had occurred during a weekday, this would not have been a problem as she would have known that other suitable doctors and midwifes would have be available to staff that theatre. Agreeing that such emergencies, requiring the opening of a second theatre can arise at any time, her view was that this difference "does not make sense".

[172] Looked at in isolation it is hard to argue with such a comment. I accept that evidence. My clear impression from the evidence was that if this tragic event had occurred on a Monday at around 0840 hours, as opposed to a Saturday, then the inability to open a second theatre would have been one less issue for Dr Ledingham to worry about. It does seem to me on the basis of the evidence I heard, that if an emergency of this type arises, with two patients both of whom need to be in theatre at the same time, then QEUH is far better able to cope with that demand during a weekday than at the weekend. As such emergencies can arise at any time, it seems to me that such a situation might amount to a defect in the system of work. However, I do take into account the evidence which I heard that the number of doctors on duty on 21 July 2018 accords with staffing compliments across the country. While a response that "this is what happens everywhere else and always has" does not mitigate against a finding of a defect in a system of work, I did also hear some evidence that there would simply not be enough medical staff (in particular consultants) available to provide enhanced cover at weekends or in the evenings. In these circumstances, I did not hear enough evidence for me to determine that staffing levels amounted to a defect in the system of working.

[173] Further, even if I had come to the conclusion that this was such a defect, I cannot find that this would have resulted in a realistic possibility of Freya surviving. It was not Dr Ledingham's evidence to say that if the opening of a second theatre had been a realistic possibility, then she would have behaved any differently at 0843 hours. She would still have allowed Mrs Murphy some time to deliver Freya. Even if she had carried out a VE and confirmed that Freya was ROP, then she would still have admitted Mrs Murphy to theatre. In that regard see paragraph 129.

[174] The issue becomes more prevalent at 0904 hours when she returned to Mrs Murphy's room from having seen Patient A (whom she knew was going to have to go to theatre) and decided that Freya also needed to be delivered. If the second theatre had been available, what difference would that have made? Given the various timings set out above, Freya would not have been delivered before the time at which she was born in any event. In these circumstances, for the reasons set out in paragraph 129, I cannot find that this might realistically have avoided the death of Freya.

[175] However, if such a similar situation (two women requiring to be admitted to theatre at the same time) were to arise again in similar circumstances (at the weekend or in the evening), then based upon the evidence which I heard, there are clearly challenges to opening a second theatre at these times. Accordingly for this reason, I do make the recommendation in the terms essentially sought by the Crown (and broadly proposed on behalf of Mr and Mrs Murphy) that in terms of section 26(1)(b) and section 26(4) of the Act, GGHB should review staffing levels across all shifts to ensure that staffing is sufficient to meet needs of patients within the labour ward, post-natal ward, maternity

assessment unit and other maternity related areas; in particular, staffing should be sufficient such that where theatres are available, there is suitable staffing levels to ensure that all available theatres can be utilised within an expeditious time.

CTG review

[176] Both the Crown and Mr and Mrs Murphy sought a finding relating to this. I was reminded that the SCII found that review of the CTG was suboptimal in this case in that there was no peer review of the CTG. I was also reminded that Dr Hughes in her expert report described that there should have been more comments written on the CTG by medical and midwifery staff.

[177] No finding was proposed by any other party.

[178] On behalf of GGHB it was accepted that it was correct to say that the review of the CTG had been suboptimal. This was something which had been acknowledged in the SCII Report. The SCII Report included recommendations for both CTG training to be given and for an audit of CTG peer review. Both of these recommendations have since been implemented.

Findings/recommendations

[179] Given that action has already been taken in relation to these matters, I do not consider that this proposed recommendation is required.

Documentation and Note Taking

Evidence of Dr Ledingham

[180] She accepted that the BadgerNet system had no recorded notes from herself at the time of the 0843 hour review with only a short note from MW Kidd which read "Sr Kilic made aware of deep early declarations now with medical staff present. Observing contractions and ctg."

Evidence of Dr Watson

[181] She accepted that she did not record anything about her conversation with MW Kidd at 0810 hours.

[182] She also explained that it was possible to write notes on BadgerNet in retrospect. She gave evidence that MW Kidd had returned to the ward first thing on Sunday morning and altered her contemporaneous notes without recording that this had been done in retrospect.

Evidence of MW Kidd

[183] She accepted that she had not recorded anything about the conversations which she said she had with Dr Ledingham and Dr Watson. Nor had she recorded anything about her concerns regarding the CTG in BadgerNet. Her explanation for this was that she had been reassured by what she had been told by Dr Watson and Dr Ledingham and that she had been concentrating upon providing care to Mrs Murphy.

[184] She accepted that she had retrospectively written on the BadgerNet notes. Her explanation for so doing not being to alter them, but rather to add to them a more accurate picture. She also suggested that some entries might have been made by others using her BadgerNet login.

Submissions

[185] On behalf of the Crown and Mr and Mrs Murphy, it was said to be clear from the evidence that contemporaneous record keeping was poor. That important information in relation to Mrs Murphy's labour was not being recorded or what was recorded was not accurate.

