District Health Board

Midwife, RM C

Midwife, RM B

A Report by the

Deputy Health and Disability Commissioner

(Case 18HDC01268)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Contents

Executive summary

1. This case highlights the importance of clear and open communication by everyone involved in a pregnant woman's care, and the need for appropriate action in response to key risk factors that have the potential to affect the safety of the woman or her baby.

2. The woman was cared for during her pregnancy by her lead maternity carer (LMC). The woman had had previous miscarriages, and during the course of the pregnancy she had reduced fetal movements, elevated blood pressure, and a high BMI. The woman met the criteria for referral to an obstetrician, but this did not occur.

3. The woman went into labour and was admitted to hospital. A hospital midwife performed a CTG, which was abnormal; however, she did not request an obstetric review. A decision was made to deliver the baby by emergency Caesarean, but there was a delay in facilitating the delivery. The baby was born in poor condition following a placental abruption.

Findings

4. The Deputy Commissioner found the LMC in breach of Rights 6(1) and 7(1) of the Code. The LMC did not advise the woman of the recommendations in the *Referral Guidelines* in relation to the key risk factors in her pregnancy. The Deputy Commissioner considered that this was information a consumer would expect to receive, and consequently the woman was not in a position to make informed choices during her pregnancy.

5. The Deputy Commissioner also found the LMC in breach of Right 4(1) of the Code. The Deputy Commissioner considered that by failing to recognise the cumulative impact of the woman's risks or respond to her raised blood pressure, and not running a CTG trace for an adequate period of time or conducting an immediate assessment when this was warranted, the LMC did not provide services of an appropriate standard.

6. The Deputy Commissioner also found that by failing to seek an urgent obstetric review when a CTG was pathological and an obstetric emergency was indicated, the hospital midwife did not provide services of an appropriate standard and, accordingly, breached Right 4(1) of the Code.

7. The Deputy Commissioner was critical of the DHB for the delay in carrying out the Caesarean section once the decision was made.

Recommendations

8. The Deputy Commissioner recommended that the LMC undertake training on informed consent, provide HDC with a reflective statement on the training undertaken under her competence review by the Midwifery Council of New Zealand, and provide a written apology to the woman.

9. The Deputy Commissioner recommended that the hospital midwife provide HDC with a reflective statement on the training undertaken under her competence review by the Midwifery Council of New Zealand, and provide a written apology to the woman.

Complaint and investigation

10. The Health and Disability Commissioner (HDC) received a complaint from Ms A concerning the care provided to her and her baby. The following issues were identified for investigation:

- *Whether RM B provided Ms A with an appropriate standard of care in 2017.*
- *Whether RM C provided Ms A with an appropriate standard of care in 2017.*
- *Whether the DHB provided Baby A with an appropriate standard of care in 2017.*
- *Whether the DHB provided Ms A with an appropriate standard of care in 2017.*

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

12. The parties directly involved in the investigation were:

Ms A	Consumer
Baby A	Consumer
District Health Board	Provider
RM B	Provider/self-employed registered midwife
RM C	Provider/DHB-employed registered midwife
Ms A's partner	
Provider/neonatologist	
Dr D	Provider/obstetrics registrar

13. Also mentioned in this report:

Dr E	Obstetrics consultant
Dr F	Consultant paediatrician

14. Further information was received from ACC.

15. In-house midwifery advice was obtained from Registered Midwife (RM) Nicky Emerson (Appendix A). Independent obstetric advice was obtained from obstetrician and gynaecologist Dr Ian Page (Appendix B).

Information gathered during investigation

Background

16. Ms A, then aged in her late twenties, became pregnant. She had a booking visit with RM B and registered with her as her Lead Maternity Carer (LMC). At this visit, Ms A's blood pressure (BP) was normal (120/75mmHg).

Modes of contact

17. RM B recorded in the maternity notes that she had given Ms A her contact details, and told her that using text messaging was "all good" for non-urgent matters, but advised Ms A to telephone if the matter was urgent.

Miscarriages

18. The Obstetric History Summary form completed that day states that Ms A had had five previous miscarriages and one ectopic pregnancy.

19. The *Guidelines for Consultation with Obstetric and Related Medical Services (Referral Guidelines)*[1] provide that consultation is required for recurrent miscarriage (defined as three or more).

