Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

A Decision by the Deputy Health and Disability Commissioner

(Case 20HDC00035)

Introduction

1. This report discusses the care provided to Mrs A in 2018 by consultant obstetrician and gynaecologist Dr B at Palmerston North Hospital, MidCentral District Health Board (MCDHB) (now Te Whatu Ora Te Pae Hauora o Ruahine o Tararua MidCentral).[1]

2. The following issues were identified for investigation:

- *Whether Dr B provided Mrs A with an appropriate standard of care from Day 1[2] to Day 8 (inclusive).*
- *Whether MidCentral District Health Board provided Mrs A with an appropriate standard of care from Day 1 to Day 8 (inclusive).*

3. The parties directly involved in the investigation were:

Mrs A Consumer

[1] On 1 July 2022, the Pae Ora (Healthy Futures) Act 2022 came into force, resulting in all district health boards (including MCDHB) being disestablished and Te Whatu Ora being established in its place. All references to MCDHB in this report now refer to Te Whatu Ora Te Pae Hauora o Ruahine o Tararua Midcentral.
[2] Relevant dates are referred to as Days 1–8 to protect privacy.

Dr B Obstetrician and gynaecologist

4. This is the opinion of Deputy Commissioner Rose Wall, and is made in accordance with the power delegated to her by the Commissioner.

Background

5. First, I acknowledge the impact of the loss of Baby A on Mrs A and her whānau, and I extend my sincere condolences.

6. Dr B was the senior medical officer involved in Mrs A's care from Day 1 to Day 8 (inclusive).

7. Mrs A was at 32 weeks and 6 days' gestation. She contacted her Lead Maternity Carer (LMC), a registered midwife, because of concerns about reduced fetal movements. The midwife arranged for Mrs A to be reviewed at the delivery suite at Palmerston North Hospital that day. The review found that Mrs A had high blood pressure (hypertension) and proteinuria,[3] which led to a diagnosis of pre-eclampsia[4] and the decision to admit Mrs A to the maternity ward for monitoring. She remained an inpatient from Day 1 until Day 8.

8. While on the ward, a cardiotocograph (CTG[5]) was carried out twice daily, and Mrs A's blood pressure was checked many times over the course of the day and her blood pressure medications were adjusted as required.

9. Between Day 1 and Day 5, the CTGs remained normal. On Day 6, at 33 weeks and 5 days' gestation, the CTG was abnormal, and Mrs A was transferred to the delivery suite for assessment. Further CTG monitoring was undertaken, and Mrs A was started on a course of corticosteroids[6] in anticipation of the possible need for early delivery.

10. When the CTG normalised and Mrs A's blood pressure returned to a mild degree of elevation, a midwife decided to transfer Mrs A back to the maternity ward. Dr B told HDC that the decision not to deliver at that time was also made because Mrs A had not completed her course of corticosteroids (two doses to be administered 24 hours apart).

11. Dr B made the decision to plan for delivery at 34 weeks' gestation if Mrs A and the fetus remained stable. Dr B had a discussion with Mrs A about the options of induction or a scheduled Caesarean, and the increased risk of uterine rupture[7] associated with induction. Dr B documented that Mrs A understood the risks and wanted to proceed with induction.

[3] High levels of protein in the urine.
[4] A serious condition that can affect the mother and baby. The main symptom is high blood pressure in the mother, which increases the risk of poor fetal growth, premature birth, or stillbirth.
[5] CTGs monitor the fetal heartbeat pattern to assess wellbeing.
[6] Corticosteroids are used to help strengthen the lungs and reduce the risk of a brain bleed for a premature baby.
[7] Tearing of the uterus. This is a serious complication that is life-threatening to the mother and the fetus.

Dr B decided to cancel Mrs A's growth scan ultrasound with a private provider, which had been scheduled for Day 7. She considered it unnecessary given that a growth scan ultrasound had been performed just under three weeks earlier, which showed normal fetal growth and normal amniotic fluid volume, and because another ultrasound was unlikely to change the plan to deliver.

12. On Day 8, Mrs A was at 33 weeks and 6 days' gestation. That morning the CTG was normal, and induction was commenced due to Mrs A's worsening pre-eclampsia. However, the CTG then showed unprovoked irregular drops in the fetal heart rate. The induction was stopped and Mrs A underwent an urgent Caesarean section. The reason for the Caesarean section was documented as "foetal distress". However, in response to the provisional opinion, Dr B said that the unprovoked irregular drops in fetal heart rate were not a sign of fetal distress but an indication that the baby would unlikely tolerate the stress of labour, and therefore it was appropriate not to proceed with the induction.

13. Baby A was born that afternoon. He had normal cord gases at birth, an Apgar[8] score of 7 at one minute, 9 at 5 minutes, and 10 at 10 minutes, and was stable until 39 hours post-birth, at which point, he became unwell and needed to be intubated and ventilated. Baby A was stabilised by the paediatric team and transferred to another DHB (DHB2).

14. At DHB2, Baby A was diagnosed with a severe global hypoxic ischaemic encephalopathy (HIE),[9] likely from an in-utero[10] event. The decision was made to stop treatment due to the poor prognosis, and Baby A was readmitted to Palmerston North Hospital for palliative care. Sadly, he passed away at 11 days of age.

15. A study of the placenta indicated multiple localised bleeds and areas of dead tissue from a lack of blood supply, with evidence of blood clots and a lack of oxygen to the tissue, indicating severe placental compromise that caused one or more in-utero events that eventually led to Baby A's death.

16. This case was reviewed by the Perinatal and Maternity Mortality Review Committee under MCDHB. The only "significant" finding was that the placenta was small for gestational age (SGA) and was compromised as described above. The review noted that the significance of these findings is uncertain, and a small placenta is common with pre-eclampsia. The review raised no concerns regarding clinical decision-making or care.

[8] The Apgar score is based on a total score of 1 to 10. The higher the score, the better the baby is doing after birth. A score of 7, 8, or 9 is normal and is a sign that the newborn is in good health.
[9] HIE is a brain dysfunction caused by insufficient oxygen or blood flow to the brain for a period of time. Usually it is caused by complications during the labour and delivery, but it can also result from prenatal complications.
[10] Within the uterus.

Response to provisional opinion

17. Mrs A was given an opportunity to comment on the "information gathered" section of the provisional opinion. She told HDC that she was disappointed that there appeared to be no acknowledgement of wrongdoing, but she was pleased that there have been process changes.

18. Dr B was given the opportunity to comment on the relevant parts of the provisional opinion. Dr B disagreed with the provisional opinion that she breached the Code of Health and Disability Services Consumers' Rights (the Code).[11]

19. With regard to risk assessment and fetal monitoring, Dr B reiterated that her care plan for Mrs A was made with regard to a range of relevant regional, national and international guidelines. Dr B also cautioned that while clinical guidelines serve a useful purpose in directing what practitioners should do in certain circumstances, guidelines such as the Ministry of Health's Clinical Practice Guideline on Hypertension and Pre-eclampsia in Pregnancy (the MoH guideline),[12] are not mandatory, and clinical autonomy is preserved. She therefore considers that a departure from the MoH guideline "cannot be conceived as a failure to provide services with reasonable care and skill." Further, Dr B does not consider that the accepted standard of care to do an ultrasound for growth or Doppler indices within 24 hours of diagnosis could be described as "well established".

20. With regard to the communication around vaginal birth after Caesarean (VBAC) versus a scheduled Caesarean section, Dr B reiterated that she thoroughly covered the risks to Mrs A's baby in respect of these delivery options in discussions with Mrs A, particularly around the risk of uterine scar rupture. Dr B also reiterated that the CTG abnormalities on Day 6 were not contraindications to induction or trial of labour and she therefore questioned whether it was accurate for this Office to be critical of the attempted induction beyond concerns about the extent of information provided in respect of the risks to the baby.