[186] That notes which had been made in retrospect had not been so marked. This caused problems in knowing who knew what and when.

[187] In this regard I was invited to make a recommendation in terms of section 26(2)(g) of the Act that GGHB should remind their staff that all records created on BadgerNet must be accurate, comprehensive and contemporaneous. That GGHB should audit BadgerNet documentation to ensure that expected standards of documentation are being achieved and maintained and that any changes to BadgerNet should be clearly highlighted as having been made in retrospect.

[188] No submissions were made under this heading on behalf of Dr Sinclair. On behalf of Drs Ledingham and Watson and MW Kidd I was invited not to make any recommendations under this heading as it was said not to be relevant to Freya's death.

[189] On behalf of the GGHB, I was reminded that entries in medical records may not be a complete record of events and that they are not maintained for the benefit of lawyers: *McConnell* v *Ayrshire and Arran Health Board* 2001 REP LR 85.

[190] That any difficulties caused by notes which were not marked as retrospective cannot be said to have played a role in Freya's death. With regard to the differences in evidence between Drs Ledingham and Watson and MW Kidd, these concerned differences in recollection as opposed to differences in note taking.

Findings and recommendations

[191] On this matter, I prefer the submissions made on behalf GGHB. I make no findings.

[192] From the evidence above, it is clear that there was a factual dispute between MW Kidd and Drs Ledingham and Watson. Conversations and concerns which MW Kidd said she had, were not recorded on the Badgernet system. Given my findings above, I find that the reason for that is these conversation did not occur. However there were other examples from the evidence of problems with record keeping.

[193] The making of notes on BadgerNet at a retrospective stage, without marking them as such, is clearly bad practice. It does cause problems in an FAI such as this in determining what was noted and when, however, I do not consider that this was relevant to Freya's death. This is not a situation where wrong decisions were made on the lack of information on notes or erroneous information contained in notes. Those records then being altered in an attempt to make the position look different than it was.

[194] It was poor practice of MW Kidd to alter BadgerNet notes at a later stage without marking those notes as retrospective. However, for the purposes of this FAI I need not say anything further about those actions.

[195] In respect of the lack of entries supporting her evidence with regard to what her concerns were regarding Mrs Murphy and what she told Drs Ledingham and Watson, I have already commented upon that above.

[196] Accordingly, I do not make the finding sought by the Crown and on behalf of Mr and Mrs Murphy on this issue.

GBS screening

Expert evidence of Dr French

[197] He conducted Freya's post-mortem. GBS was the most likely organism responsible for the acute chorioamnionitis. GBS was cultured from ear and throat swabs from Freya after birth and also from a wound swab taken from Mrs Murphy. However possible complications relating to Freya's birth at delivery and obstetrics care provided may have contributed to the ischaemic brain injury and could not be excluded.

Expert evidence of Dr Munro

[198] His view was that chorioamnionitis was the most likely cause of Freya's death. This affects the placenta function. It deprives the baby of oxygen. The most likely cause of this was GBS. Mrs Murphy had tested positive for GBS following the birth of Freya. Freya had also tested positive for GBS.

[199] GBS is found in around one third of pregnant woman. GBS is found in 5% of babies. There is then a mortality rate in those children of 0.5%. Accordingly, tragic consequences due to this condition are very rare. However, there were around 45,000 births in Scotland last year. So 15,000 babies are potentially exposed to GBS every year in Scotland.

[200] That GBS is not routinely screened for in the UK. It has been screened for in the USA since 2002. It is also screened for in other countries such as Spain and Australia. If a screening results in a positive test, then the mother (and baby) are treated with antibiotics. That the reason why screening does not take place is that if a screening where to highlight a positive test and a baby in the womb were to receive antibiotics then this could result in the "good bugs" within the gut being killed off. However, his view was that this risk was theoretical, albeit, he conceded that it was a theoretical risk to thousands of babies, set against the tiny fraction who have a problem from contracting GBS. While he accepted that transmission was a rare occurrence, his evidence was "try telling that to a mother who has lost her baby" to GBS.

[201] It was his opinion that such screening should be implemented in the UK.

[202] He understood that there was a trial going on and that this was being overseen by the National Screening Committee. He understood that this was going to complete its work next year (2025 at the time of his giving evidence).

Expert evidence of Dr Hughes

[203] In her expert report, Dr Hughes commented that the use of antibiotics in pregnancy is seen as resulting in the over medicalisation of pregnancy and labour. That there are concerns about creating drug resistance resulting in infection with other organisms. When antibiotics are administered to a women in pregnancy they pass into the foetal bloodstream and ought to reduce risk by over 80%.

[204] That the Royal College of Obstetricians and Gynaecologists (RCOG) recommend that certain risk factors should be treated with the appropriate antibiotics. Those risk factors were:

(i) A previous baby affected by GBS disease.

(ii) GBS carriage (in the vagina or urinary tract) in this or a previous pregnancy.

(iii) Confirmed preterm labour.

(iv) Pyrexia of 38% in labour.