20. RM B told HDC that only two miscarriages and one ectopic pregnancy had been medically confirmed by beta-hCG,[2] and therefore Ms A did not meet the referral criteria for recurring pregnancy. This information is not recorded in the clinical records.

21. Also at the booking visit, RM B recorded that Ms A was taking 100mg aspirin daily. When asked why Ms A was taking aspirin, RM B could not recall the exact details, and did not document them. She noted that prior to 2019, aspirin was used for women with recurring miscarriage. She stated that her practice was to consult before prescribing any aspirin, and in 2017 that may have been by way of a telephone call to an on-call secondary provider. However, there is no record of such contact having been made. In response to the provisional opinion, Ms A stated that RM B told her that she did not know why she had been prescribed aspirin, and advised her to continue taking it.

BMI

22. The maternal history summary form states that at booking, Ms A's height was 166cm and her weight 142kg.[3] Her BMI[4] is not calculated on the form. RM B told HDC that Ms A's BMI

[1] Ministry of Health, *Guidelines for Consultation with Obstetric and Related Medical Services (Referral Guidelines)*, Wellington: Ministry of Health, 2012. The guidelines previously appended to Section 88 of the Maternity Services Notice 2002 are to be used in conjunction with the Primary Maternity Services Notice 2007.

[2] The hormone human chorionic gonadotropin (hCG) is produced during pregnancy. Levels can first be detected by a blood test about 11 days after conception, and by a urine test about 12–14 days after conception. Typically, hCG levels double every 72 hours. The level reaches its peak in the first 8–11 weeks of pregnancy, and then declines and levels off for the remainder of the pregnancy.

[3] When calculated this is a BMI of 51.53.

was calculated and recorded on the "Healthy Weight Gain in Pregnancy" card. RM B stated that the card is used to assign a healthy weight gain range in pregnancy, and is held by the woman and updated throughout the pregnancy. In response to the provisional opinion, Ms A stated that she was not given a "Healthy Weight in Pregnancy" card, but her weight was discussed at each visit, and RM B told her that it was good that she was not gaining a lot of weight during the pregnancy.

23. Ms A's BMI was 51. The *Referral Guidelines* require that if a woman's BMI is above 35, the LMC must recommend a consultation with a specialist, and if the woman's BMI is above 40, the responsibility for her care must be transferred to a specialist, given that the pregnancy, labour, birth, or puerperium[5] (or the baby) may be affected by the condition.

24. At the booking visit, RM B recorded a reference to exercise and diet, and noted that Ms A was taking pregnancy vitamins.

25. RM B told HDC: "[Ms A] is not a woman defined by a BMI." RM B said that Ms A received advice and information for healthy eating and weight gain in pregnancy, and engaged in regular exercise by walking to and from work as weather permitted. RM B stated: "Healthy weight gain and minimising [Ms A's] weight gain was a big focus of our care plan." The antenatal record completed by RM B does not mention healthy eating or weight gain in the comments section.

26. RM B told HDC: "[T]he referral guidelines are guidelines and as much as I respect these and utilise these appropriately, women are referred when negotiated." However, Ms A told HDC that she was not made aware that she should have been transferred to obstetric care owing to her raised BMI.

Raised BP

27. At the booking visit, Ms A's blood pressure was normal at 120/75mmHg. Subsequently, between 24 weeks' gestation and 39 + 6 weeks' gestation, Ms A had raised blood pressure on six occasions (the documented BP ranged between 140/90mmHg and 140/100mmHg).

28. The *Referral Guidelines* state that consultation should take place if there is "[n]ew hypertension presenting after 20 weeks with no significant proteinuria". The RANZCOG publication *Diagnosis and Treatment of Hypertension and Pre-eclampsia in Pregnancy in New Zealand: A clinical practice guideline* (2017) defines gestational hypertension as:

- New onset hypertension occurring after 20 weeks' gestation (in a woman who had normal blood pressure before 20 weeks' gestation); and
- Diastolic blood pressure ≥90mmHg or systolic blood pressure ≥140mmHg, measured on two or more consecutive occasions at least four hours apart.