21. Where appropriate, the above comments have been incorporated into this report and responded to. Further, Dr B noted that she was not the only consultant supervising Mrs A's care between Day 1 and Day 8. While I acknowledge that this was the case, all the aspects of care I have commented on regarding Dr B were decisions for which she was responsible.

22. Te Whatu Ora Te Pae Hauora o Ruahine o Tararua MidCentral was given the opportunity to comment. Where appropriate, its comments have been incorporated into this report.

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[11] Right 4(1) states: "Every consumer has the right to have services provided with reasonable care and skill."
[12] Ministry of Health. 2018. Diagnosis and Treatment of Hypertension and Pre-eclampsia in Pregnancy in New Zealand: A clinical practice guideline.

Opinion: Dr B — breach

23. Dr B was the consultant obstetrician who oversaw Mrs A's care between Day 1 and Day 8 (inclusive). I have undertaken a thorough assessment of the information gathered in light of Mrs A's concerns, and I am critical of some areas of Dr B's care of Mrs A, particularly with regard to risk assessment and fetal monitoring, and the attempted induction in the context of a general lack of information given to Mrs A about how her recent history of CTG abnormalities could affect the risk of induction and labour. Further, I have some concerns about communication with Mrs A around the decision to cancel her ultrasound.

24. At the end of this report I make several recommendations for improvements and follow-up actions that focus on preventing similar events in the future.

Risk assessment and fetal monitoring

25. Mrs A raised concerns about the standard of fetal monitoring, particularly the lack of an ultrasound or umbilical artery Doppler[13] assessment of fetal growth and wellbeing.

26. I sought independent advice from Dr John Short, an obstetrician and gynaecologist. Dr Short advised:

> "[T]he obstetric team appear not [to have] realised that the diagnosis of preeclampsia was an indication of a significant increase in the risk of this pregnancy and consequently failed to modify the fetal monitoring as a result … By the time of admission the 2 weeks that had elapsed since the previous scan represent a highly appropriate time interval after which to repeat the scan, especially in the presence of a new and highly significant risk factor."

27. Dr Short also advised that although frequent CTGs were performed, these are "limited in their predictive value", and an ultrasound to assess fetal growth and amniotic fluid, and Doppler studies, should have been done "ideally within 24 hours of the diagnosis of pre-eclampsia". This is because there is a "very high risk of fetal growth problems in the presence of pre-eclampsia and this should have been considered by the team". Dr Short acknowledged that staff were likely falsely reassured by the previous ultrasound being normal, but concluded that the team caring for Mrs A "clearly failed to factor the significant new risk factor of pre-eclampsia into their thinking and planning". He identified this as a moderate departure from the accepted standard of care.

28. Dr B stated that she did not consider it necessary to complete an ultrasound or Dopplers on Day 6 when Mrs A was taken to the delivery suite due to an abnormal CTG, because she was planning to deliver on Day 8 and she did not consider that either assessment would change this plan.

[13] A test to measure blood flow from the fetus to the placenta. It is used to check fetal wellbeing in a pregnancy at risk of placental insufficiency, which includes women with pre-eclampsia.

29. Dr B also told HDC:

> "Staff did factor in [Mrs A's] diagnosis of preeclampsia into clinical decision-making on an ongoing basis … We recognised that pre-eclampsia is associated with fetal growth disorders and made sure that our assessment of [Baby A's] growth was within local and national guidelines."

30. Dr B told HDC that not doing an ultrasound was consistent with the MoH guideline, which states that growth should be evaluated every three to four weeks, and Mrs A's last ultrasound had been two weeks before her diagnosis of pre-eclampsia and three weeks before the birth. Dr B also noted that the authors recommended interpreting results with caution due to the low quality of current evidence. However, I think it is important to consider this section of the MoH guideline more fully. It states:

> "In summary, there is limited evidence from high-quality studies to inform best practice for fetal surveillance modalities or regimens for managing women with hypertensive disorders in pregnancy. However, the high risk of intrauterine fetal growth restriction and adverse fetal outcomes in pregnant women with hypertension has prompted expert opinion to include fetal surveillance in the clinical management of these women. Current clinical practice is to assess fetal growth *at the time of diagnosis* and, in non-severe cases, to evaluate fetal growth every three to four weeks. In severe forms of the disease, much closer surveillance is appropriate, which includes more frequent umbilical artery Doppler evaluations and CTGs." (My emphasis.)

31. This section of the MoH guideline clearly establishes that it is expected clinical practice for fetal growth assessments to be completed upon diagnosis of pre-eclampsia. Dr Short's advice aligns with that view.

32. Similarly, the Society of Obstetric Medicine of Australia and New Zealand (SOMANZ) Guideline for the Management of Hypertensive Disorders of Pregnancy (2014), which was in place at the time of events, states that the most commonly used national and international protocols for fetal surveillance in women with pre-eclampsia are for ultrasound for fetal growth, assessment of amniotic fluid volume, and Dopplers to be completed at the time of diagnosis and every three to four weeks. With regard to the inclusion of umbilical artery Doppler studies, the New Zealand Maternal Fetal Medicine Network (NZMFMN) Obstetric Doppler Guideline lists maternal hypertensive disorders such as pre-eclampsia, and decreased fetal movements as indications for umbilical artery Dopplers. I therefore consider that evidence indicates that an assessment of fetal growth and wellbeing, including an ultrasound scan and Dopplers, was warranted at the time Mrs A was diagnosed with pre-eclampsia.

33. I acknowledge that despite a scan at diagnosis of pre-eclampsia being in the national guideline and expected practice at the time of Mrs A's admission to Palmerston North Hospital, the MCDHB Management Guidelines for the Care of Hypertensive Disorders of Pregnancy and Eclampsia (the MCDHB guideline) was not in line with the MoH guideline,

and did not include a recommendation for fetal growth assessments to be completed at the time of diagnosis of pre-eclampsia. I have addressed this in respect of MCDHB later in this report. However, regardless of the content of the MCDHB guideline, I consider that the accepted standard of care was well established and should have been known to Dr B.

34. In response to the provisional opinion, Dr B referenced further guidelines to support her position that an ultrasound was not required during this period of care (ie, two to three weeks following the previous ultrasound). Notably, Dr B has cited the New Zealand Obstetric Ultrasound Guidelines Regarding Third-Trimester Scans, and the ISUOG[14] practice guidelines for ultrasound assessment of fetal biometry and growth (2019). These guidelines respectively recommend a two- to three-week interval between ultrasounds for women with pre-eclampsia, and that fetal growth ultrasounds be performed at least three weeks apart, except where more frequent scans are clinically indicated. Dr B also referred to an article on scanning frequency from overseas; however, I do not consider this to be of relevance in establishing the expected standard of care in New Zealand.

35. I acknowledge that there are varying opinions about the interval at which growth scans should be performed in the context of pre-eclampsia. However, I also note that because the period of care was between two and three weeks after the last ultrasound, according to the New Zealand Obstetric Ultrasound Guidelines, this would have been an appropriate timeframe for a second scan. Further, although the ISUOG practice guidelines recommend at least a three-week interval, they state that the exception to this is when more frequent scans are clinically indicated. Based on the guidance I have referred to earlier in this section from the Ministry of Health and SOMANZ, as well as the advice from Dr Short, I consider that a new diagnosis of pre-eclampsia would be a clinical indication that an earlier growth scan should be done.

36. Dr B also stated in response to the provisional opinion that she does not consider that the accepted standard of care could be described as "well established". Dr B raised concern about using the MoH guideline as the threshold for a breach of the accepted standard of care because it is a guideline, not a mandatory requirement. I have considered Dr B's comments and acknowledge that there is a degree of subjectivity on which the accepted standard of care has been based. However, in forming my decision on the accepted standard of care, I have taken into consideration not only the guidelines from the Ministry of Health, but also the guidelines from SOMANZ and NZMFMN, as well as independent advice from Dr Short. My view on the accepted standard of care remains unchanged.