Submissions

[205] On behalf of Mr and Mrs Murphy, it was conceded that there was insufficient evidence to allow a conclusion to be drawn that GBS infection caused or contributed to Freya's death. The bacteria was only detected in Freya's skin and not in the umbilical cord or uterus. Further, Freya's delivery was delayed in circumstances were there was possible hypoxia. As such, there were other factors which caused Freya's death.

[206] However, I was asked to make a recommendation that GGHB carry out a review as to whether mandatory screening for GBS be introduced in respect of all pregnant women under their care, irrespective of whether this is their first pregnancy or not, or whether GBS had been detected previously. Any such review to be carried out in conjunction with the RCOG. It was said that this FAI had brought to light an anomaly in the current system, in that routine screening is not carried out in a woman's first pregnancy in the UK.

[207] It was submitted that swabbing for GBS was a non in-invasive, swift process. It was accepted that transmission was a rare occurrence, but I was reminded of the evidence of Dr Munro of "try telling that to a mum who has lost her baby" due to GBS. I was told that risks could be explained to mothers who could then make an informed decision as to whether they wished to have antibiotics. That this would place the UK in the same position as other modern developed healthcare systems. It was said that this would leave a suitable legacy for Freya.

[208] No submissions were made under this heading on behalf of the Crown. On behalf of Dr Ledingham it was submitted that I should bear in mind that the unchallenged expert evidence was that Freya's death was unavoidable.

[209] No submissions were made on behalf of Dr Sinclair, Dr Watson or MW Kidd.

[210] With regard to GGHB, it was said that it was difficult to see how the proposed recommendation could be made as it was conceded on behalf of Mr and MRS Murphy that the GBS infection did not cause or contribute to Freya's death. Accordingly, how

could it be said that routine screening might realistically prevent other deaths in similar circumstances?

[211] Further, it was submitted the court had heard only limited evidence about screening for GBS. That the court had not heard any detailed evidence what had driven the National Screening Committee in favour of the current policy or what was happening with the review of the current policy. Accordingly, the outcome of that review appears likely to be what will guide health boards such as GGHB as opposed to any recommendation in a determination.

Findings/recommendations

[212] There is some considerable force in the submission made on behalf of GGHB that given the concession made on behalf of Mr and Mrs Murphy that GBS did not cause or contribute to Freya's death, how can this then be the subject of a recommendation?

[213] However, the use of the word "similar" is key. The circumstances do not have to be exactly the same. What is similar in Freya's case and those sought to be caught by this recommendation, is the presence of GBS. Broad though that may be, I am prepared to consider this matter under section 26(1)(b) and section 26(4)(d) of the Act.

[214] However I do accept the submission made on behalf of the GGHB that I heard little real evidence, as opposed to the general understanding of experts in the field, about why it is the UK does not routinely test for GBS and the USA (for instance) does. I heard mention of a National Screening Committee who is responsible for this policy and also appear to be conducting some kind of review which might be

reporting at some point next year. To make the recommendation of the type sought by Mr and Mrs Murphy I feel I would need to know more about the work of the National Screening Committee, the reason for this policy and what is happening with this review. Accordingly, I cannot make the recommendation sought by Mr and Mrs Murphy.

[215] Be that as it may, having heard the evidence in this case, I am left somewhat surprised that pregnant women are not told about this issue and at least told the arguments for and against having this test. This would seem to be entirely in keeping with the ethos of informed consent. On the basis of the limited evidence I heard, it seems to me that the serious risk posed by GBS, slight though the chance is of that developing, combined with the high success rate of antibiotics, when set against the relatively minor theoretical risk posed by those antibiotics (on the basis of the evidence which I heard) merits the UK's policy in this area at least being reconsidered.

[216] Accordingly, my recommendation is that GGHB contact the National Screening Committee and, if this process is not already under way, request them to conduct a review of the UK policy of not at least offering pregnant women a screening for GBS. If such a review is under way, then my recommendation is GGHB provide the National Screening Committee with a copy of this determination and ask that it be considered in terms of that ongoing review.

Conclusion

[217] Writing to a mother in 1864 to express his condolences after she lost five sons in the American Civil War, President Abraham Lincoln said, "I feel how weak and fruitless

must be any words of mine which should attempt to beguile from the grief of a loss so overwhelming". In writing this determination, I very humbly adopt those words and address them to Mr and Mrs Murphy about Freya.

[218] I wish to take this opportunity to pay tribute to them for the dignity which they showed while following every day of the evidence in this case. Their eloquent impact statement read at the start of the evidence made clear what the loss of Freya has meant to them and their family.

[219] For the reasons I have explained, I have not been able to make all the findings or recommendations which they sought. However, I hope that the entirety of this FAI process, including the preparation for the evidential hearing, the evidence which was led, the submissions made and this determination, has at least addressed the questions which they have about what happened.

[220] It was suggested that the adoption of routine screening for GBS would be a suitable tribute for Freya. I understand why that submission was made. However, if I might respectfully say, I do not consider that would be accurate, even if it were to happen. The real tribute to Freya is the obvious love carried for Freya by her mother and father, which love has no doubt been passed on to Freya's siblings.