[4] Body mass index (BMI) is a measure of body fat based on height and weight. A BMI between 18.5 and 24.9 is classified as normal. A BMI between 25 and 25.9 is classified as overweight, and a BMI above 30 is classified as obese.
[5] The time immediately after the delivery of a baby.

29. RM B told HDC that Ms A did not have elevated blood pressure, and the readings were caused by using a cuff that was too small for her large upper arm. RM B stated that an adequately fitting cuff was not available until midway through 2017, when the DHB purchased new equipment. She said that the borderline blood pressure measurements were taken by a cuff that was too small for Ms A, so she purchased a longer large adult cuff that just fitted Ms A's large upper arm. RM B said that a tight-fitting cuff will yield a high blood pressure reading, and acknowledged that a tight-fitting cuff was not ideal. RM B stated:

> "Given a BP with a tight cuff was at the upper limit of normal and a Secondary care unit clinical referral BP measurement of >140 systolic and >90 diastolic, [Ms A] never had clinical hypertension. Nor did she present with any symptoms of high blood pressure …"

30. RM B said that Ms A had normal blood pressure on seven occasions and also in early labour, and had no proteinuria.

Failure to make obstetric referral

31. In 2016, the Midwifery Council of New Zealand issued a "Statement to Midwives on the Referral Guidelines", which includes:

> "The Council again reminds all midwives of the importance of consistently and appropriately applying the Referral Guidelines. Using them is your reassurance that you are making decisions with the woman when cases are complicated that are based on best evidence and agreed professional standards."

32. RM B stated that she discussed with Ms A the possibility of a consultation with an obstetrician regarding her weight, and the increased risks of hypertension and diabetes, and Ms A agreed to see an obstetrician if those conditions occurred. However, there is no record of this. RM B stated:

> "We focussed on her keeping active and keeping her weight down. Although [Ms A's] BMI was 51, I made the mistake of using my subjective judgements over the objective data."

33. RM B acknowledged that she normalised Ms A "when at 142kg she was not normal".

34. RM B said that in 2017 the *Referral Guidelines* were not her focus in her care of Ms A. RM B noted that in 2018, subsequent to these events, the Midwifery Council of New Zealand provided another reminder regarding the *Referral Guidelines*, including that women need to be fully informed, and that if they decline referral, that refusal should be documented in the notes.

35. With regard to her failure to refer Ms A for an obstetric consultation, RM B stated: "Secondary care at [Hospital 1] has made it clear to LMCs that they do not have the resources to deal with the large volume of women in [the region] with BMIs over 35." She

said that no extra care is provided except an anaesthetic consultation, which occurs only rarely antenatally.

36. In response, the DHB stated:

> "While they don't routinely occur, any referral for a woman with a BMI greater than 35 to the Obstetric and Gynaecology Antenatal clinic would be accepted. Regarding the anaesthetic assessment, the relevant obstetric criterion for anaesthetic referral is where a woman has BMI > 40 (or >35 with significant medical co-morbidity)."

11 Month4 to 2 Month8[6]

Reduced fetal movement

37. On 11 Month7 at 37 weeks' gestation, RM B recorded in the maternity notes that Ms A was well but had not been feeling the baby move. RM B recorded that on Doppler auscultation at the clinic there was a good fetal heart rate (FHR) with a variability of 5/15, accelerations, and no decelerations. RM B sent Ms A for a cardiotocograph[7] (CTG) at the hospital, which was reassuring. The DHB's notes completed at 10.15pm state that Ms A had not felt any movements for three days. Her vital signs were taken, and it is recorded that abdominal palpation was difficult owing to Ms A's high BMI. RM B recorded that the core midwife had asked her whether she wanted the SHO (senior house officer) to review Ms A. RM B declined the review.

38. On 1 Month8 at 40 weeks' gestation, RM B recorded in the maternity notes that at 8.56am Ms A had sent a text message reporting that she had experienced cramps through the night. RM B later recorded: "PM Rang [Ms A], still not great movement, to come to hospital for CTG." Further maternity notes written on 1 Month8 at 6.30pm state that the CTG showed a variability of 5/10bpm and a baseline of 150bpm, with the appearance of a "sleepy trace". The notes state that Ms A and her partner wanted to leave, were happy with having heard the heartbeat, and could feel movements.