37. I accept Dr Short's advice that there was a departure from the accepted standard of care with regard to risk assessment and fetal monitoring due to the lack of a fetal growth assessment following the diagnosis of pre-eclampsia. This advice is supported by guidance from the Ministry of Health, SOMANZ, and NZMFMN.

[14] International Society of Ultrasound in Obstetrics and Gynaecology.

38. I therefore remain critical that Dr B, as the consultant obstetrician overseeing Mrs A's care, did not arrange for a fetal growth assessment (including Doppler studies and amniotic fluid volume) via ultrasound, to be undertaken when Mrs A was diagnosed with pre-eclampsia, notwithstanding the MCDHB guideline in place at the time not requiring this.

Attempted induction

39. Mrs A's previous child had been delivered by Caesarean section, and her preference for this pregnancy was to have a vaginal birth. At a specialist appointment Dr B had an initial discussion with Mrs A regarding VBAC versus a scheduled Caesarean section. The notes from this appointment state that Dr B counselled Mrs A that the "probability of [a] successful [vaginal birth after Caesarean] [was] 52–67%", and that there was "[approximately a] 1% risk of uterine rupture, as well as higher risks with intrapartum [versus] scheduled Caesarean". Dr B documented that Mrs A understood and wanted to proceed with an attempted VBAC, and Dr B provided Mrs A with literature from the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) regarding VBAC. In response to the provisional opinion, Dr B said that she also discussed the RANZCOG literature on VBAC with Mrs A. Dr B stated:

> "I specifically discussed:
>
> — there being a chance she would need an emergency caesarean during labour, which comes with increased risks of bleeding and infection compared to a planned caesarean.
>
> — the risk of uterine scar rupture (occurs approximately 5–7 times per 1000 attempts), which can result in serious problems for the baby (death or brain injury) or the mother (serious bleeding, including small risk of hysterectomy).
>
> — the small risk of infant death or brain damage in VBAC (2 in 1000 women), compared to a repeat caesarean section (1 in 1000)."

40. On Day 7, Dr B had a further discussion with Mrs A about VBAC versus Caesarean section because, due to her pre-eclampsia, Mrs A would need to be induced if she wanted to attempt a VBAC. The clinical notes show that Dr B discussed the increased risk of uterine rupture associated with induction, and that Mrs A understood and wanted to proceed with an induction. No other risks are documented as having been discussed at this time.

41. On the morning of Day 8, a balloon catheter[15] was inserted to begin the process of induction. Later that afternoon, due to unprovoked irregular drops in the fetal heart rate (a sign of fetal distress), the induction was stopped and Mrs A underwent an urgent Caesarean section.

[15] A thin tube with a balloon on the end, which is inserted into the cervix and inflated with water. This is used to apply pressure to the cervix to induce labour.

42. Dr Short advised:

> "The CTG abnormalities on [Day 6], with decelerations in association with mild tightenings, were a strong indication of the fact that labour would not be tolerated by the baby and that an intrapartum caesarean section would eventuate. Also, the prospects of a successful induction of labour in a pre-term pregnancy complicated by a previous caesarean section would inevitably be low. Therefore, the attempt at induction was futile and risked compromise to the infant (although I must emphasise that this didn't eventuate in this case)."

43. Dr Short described the attempted induction as a mild departure from the expected standard of care.

44. With regard to the appropriateness of the decision to induce, Dr B stated:

> "Preeclampsia is not a contraindication to induction of labour, even in the setting of a scarred uterus. The decision to proceed with mechanical cervical ripening instead of immediate delivery was made via shared decision-making with [Mrs A], who had consistently expressed her wish for a trial of labour."

45. Dr B also cited the MoH guideline, which states that "[t]he preferred mode of birth is always vaginal unless it is contraindicated for the mother or the foetus", and that "[e]vidence shows that neonatal outcomes are better even if an induction ends in caesarean than for elective caesarean at many gestations".

46. In addition, Dr B stated that the CTG on Day 6 showed "variable decelerations without complicating features", and, according to RANZCOG's Intrapartum Fetal Surveillance: Clinical Guideline[16] (the RANZCOG guideline), this was unlikely to be associated with fetal compromise, which means that it was not a contraindication to a trial of labour.

47. The RANZCOG guideline also states that abnormal antenatal CTG, uterine scar (such as from a prior Caesarean section), and pre-eclampsia are all antenatal factors that increase the risk of fetal compromise. The RANZCOG guideline states:

> "Although in isolation some of the risk factors may be considered minor, there is often a continuum of disease and the cumulative effects of multiple risk factors may be additive or synergistic."

48. Dr B stated that the ultrasound taken three weeks previously showed normal fetal growth and a normal amount of amniotic fluid, and that Baby A's normal blood gas acidity at birth reflects that "no acute hypoxic event had occurred[17]". However, in my view, the assumption that there had been no change in Baby A's growth progress in the three weeks following the last ultrasound, is misplaced. Once the diagnosis of pre-eclampsia was made, Dr B should

[16] RANZCOG's Intrapartum Fetal Surveillance: Clinical Guideline — Fourth Edition (2019).
[17] Meaning that there had not been a sudden lack of oxygen to the body tissue.

have considered that Baby A's growth might have slowed since the previous scan. My criticism of the lack of a repeat ultrasound on the diagnosis of pre-eclampsia is discussed above.

49. I acknowledge Dr B's comment that RANZCOG's Intrapartum Fetal Surveillance Guideline states that variable decelerations without complicating features (such as those on Day 6) are unlikely to be associated with fetal compromise, and that there is no clear evidence that attempted induction was contraindicated. I accept that Dr B's discussions with Mrs A clearly identified that there was a limited success rate for VBAC and that a Caesarean section carried fewer risks, and that the decision to trial induction of labour was made with Mrs A, after discussion, in accordance with her preference. However, I also accept Dr Short's advice that following the CTG abnormalities on Day 6, the likelihood of a successful induction was low, and that this risked compromise of the infant. This meant that there was a new risk factor to induction.

50. I have considered whether Mrs A was provided with sufficient information about the risks associated with a VBAC induction of labour in her circumstances, before making the decision to trial VBAC. In my view, this information needed to include telling Mrs A that in light of the CTG abnormalities on Day 6, there was an increased risk that labour might not be tolerated by the baby, that induction might not be successful, and that an intrapartum Caesarean section could eventuate.

51. Dr B undertook two discussions with Mrs A about her preference for VBAC, and provided both written and verbal information about VBAC and its risks versus Caesarean section. However, I am concerned that there is no evidence that Dr B's discussions with Mrs A included information about how CTG abnormalities could affect the probability of fetal compromise and therefore the need for an intrapartum Caesarean. There appears to be a general lack of information about the risk of induction and labour to Mrs A's baby in the context of her recent history of CTG abnormalities.

52. I acknowledge that Dr B has questioned whether it is accurate for this Office to be critical of the attempted induction beyond concerns about the extent of information provided in respect of the risks to the baby. I want to be clear that the lack of information provided to Mrs A regarding the increased risk that labour may not be tolerated by the baby (in light of CTG abnormalities on Day 6), is central to my criticism of the attempted induction. This new risk factor needed to be discussed with Mrs A prior to the attempted induction, and I am critical that induction was attempted in the absence of this.

Conclusion

53. I consider that as the consultant obstetrician who oversaw Mrs A's care between Day 1 and Day 8 (inclusive), it was Dr B's responsibility to ensure that a fetal growth assessment was undertaken upon diagnosis of pre-eclampsia, in line with what I consider to be accepted clinical practice based on guidelines I have referred to above and the advice from Dr Short. I also consider that Dr B had a responsibility to ensure that her discussions with Mrs A around VBAC and induction of labour versus Caesarean section included information about

how CTG abnormalities could affect the probability of fetal compromise and therefore the need for an intrapartum Caesarean.

54. Given that no fetal growth assessment was completed upon diagnosis of pre-eclampsia, and that there appears to be a general lack of information about the risks of induction and labour to Mrs A's baby in the context of her recent history of CTG abnormalities, I therefore consider that Dr B did not provide Mrs A's care with reasonable care and skill, and, as such, breached Right 4(1) of the Code.

55. Finally, it is important to note that the decision not to complete an ultrasound to assess fetal growth is not a stand-alone issue, and impacted the decisions made in Mrs A's care from that point forward. For example, this information may have influenced the timing of delivery and the discussion with Mrs A around the risks and benefits of induction versus Caesarean section, as discussed further below.

Communication around cancellation of ultrasound — adverse comment

56. In addition to the issue of whether an ultrasound should have been completed as part of the fetal monitoring, Mrs A raised concerns that the decision made by Dr B to cancel her ultrasound (scheduled for Day 7) was not discussed with her.

57. On the morning of Day 7, Dr B documented that it was "OK to cancel scheduled [radiology service] ultrasound today". There is no documentation that this decision was discussed with Mrs A. The lack of documentation of any such conversation, and Mrs A's recollection that there was no discussion about this, leads me to conclude that this did not occur.

58. I am concerned that Dr B did not communicate with Mrs A about the cancellation of the ultrasound.

Timing of steroid administration — no breach

59. Dr B stated that the decision to transfer Mrs A back to the maternity ward from the delivery suite on Day 6 was made because Mrs A's steroid course had not been completed.

60. The clinical records show that the first dose of steroids was administered at 1.30pm on Day 6, and the decision to transfer Mrs A was made approximately an hour later, once her blood pressure had returned to a mildly elevated state and her CTGs had normalised. Mrs A received her second and final dose of steroids at 8.36pm on Day 7.

61. Dr Short advised that it would have been prudent to administer corticosteroids for fetal lung maturation earlier in Mrs A's admission, and quantified this as a mild departure from the accepted standard of care. He advised:

> "Even at the time of admission it seems clear that there was a high likelihood of needing early delivery by caesarean section, based on the combined risk factors of early gestation, pre-eclampsia (requiring medication for blood pressure control), reduced movements and a previous caesarean section."

62. MCDHB and Dr B responded that the timing of the administration of corticosteroids was appropriate based on the 2015 Liggins Institute Clinical Practice Guideline for Antenatal Corticosteroids (the Liggins guideline). The Liggins guideline recommends the use of a single course of antenatal corticosteroids in women at risk of preterm birth when birth is planned or expected within the next seven days, even if birth is likely within 24 hours, and states that "[t]he optimal time to administer antenatal corticosteroids is when preterm birth is planned or expected within the next 48 hours".

63. I accept that the optimal timeframe for the administration of steroids is within 48 hours before the birth, and therefore the timing of the steroid administration was within the accepted standard of care.

Opinion: MCDHB — breach

64. I have undertaken a thorough assessment of the information gathered in light of Mrs A's complaint, and have some concerns about the care MCDHB provided to Mrs A between Day 1 and Day 8. In particular, I am critical of the standard of communication with Mrs A during this period.

65. At the end of this report I have made several recommendations for improvements and follow-up actions that focus on preventing similar events in the future.

Communication with Mrs A — breach

66. Mrs A raised concerns that the environment on the maternity ward at Palmerston North Hospital made her feel that it was difficult to speak up. She feels that her concerns were not heard, and that she did not have a say in her care. In particular, she feels that her concerns about reduced fetal movements were not always listened to by staff, and that neither the decision to return her to the maternity ward from the delivery suite on Day 6, nor the decision to cancel her previously scheduled ultrasound on Day 7 was discussed with her.

67. In response to Mrs A's concerns, MCDHB said:

> "We apologise that [Mrs A] felt that the environment made it difficult for her to speak up and that she felt that she did not have a say in the care she received. The Obstetric and Midwifery teams are committed to ensuring a partnership approach with women about their care and are deeply sorry that [Mrs A] does not feel this occurred."

68. My in-house midwifery advisor, RM Emerson, reviewed the electronic record and found that between Day 1 and Day 6, there were seven recorded reports of reduced fetal movements, and seven recorded reports of normal or improved fetal movements. She advised that each recorded report of reduced fetal movement was followed up appropriately, but "it is impossible to say retrospectively whether this is an accurate reflection of all incidents when fetal movements were discussed with midwives".

69. Similarly, MCDHB said that it was unable to comment on any other reports of concern or reduced fetal movements that are not documented in the electronic health record.

70. It is difficult to determine on the evidence whether Mrs A raised concern about reduced fetal movement more times than were documented. However, it is clear that staff were enquiring about fetal movement, were aware that concerns about reduced fetal movement had been raised, and were monitoring Mrs A accordingly. RM Emerson commented that the documentation is reassuring regarding attention to, and monitoring of, fetal movements.

71. However, I acknowledge that Mrs A felt that it was difficult to raise her concerns at times, and that she felt that her concerns were not always well received. I accept that this was her experience, and that it has caused her distress.

72. With regard to Mrs A's concern that the decision to transfer her back to the maternity ward from the delivery suite on Day 6 was not discussed with her, a midwife documented that Mrs A had improved overall, and that it was satisfactory to transfer her back to the ward; however, it is not documented anywhere that the reasoning for this was discussed with Mrs A.

73. Further, with regard to Mrs A's concern that the decision to cancel her ultrasound scheduled for Day 7 was not discussed with her, Dr B documented on the morning of Day 7 that it was "OK to cancel scheduled [radiology service] ultrasound today". There is no documentation that this decision was discussed with Mrs A.

74. The lack of any documented conversations with Mrs A regarding the decision to transfer her back to the maternity ward on Day 6 and the decision to cancel her ultrasound that had been scheduled for Day 7, as well as Mrs A's recollection that neither of these decisions were discussed with her, leads me to conclude that these decisions were not discussed with her. In my view, this indicates a likely breakdown in communication across multiple staff, and I consider that further attention could have been given to ensuring that Mrs A clearly understood the rationale behind the various steps in her care.

75. I am critical of the lack of appropriate communication with Mrs A regarding aspects of her care, particularly regarding her transfer back to the maternity ward on Day 6, and cancelling her ultrasound scheduled for Day 7 (which I have also addressed above in respect of Dr B individually). The lack of discussion with Mrs A regarding these decisions contributed to her feeling of not being heard by staff. I have been unable to determine whether Mrs A raised concerns about fetal movements more times than were documented, although I am reassured that the documented concerns about fetal movements were given appropriate attention, and appropriate monitoring was given to the issue of fetal movements. However, in my view, the above is indicative of an environment that did not enable Mrs A and the

clinical staff to communicate openly, honestly and effectively, and, as such, I consider that MCDHB breached Right 5(2) of the Code.[18]

Guidelines for fetal monitoring in context of pre-eclampsia and hypertension — adverse comment

76. I have addressed above my concerns regarding the decision not to perform an ultrasound scan in respect of Dr B individually. In respect of MCDHB, my primary concern lies with its policy for guiding clinical decision-making.

77. At the time of Mrs A's admission to Palmerston North Hospital, the MCDHB guideline was not in line with the MoH guideline. In particular, the MoH guideline states:

> "Current clinical practice is to assess fetal growth at the time of diagnosis and, in non-severe cases, to evaluate fetal growth every three to four weeks. In severe forms of the disease, much closer surveillance is appropriate, which includes more frequent umbilical artery Doppler evaluations and CTGs."

78. The MCDHB guideline in place at the time did not include this requirement. The only guideline provided regarding fetal monitoring states: "If fetus is viable and in-utero, commence CTG monitoring."