39. RM B stated that Ms A should have had a prolonged CTG on the evening of 1 Month8. However, they were in an antenatal clinic room, and the bed did not allow Ms A to be well positioned. RM B stated:

> "The BP was normal and if I thought an obstetric opinion was necessary, I'm sure, I would have obtained one. I have reflected significantly on this CTG. I accepted agreeing to take the CTG off and not advocating for a continued trace was not best practice."

[6] Relevant months are referred to as Months 1–9 to protect privacy.

[7] Cardiotocography (CTG) monitoring is the combined monitoring of the baby's heartbeat in utero and the mother's uterine contractions, if any. This allows for an interpretation of the fetal heart rate either alone or in relation to the contractions, and may be used to assist with the identification of fetal well-being and/or distress.

40. In response to the provisional opinion, Ms A said that she was very concerned about her baby's lack of movement, and was not happy to leave the hospital. Ms A recollected that the FHR contact trace on the CTG was poor, and repositioning was ineffective.

41. The following morning, 2 Month8, the maternity notes state that RM B contacted Ms A to follow up whether she was feeling fetal movements, and Ms A said that the baby had kicked the previous night while she was in the bath. RM B recorded that she had asked Ms A to come in for another CTG.

3–6 Month8

42. On 3 Month8, Ms A text messaged RM B that she was having cramps seven minutes apart. RM B recorded that she had advised Ms A to try having a warm bath and taking Panadol. The pains subsequently became further apart, but at 6pm RM B asked Ms A to attend the hospital for a review. Ms A returned to the maternity ward, and a CTG was performed. The CTG was reassuring, movements were felt, and Ms A's BP was 130/80mmHg.

43. RM B stated that on 3 Month8, she consulted with an obstetrics and gynaecology (O&G) registrar, Dr D. RM B said that she was in the ward office and had Ms A's notes, but Dr D declined to see Ms A. RM B stated that Dr D asked no questions regarding an anaesthetic consultation, or antenatal clinic appointments, and advised that non-interference was the best course of action.

44. RM B recorded in the maternity notes that she had discussed the following matters with Dr D:

- BMI;
- Ms A was exhausted and failing to establish labour;
- The cervix was anterior, 1cm long and admitted a finger; and
- There were reduced movements.

45. The maternity notes record that Dr D did not want to interfere, and advised that the best course of action was to allow Ms A to establish labour on her own. The notes state: "Did not want to be performing C-section if avoidable, on 154kg woman." Dr D offered a prescription for codeine, but Ms A declined as she had codeine at home.

46. Dr D stated that she was rostered on call for the weekend of 3–4 Month8, and that on-call weekend registrar shifts are 8am Saturday to 8am Monday. Registrars are available for acute O&G duties, contactable by a dedicated mobile phone number, and are required to attend within 20 minutes of contact if they are needed urgently.

47. Dr D said that she has no recollection of any discussion with RM B on the weekend of 3–4 Month8. Dr D stated: "It would be my normal practice to document any assessments or recommendations in the clinical notes, especially in cases where there were significant clinical risk factors." Dr D recalled that her first contact with Ms A was on 6 Month8 when asked to review a CTG.

48. In response to the provisional opinion, Ms A stated that RM B did not inform her that she had had a discussion with Dr D. On 4 Month8, RM B recorded that she contacted Ms A at 5.45pm and arranged for her to attend the hospital for a CTG. The notes record that Ms A's BP was 114/65mmHg and the CTG was reactive with accelerations and no decelerations and variability of 5/25bpm. RM B recorded that the CTG was reassuring and multiple movements were detected, so Ms A returned home to await labour.

Labour

49. On 6 Month8 (at 40+5 weeks' gestation) Ms A telephoned RM B to advise that she had had a bloody brownish mucousy discharge, and that the baby had been moving well the previous day but was not moving much that day. RM B did not assess Ms A in person. RM B told HDC that the discharge was a "show", which was a normal physiological occurrence, and that most midwives would advise a woman that this is normal. RM B stated: "I was unaware that an immediate assessment of a high BMI woman with a show would be different from a low BMI woman."[8]

50. RM B made retrospective notes (on 7 Month8) stating that at 5.30pm on 6 Month8 she received a text from Ms A that she was having pains and had had a bloody vaginal discharge, and that the pains were five and a half minutes apart, lasting one minute three seconds. RM B recorded that she "advised" Ms A that she was out of town doing rural visits and would not be back until about 7pm. RM B documented that she asked Ms A whether she had transport to get to hospital, as Ms A's partner was away, and Ms A said that her partner's parents were available.