79. It is of concern that MCDHB's policy was not in line with current clinical practice. This was a missed opportunity for Mrs A to have an ultrasound and Dopplers at the time of a diagnosis of pre-eclampsia. In mitigation, I acknowledge that the MoH guideline was released only three months prior to Mrs A's diagnosis of pre-eclampsia, and so MCDHB may not have had sufficient time to review and update its policies to reflect this.

80. I remain concerned, however, that three years after these events, MCDHB's policies had still not been updated to reflect national guidance. MCDHB told HDC that in December 2021 it was in the process of finalising an updated version of the MCDHB guideline, to include a recommendation to order an ultrasound scan and Dopplers at diagnosis of pre-eclampsia. In my view, and while I accept that this has no bearing on the care Mrs A received, the three-year delay in updating its policies to reflect national practice is unacceptable. I will be following up with Te Whatu Ora Te Pae Hauora o Ruahine o Tararua MidCentral on the finalised guideline.

81. In summary, I am concerned that the MCDHB guideline in place at the time of these events was not in line with national guidance, although I consider the close proximity in time between the MoH guideline being issued and these events to be a mitigating factor. The MoH guideline recommended that an ultrasound and Dopplers be completed at the time of diagnosis of pre-eclampsia. This requirement was absent from the local guidance for staff. Mrs A did not receive an ultrasound at the time of her diagnosis of pre-eclampsia. I hold Dr B, as the consultant obstetrician overseeing Mrs A's care, ultimately responsible. However,

[18] Right 5(2) states: "Every consumer has the right to an environment that enables both consumer and provider to communicate openly, honestly, and effectively."

I consider that the lack of alignment of the MCDHB guideline with current best practice represented a missed opportunity for staff to check fetal growth and wellbeing, which may have influenced other decisions in Mrs A's care, such as the timing and method of delivery. While I acknowledge that this may not have altered the outcome, I am critical that the scan was not performed.

Second steroid dose — other comment

82. Mrs A told HDC that staff forgot to administer her second dose of steroids until she reminded them.

83. The clinical records show that the obstetric registrar had planned for Mrs A to be administered two steroid doses, 24 hours apart. The first dose was administered at 1.30pm on Day 6, followed by a second dose at 8.36pm on Day 7. The Liggins guideline states that two doses of betamethasone (the corticosteroid Mrs A was given) should be given between 12 to 36 hours apart.

84. I acknowledge that there was a delay in administering Mrs A's second dose of steroids (based on the timeframe outlined by the obstetric registrar); however, the second dose was administered within 36 hours of the first dose, which means that it was in line with the Liggins guideline.

85. We cannot know whether or not the second dose would have been administered within the required timeframe if Mrs A had not reminded staff, and I take this opportunity to remind Te Whatu Ora Te Pae Hauora o Ruahine o Tararua MidCentral of the importance of timely administration of medications.

CTG monitoring and training — other comment

86. Although Mrs A did not raise any particular concerns about the CTG monitoring during her care, she expressed that she would like staff at Palmerston North Hospital to undergo further training on CTG monitoring.

87. RM Emerson advised that she found no departures from accepted midwifery practice in the CTG monitoring. In addition, MCDHB told HDC:

> "All midwifery and obstetric staff are required to attend face to face RANZCOG FSEP[19] CTG monitoring and interpretation training every two years in person, including a written assessment, with the FSEP online training in the alternate year."

88. I accept RM Emerson's advice that an accepted standard of care in CTG monitoring was provided to Mrs A. I also accept that the training received by midwifery and obstetric staff was satisfactory.

[19] Fetal Surveillance Education Program.

89. I take this opportunity to highlight the establishment of the Neonatal Encephalopathy Task Force,[20] as discussed by RM Emerson in her advice. This is a joint venture by the MoH, Health Quality & Safety Commission (HQSC), and the Accident Compensation Corporation (ACC). Part of this taskforce is a dedicated Fetal Heart Monitoring working group, which has been established in order to agree on and implement a nationally driven and nationally consistent multidisciplinary fetal heart monitoring training programme for both midwives and obstetricians.

90. I consider that the establishment of this task force and working group will further improve fetal heart rate monitoring nationwide (including at Palmerston North Hospital).

Engagement with consumers after adverse event — other comment

91. Mrs A told HDC that she was not happy with the way the obstetric registrar greeted her when she returned to Palmerston North Hospital for Baby A's palliative care. She recalled that the obstetric registrar quickly greeted her by saying that as soon as DHB2 told Palmerston North Hospital about Baby A's diagnosis of HIE, staff at Palmerston North Hospital quickly checked all the medical notes to make sure that nothing was missed, and that they definitely did not miss anything.

92. MCDHB told HDC:

> "For every case where there is an adverse outcome, it is best practice for all teams to review the care they provided straight away to ascertain if an internal investigation is warranted. I am sorry that the obstetric registrar did not handle this conversation sensitively and explain properly the reason why we review cases."

93. I commend this open disclosure approach following adverse events; however, I acknowledge that it was not well received by Mrs A in this case. HQSC has a guideline on how to engage with consumers following an adverse event,[21] which I suggest Te Whatu Ora Te Pae Hauora o Ruahine o Tararua MidCentral bring to the attention of obstetric staff.

Documentation — no breach

94. Mrs A raised concerns regarding the accuracy of the notes in her electronic record from the maternity service. She is concerned that some staff inaccurately recorded that good fetal movements were felt, as she recalls feeling barely any movement over this period. In addition, Mrs A is concerned that the electronic record may have been changed retrospectively.

95. MCDHB said that it is unable to comment on any other reports of concern or reduced fetal movements that are not documented in the electronic health record.

[20] HIE is a sub-group of Neonatal Encephalopathy (NE), and often the terms are used interchangeably.
[21] https://www.hqsc.govt.nz/our-work/system-safety/adverse-events/education/how-to-engage-with-consumers-following-an-adverse-event/

96. RM Emerson also advised that "it is impossible to say retrospectively whether this is an accurate reflection of all incidents when fetal movements were discussed with midwives".

97. In response to Mrs A's concerns that the electronic record may have been changed retrospectively, MCDHB stated that the full electronic record had been audited, and no record had been altered retrospectively in relation to fetal movement.

98. Matters relating to the accuracy of documentation fall outside my jurisdiction. While I am unable to determine whether or not the documentation accurately reflects the fetal movements that were felt by Mrs A, I accept MCDHB's confirmation that no records were altered retrospectively in relation to fetal movement.

Changes made

99. I acknowledge that following these events, MCDHB and Dr B made changes to their practice.

MCDHB

100. In December 2021, MCDHB advised HDC that an updated version of the MCDHB guideline had been prepared and was being finalised. The new guideline includes a recommendation to order an ultrasound scan and Dopplers at diagnosis of pre-eclampsia to be in line with the MoH guideline.

101. On 20 October 2022, Te Whatu Ora issued an updated guideline on Diagnosis and Treatment of Hypertension and Pre-eclampsia in Pregnancy in Aotearoa New Zealand. Te Whatu Ora Te Pae Hauora o Ruahine o Tararua MidCentral accordingly updated its own guidelines on 9 January 2023 to align with this. Both updated guidelines recommend ultrasound and Dopplers at diagnosis of pre-eclampsia.

Dr B

102. Dr B told HDC that she now diligently incorporates growth assessment and Doppler velocimetry into the assessment of women with pre-eclampsia.

Further comments

Dr B

103. Dr B said that she was very sad to learn that Baby A had become so unwell and ultimately passed away. She stated:

> "I reiterate how very sorry I am for the loss of [Baby A] and for [Mrs A's] experience while under my care."

104. Dr B also acknowledged:

> "[A] tragic case like this always leads one to review the care provided with a critical eye and consider whether anything was missed, or whether anything could have been done differently."

105. Dr B accepts that an earlier growth ultrasound and Doppler velocimetry may have provided information that may have changed some aspects of the care provided, but she considers that those investigations would not have prevented Baby A's death.

106. Dr B agrees with Dr Short's opinion that "it is very possible that alternative management would not have altered the outcome", because unfortunately it is not possible to know when the event happened, and therefore, to know whether earlier delivery may have been helpful.

MCDHB

107. MCDHB stated:

> "[O]n behalf of the DHB, I would like to reiterate how sorry we are for [Mrs A] and her family's loss. As advised verbally prior to this letter, our clinicians would be happy to meet with [Mrs A] at any point to discuss any questions or concerns that she may still have."

Recommendations and follow-up actions

108. Taking into account the changes made since the time of events, I recommend that Te Whatu Ora Te Pae Hauora o Ruahine o Tararua MidCentral:

a) Use an anonymised version of this report as a case study, to encourage reflection and discussion during obstetric and maternity education sessions, particularly around the importance of good communication with the patient.
b) Conduct an audit on the maternity ward to check that medications are administered at the appropriate time. If any issues are identified, provide HDC with a brief plan of action to improve the situation.
c) Ensure that when decisions are made to change a planned procedure or investigation, the decision is discussed with the patient and an explanation provided.

109. A report is to be provided to HDC on the actions taken in relation to these recommendations within three months of the date of this report.

110. In accordance with the recommendations in my provisional opinion, Te Whatu Ora Te Pae Hauora o Ruahine o Tararua MidCentral provided a copy of its updated and finalised Management Guidelines for the Care of Hypertensive Disorders of Pregnancy and Eclampsia.

111. Taking into account the changes made since the time of events, I recommend that Dr B:

a) Provide a written apology to Mrs A. This should be sent to HDC, for forwarding to Mrs A, within three weeks of the date of this report.
b) Ensure that when decisions are made to change a planned procedure or investigation, the decision is discussed with the patient and an explanation provided.

112. I recommend that the Medical Council of New Zealand consider whether a review of Dr B's competence is warranted, and report the outcome to HDC.

113. I intend to take the following follow-up actions:

- A copy of this report with details identifying the parties removed, except the advisors on this case, Palmerston North Hospital, and Te Whatu Ora Te Pae Hauora o Ruahine o Tararua MidCentral, will be sent to the Medical Council of New Zealand and the Royal Australian and New Zealand College of Obstetricians and Gynaecologists, and they will be advised of Dr B's name.
- A copy of this report with details identifying the parties removed, except the advisors on this case, Palmerston North Hospital, and Te Whatu Ora Te Pae Hauora o Ruahine o Tararua MidCentral, will be sent to the New Zealand College of Midwives and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

114. I thank Mrs A for bringing her concerns to this Office.

Appendix A: In-house clinical advice to Commissioner

The following in-house advice was obtained from RM Nicky Emerson:

"**CLINICAL ADVICE — MIDWIFERY**

CONSUMER : [Mrs A]

PROVIDER : Mid Central DHB

FILE NUMBER : C20HDC00035

DATE : 15 June 2020

Thank you for the request that I provide clinical advice in relation to the complaint about the care provided by Mid Central DHB to [Mrs A]. In preparing the advice on this case to the best of my knowledge I have no personal or professional conflict of interest. I agree to follow the Commissioner's Guidelines for Independent Advisors.

I have reviewed the documentation on file: Complaint and clinical notes from [Mrs A] 08 January 2020, Complaint response and clinical notes including lab results, CTGs and scan results 17 January 2020, Correspondence from Mid Central DHB re meeting with [Mrs A] 04 February 2020.

Background: [Mrs A] was in her second on going pregnancy. Medical history included a Cholecystectomy in 2017, plus surgery for tongue tie. No known allergies. Family history included preeclampsia for both [Mrs A's] mother and sister. Obstetric history included a previous pregnancy … featuring fetal gastroschisis.

On [Day 1] assessment following a reduction in fetal movements, proteinuria and a raised blood pressure, [Mrs A] was admitted to Palmerston North Hospital. She remained an inpatient until an induction of labour on [Day 8] at 33 weeks and 6 days. During the induction of labour, an emergency caesarean was performed for fetal distress.

On day 2 following his birth, [Baby A] stopped breathing, he was diagnosed with severe hypoxic ischaemic encephalopathy (HIE) and tragically passed away 11 days later.

Advice request: I have been asked to assess the Mid Central DHB response in regard to midwifery care provided to [Mrs A] when she was an inpatient.

According to [Mrs A's] complaint she states that she felt the environment at Mid Central DHB made it difficult for her to speak and at times the midwives were unhappy with her request for her baby's heart to be listened to.

She questions whether information (in clinical notes) regarding fetal movements was changed retrospectively or whether all the information was presented to the doctors.

In reviewing the Mid Central DHB clinical notes I have considered the following

- [Mrs A] was admitted to Mid Central DHB following an assessment from her LMC Midwife for reduced fetal movements. At the time of assessment, [Mrs A's] blood pressure was raised and there were 3+ of protein in her urine. She was 32 weeks and 6 days gestation.
- Her last scan at 31 weeks gestation had demonstrated a baby on the 50th centile (reassuring) with normal liquor volume.
- **On [Day 6]** at 33 weeks and 4 days, an inpatient CTG for reduced movements recorded unprovoked decelerations (11.44am).
- [Mrs A] was transferred to the delivery unit for further monitoring. She was given IV fluids and following this, the CTG appeared to improve.
- A plan was made by the Obstetrician for [Mrs A] to remain nil by mouth, receive steroids (to improve baby's lung function following birth) and to increase [Mrs A's] antihypertensive (Labetalol).
- Blood pressure improved, CTG is reported as improved (2.03pm).
- Following consultation with [another doctor] the CTG had improved overall and [Mrs A] was transferred back to the ward. (2.32pm)
- **On [Day 7]** [Mrs A] is reported as having slept well and feeling well. It is noted that she has a scan appointment at [the radiology service] in the morning and it is unclear whether this should be kept (06.20am).
- A plan is made by the Obstetric Consultant [Dr B] at (09.19am) for an induction of labour the following day. Clinical notes include a discussion regarding the option of labour induction versus elective caesarean section ([previously discussed]). Notes include *Ok to cancel scheduled [radiology service] ultrasound today.*
- The second steroid was given at (8.36pm) in preparation for the induction of labour the following day.
- Blood pressure was elevated at (10.34pm), the Registrar was paged to discuss. A plan was made regarding transfer back from delivery unit to the ward at (00.59am — now [Day 8]) following a normal CTG, satisfactory blood tests and assessment by the obstetric registrar. The plan was hourly blood pressure monitoring, to call with concerns and to go ahead with planned Induction of labour.
- **On [Day 8]** (09.15am) the CTG was attached and the induction of labour commenced. Fewer fetal movements were documented by [Dr B] (8.25am).
- At (11.52am) variable decelerations were noted with tightenings (mild contractions) on the CTG. The charge Midwife reviewed the CTG and magnesium sulphate ($MgSO_4$) was commenced as prescribed (neuro protective for preterm baby and maternal seizure prevention in the context of preeclampsia).

Neuroprotective effects of in utero exposure to magnesium sulfate

*For women at imminent risk of preterm birth, we suggest antenatal administration of magnesium sulfate for neuroprotection (**Grade 2B**).*

Preeclampsia: Management and prognosis

Candidates for seizure prophylaxis — *we administer intrapartum and postpartum seizure prophylaxis to all women with preeclampsia, based on data from randomized trials that demonstrated that magnesium sulfate treatment reduced the risk of eclampsia.*

*Up to date Literature review current through: **Apr 2020. |** This topic last updated: **May 07, 2020.***

- At (12.19pm) Variable decelerations on the CTG were noted, they were documented as uncomplicated and unlikely to be associated with significant fetal compromise.
- At (12.45pm) the CTG was reviewed by the Registrar, discussed with [Dr B] and arrangements were made for transfer to theatre for a caesarean.

Concerns are raised by [Mrs A] regarding whether all information regarding reduced fetal movements was documented and whether all information was presented to the doctors.

[Mrs A] was assessed for reduced fetal movements and admitted to Mid Central Hospital on [Day 1] for her elevated blood pressure and proteinuria.

Following clinical evaluation [Mrs A] was admitted to Mid Central DHB for further evaluation.

- Reduced movements are documented on [Day 3] 3.40pm. CTG noted to be reactive on initiation.
- Reduced movements are documented on [Day 4] at 7.30am, CTG commenced. Clinical review by Dr … documented at 8.21am.
- Reduced fetal movements are noted on [Day 6] 9.14am. Following the observation of variable decelerations on the subsequent CTG, [Mrs A] was transferred to the delivery unit.
- An improved CTG is noted at 2.03pm and Dr … is advised. Note that this is following an earlier plan and revision of treatment by Dr … 1.08pm with Dr …
- At 4.54pm reduced movements are again recorded, CTG is applied and call bell is rung. Review by Dr … is reported at 5.35pm, CTG has normalised and a repeat CTG is to be undertaken pm.
- Normal/improved fetal movements are documented on [Day 1] 11.48pm (Dr …), [Day 2] 8.22am ([Dr B]), 11.26am (midwife …), [Day 3] 4.49pm (midwife …), [Day 4]

6.15pm — good fetal movements throughout the day (midwife …), [Day 5] 1.02pm (Dr …), [Day 6] 11.44am (Midwife …).

I acknowledge [Mrs A's] concern raised regarding whether all information regarding reduced fetal movements were documented and presented to the doctors.

On review of the clinical notes, there have been 7 reports of reduced fetal movements and subsequent plan/actions between [Day 1] and [Day 6]. There have been 7 documented reports of normal or improved movements in the same time period.

The documentation is reassuring regarding attention to and monitoring of fetal movements however it is impossible to say retrospectively whether this is an accurate reflection of all incidents when fetal movements were discussed with midwives.

I further acknowledge [Mrs A] has reported the environment at Mid Central DHB made it difficult for her to speak and at times the midwives were unhappy with her request for her baby's heart to be listened to. I am saddened to hear she felt this way and hope that her comments are reflected on by the midwives providing her care.

Query regarding more CTG interpretation and training.

In her complaint [Mrs A] states that she would like to see 'more training in CTG monitoring'.

I have reviewed the CTGs alongside the clinical notes from the date of admission to the date of [Baby A's] birth. In my opinion there are no departures from accepted midwifery practice for the following reasons.

- CTGs were commenced with all documented reports of reduced movements.
- The features of the CTG were recorded (baseline heart rate, heart rate variability, decelerations, accelerations, opinion — is this a normal or abnormal CTG?).
- When a CTG did not meet the normal criteria, review was sought from an Obstetrician.
- CTGs were performed twice daily. The interpretation of a CTG is a core competency for all midwives. It is recommended but not mandatory midwifery competency to attend an annual update with accompanying exam regarding CTG interpretation.

I acknowledge [Mrs A's] comment regarding 'more training in CTG monitoring'. In this instance, in my opinion there are no departures from accepted Midwifery practice however.

The Ministry of Health (MOH), Health Quality and Safety Commission (HQSC) and Accident Compensation Corporation (ACC) agreed to work together on a Neonatal Encephalopathy Task Force. As part of the Neonatal Encephalopathy Task Force there is a dedicated Fetal Heart Monitoring working group. The group is comprised of

representatives from both Midwifery and Obstetric professional bodies (NZCOM & RANZCOG) and the group also has consumer representation.

The working group role is to agree and implement a nationally driven and nationally consistent multidisciplinary fetal heart monitoring training programme for both midwives and obstetricians to attend.

> *Support the development and implementation of a regular standardised interdisciplinary training programme on fetal surveillance for all health professionals involved in intrapartum care by evaluating the: • extent of fetal surveillance education programmes in New Zealand; • effectiveness of training programmes on fetal surveillance for all health professionals involved in intrapartum care in New Zealand; and • logistics of rolling out a national fetal surveillance education programme to all health care professionals involved in intrapartum care.*

Note: Neonatal Encephalopathy (NE) is an umbrella term and hypoxic-ischemic encephalopathy (HIE) is a sub group of NE; however the terms are often used interchangeably and for the purpose of this report and the working group the NE taskforce addresses HIE.

Other Concerns raised

In her complaint [Mrs A] raises concerns regarding the cancelation of her ultrasound scan and comments made by the obstetric registrar. These concerns are not Midwifery related so I will refrain from comment. The concerns have been addressed in the response from [MCDHB] (10 February 2020).

Summary

I have been asked to review the care provided by the Midwives at Mid Central DHB for [Mrs A's] duration of care. No concerns are raised by [Mrs A] regarding the Midwifery care provided by [her LMC midwife].

In reference to concerns raised regarding CTG interpretation and response to decreased movements, in my opinion there are no departures from accepted midwifery practice.

I cannot resolve whether all incidents of reported decreases of fetal movement are documented. I acknowledge that [Mrs A] felt difficulty in raising her concerns at times and that she states her concerns were not always well received.

Finally I extend my heartfelt condolences to [Mr and Mrs A] for the loss of their precious [Baby A]. I hope this report has addressed some of their unanswered questions.

Nicky Emerson BHSc — Midwifery
Midwifery Advisor
Health and Disability Commissioner"

Appendix B: Independent clinical advice to Commissioner

The following expert advice was obtained from Dr John Short:

"Dear Ms McDowell

Re: Complaint MidCentral DHB/[Mrs A], ref C20HDC00035

I have been asked to provide advice in this case (C20HDC00035). I have read and agree to follow the Commissioner's guidelines for independent advisors. I can confirm there is no conflict of interest.

I am a specialist Obstetrician and Gynaecologist, vocationally registered in New Zealand since 2007. I have worked as a senior medical officer in Obstetrics and Gynaecology at Christchurch Women's Hospital since 2006.

I have been provided with relevant documents, including the consumer complaint, hospital records and reports from the clinicians involved. I have been asked to comment specifically on the following:

1 Whether the obstetric care provided to [Mrs A], after she was admitted to hospital in the lead up to the birth of [Baby A], was of an appropriate standard.

2 Whether, during this hospital admission, fetal monitoring was adequate and appropriately recorded.

3 Whether the obstetric response to [Mrs A] suggesting that fetal movement was decreasing was appropriate in the circumstances.

4 The reasonableness of the decision to cancel the ultrasound scan that was booked for [Day 7].

Background

[Mrs A] was in her second pregnancy in [2018]. Her previous pregnancy had resulted in a live birth by caesarean section at 38 weeks and 2 days. It is not entirely clear from the information available but some correspondence suggests that fertility treatment had been required. On [Day 1], at 32 weeks and 6 days gestation, [Mrs A] complained of reduced fetal movements and was assessed at the hospital. Whilst fetal assessment at that time was reassuring, she was found to have high blood pressure and proteinuria, leading to a diagnosis of pre-eclampsia. She was then admitted to hospital for monitoring.

Prior to this time it appears that the pregnancy had been uncomplicated. An ultrasound scan had been performed [at] 30 weeks and 6 days gestation, which was reassuring and estimated the fetal weight to be 1779g. This was approximately on the 50th centile on a customised growth chart and the population growth chart, indicating a normally grown baby. However the reason for performing this scan is not clear. A further scan was

planned for [Day 7]. [Mrs A] had been seen in the obstetric clinic to discuss mode of birth in view of her previous caesarean section. After discussion she had indicated a preference to attempt a normal birth over a planned caesarean section.

Whilst an inpatient [Mrs A] and the baby were monitored. This included 2 CTGs every day to assess the baby. During this time she also required medication to control her blood pressure. On [Day 6] there were concerns about the fetal heart on the CTG monitoring. [Mrs A] was experiencing mild tightenings which were associated with variable decelerations (drops in the heart rate). She was transferred to the birthing suite for closer monitoring and delivery of the baby was considered. However, the CTG improved and delivery was not deemed necessary that day. However, steroids were given to accelerate fetal lung maturation in anticipation of pre-term birth and a plan for induction of labour on [Day 8] was made. The ultrasound scan, planned for [Day 7], was then cancelled as it was deemed unlikely to influence ongoing management.

The induction process involved placement of balloon inside the cervix. A short time after this, fetal heart rate abnormalities were noted on the CTG and the induction process was abandoned. A caesarean section was performed. [Baby A] was born in good condition. Analysis of blood from the umbilical cord was normal — arterial pH of 7.27 and venous pH of 7.31 — suggesting that there was not acute fetal hypoxia (asphyxia). Birthweight was 1920g, which is on approximately the 10th centile of a population growth chart.

2 days after birth, [Baby A] became unwell with breathing difficulties and required significant input from the neonatal team. He was transferred to Neonatal intensive care at [DHB2]. A diagnosis of severe global hypoxic brain injury was made, likely resulting from an antenatal/in-utero event. Sadly the prognosis for a recovery was poor and [Baby A] was transferred back to Palmerston North for palliative care. He died shortly afterwards. A post-mortem examination was not performed. Placental histology demonstrated a small placenta with significant areas of haemorrhage and infarction.

Comments

Firstly, I would like to offer my sincere condolences to [Mrs A] and her family. It appears that the cause of [Baby A's] death was severe global hypoxic brain injury secondary to an antenatal event resulting from placental dysfunction. It is likely that [Mrs A's] pre-eclampsia was also the result of the same placental dysfunction and the reduced fetal movements were an indication of fetal compromise resulting from this placental dysfunction. The cord blood analysis at birth provides evidence that there was no acute injury at that time, meaning that events ultimately causing death had occurred some time earlier.

After review of the records provided, I have some concerns about the care provided to [Mrs A], particularly in relation to fetal monitoring. However, I cannot categorically state that alternative management would have led to a different outcome as it is unclear

when the in-utero brain injury occurred and when the fetal compromise became irreversible.

The areas of concern are as follows:

Fetal monitoring — in my opinion the level of fetal monitoring was inadequate. Whilst frequent CTGs were performed, these are limited in their predictive value. In my opinion an ultrasound scan to assess fetal growth, amniotic fluid and dopplers should have been performed, ideally within 24 hours of the diagnosis of pre-eclampsia. There is a very high risk of fetal growth problems in the presence of pre-eclampsia and this this should have been considered by the team. I suspect they were falsely reassured by the fact that the earlier ultrasound scan was normal. However they clearly failed to factor the significant new risk factor of pre-eclampsia into their thinking and planning.

Comparison of the estimated weight at 30 weeks and 6 days, with the actual birth weight 3 weeks later, demonstrates a decline from approximately the 50th to the 10th centiles. This is strongly suggestive of undiagnosed intrauterine growth restriction, which would likely be secondary to placental dysfunction. Information from Doppler studies would also have been obtained which would have assisted with planning timing and method of delivery, as the potential benefits of a caesarean section may have been emphasised more. Therefore the argument that a further ultrasound would not influence ongoing management (after the decision to deliver) is erroneous.

Administration of steroids — in my opinion corticosteroids for fetal lung maturation should have been administered earlier in the admission. Even at the time of admission it seems clear that there was a high likelihood of needing early delivery by caesarean section, based on the combined risk factors of early gestation, pre-eclampsia (requiring medication for blood pressure control), reduced movements and a previous caesarean section.

Induction of labour — The decision to attempt induction of labour on [Day 8] was somewhat misguided, in my opinion. The CTG abnormalities on [Day 6], with decelerations in association with mild tightenings, were a strong indication of the fact that labour would not be tolerated by the baby and that an intrapartum caesarean section would eventuate. Also, the prospects of a successful induction of labour in a pre-term pregnancy complicated by a previous caesarean section would inevitably be low. Therefore, the attempt

at induction was futile and risked compromise to the infant (although I must emphasise that this didn't eventuate in this case). I believe this to be the case even without considering the undiagnosed growth restriction.

Risk assessment — the obstetric team appear not to have realised that the diagnosis of pre-eclampsia was an indication of a significant increase in the risk of this pregnancy and consequently failed to modify the fetal monitoring as a result, instead sticking with the previous plan to repeat the scan after 3 weeks, although even this was later decided against. By the time of admission the 2 weeks that had elapsed since the previous scan represent a highly appropriate time interval after which to repeat the scan, especially in the presence of a new and highly significant risk factor.

My comments above are supported by the evidence based guidelines of my own unit.

Conclusion

Once again, I would like to offer my sincere condolences to [Mrs A] and her family.

Overall, I am of the opinion that MidCentral DHB failed to provide appropriate care to [Mrs A], in terms of fetal monitoring between [Day 1] and [Day 8], for the reasons detailed above. Whilst it is very possible that alternative management would not have altered the outcome, I consider the departure from accepted standards of care to be moderate. Ideally an ultrasound scan would have been performed and steroids administered early in the admission. This would have increased the chance of diagnosing the growth restriction and placental dysfunction and precipitating earlier delivery. I do believe that they were falsely reassured by the previously normal scan and normal CTGs and were genuine, but misguided, in their opinion that a further scan would not assist management.

Addendum October 2020 — I have quantified the overall level of departure (in my conclusion) as moderate. Fetal monitoring and risk assessment would be moderate. Steroids and induction mild.

I hope you find this report helpful and please contact me if you require further information.

Yours Sincerely,

John Short

Additional comment (in response to MCDHB's and [Dr B's] responses)

10 July 2022

In response to the advice above, MCDHB and [Dr B] have provided very thorough reports. Reference is made to 'Diagnosis and Treatment of Hypertension and Pre-eclampsia in Pregnancy in New Zealand — A clinical practice guideline' and 'Guideline for the management of suspected small for gestational age (SGA) singleton pregnancies and infants after 34 weeks gestation'. Any reference to the latter of these guidelines should be disregarded, as SGA was not suspected or diagnosed by the MCDHB team at the time. Pages 12, 13 and 16 of 'Diagnosis and Treatment of Hypertension and Pre-eclampsia in Pregnancy in New Zealand — A clinical practice guideline' indicate that an ultrasound scan should be done as part of fetal assessment at the time of diagnosis of pre-eclampsia (see below).

established role for serial testing. b. Fetal assessment with ultrasound for early dating and fetal growth at the time of diagnosis, and repeat if suspected growth restriction on clinical assessment by LMC. Umbilical artery velocimetry and cardiotocography only if fetal growth restriction or distress is suspected. c. Educate the woman around the need to contact her LMC urgently if she experiences

Fetal assessment at time of diagnosis. Do not repeat USS in <2 weeks, unless fetal indications[b]

This supports my opinion that ultrasound assessment of the baby should have been performed at the time of [Mrs A's] diagnosis with pre-eclampsia on [Day 1]. 2 weeks had elapsed since her previous ultrasound, so another scan at this time would be consistent with the timeframes recommended in the guideline.

Regarding Antenatal steroids, these are recommended at least 48 hours prior to birth. At the time of [Mrs A's] admission with pre-eclampsia the MCDHB team did not know when delivery would occur. However, there was risk of a requirement for early delivery and it would have been prudent to administer steroids at the time of diagnosis in order to optimise fetal outcome and/or avoid unnecessary delays should earlier delivery be indicated.

Therefore, my opinion and conclusions are unchanged.

Yours Sincerely,

John Short"