51. RM B retrospectively recorded that at 6.50pm she was "[l]ost out the back of [a] remote rural [area]" and that she had rung the hospital to advise that Ms A would be coming in and was in early labour. RM B documented that she told the core midwife that Ms A needed to go to hospital because she was high risk and had a raised BMI and a long latent phase. RM B recorded that she told the core midwife that if Ms A was in advanced labour, RM B's practice partner could be called, as RM B expected to be about another hour.

RM C

52. RM C stated that on 6 Month8 she commenced work at Hospital 1 at 6.45pm for a 12-hour shift. She said that at handover she was informed that Ms A was expected at the maternity ward, and that it had been agreed that a CTG would be commenced on behalf of RM B, who would attend but had been delayed slightly. RM C stated that she had not met Ms A previously, and was unaware of any information regarding her risk factors and previous admissions, or her maternity, medical, or social history.

Assessment

53. Ms A presented at the maternity ward at 40+5 weeks' gestation. RM C recorded that a CTG commenced at 7.15pm showed the FHR as 176bpm[9] with no variability, no accelerations, and no decelerations.

[8] Discussed further at paragraph 128.

[9] Normal FHR is 120–160bpm.

54. At 7.35pm, the records completed by a student midwife state that Ms A had noticed fresh red blood vaginally that afternoon and again at that time. Ms A told the midwifery staff that she had not felt the baby move that day. The student recorded that the CTG had been commenced at 7.15pm, and that the FHR was 176bpm, and the CTG showed no variability, no accelerations, no decelerations, and some uterine activity. The student recorded that the CTG was pathological, and required "urgent consultation".

55. RM B retrospectively recorded that RM C called her at 7.56pm. RM C did not contact the registrar. She told HDC:

> "While I recognised that the cardiotocograph commenced on [Ms A] was abnormal, it was my understanding that [RM B], the LMC, was on her way as planned and was due to arrive imminently. Had I known that [RM B] was going to take as long as she did, I would have called the Registrar as soon as I identified the abnormal tracing, to consult and inform her of [Ms A's] clinical situation. However, [RM B] had reassured me that she was not far away and would be in attendance very soon. In hindsight, I absolutely should have contacted the on-duty Registrar to consult and inform her of the clinical situation with [Ms A]. In this circumstance it was primarily because my expectation was that the LMC was due to arrive momentarily."

56. RM C did not make contemporaneous clinical records after the notes made by the student at 7.35pm. She stated that she was taking action by gathering equipment and assessing Ms A in anticipation of inserting an intravenous (IV) line, and was then responsible for another acute admission. RM C did make retrospective notes the following day documenting her actions and the arrival of RM B, but was unable to confirm when RM B arrived. RM C said that she provided assistance to RM B as she cannulated Ms A and commenced IV fluids. The clinical notes indicate that RM B arrived at 8.25pm.

57. At 9pm, RM B recorded that she had inserted an IV line and was attempting to move Ms A into different positions, but the FHR contact was difficult. RM B conducted a vaginal examination (VE), which showed that Ms A was 1–2cm dilated and fully effaced.[10] RM B noted that she had contacted the registrar, who was on the way to the hospital.

58. Dr D attended at 9.30pm and decided that a category two Caesarean section[11] should be performed. She told HDC that her impression was of fetal intolerance of early labour at term, and that Ms A had regular painful uterine activity and a CTG with pathological features that had not improved with conservative treatment.

59. Dr D stated that Ms A consented to delivery by Caesarean section, and Dr D then contacted the on-call anaesthetist, theatre staff, and the obstetrics consultant, Dr E. It was decided that it would be safer for Ms A for the Caesarean section to be performed under regional anaesthesia. With regard to the time it took to deliver the baby, Dr D stated:

[10] During the first stage of labour, the cervix opens (dilates) and thins out (effaces) to allow the baby to move into the birth canal. The cervix must be 100% effaced and 10 centimetres dilated before a vaginal delivery.
[11] Category 2 indicates that problems are affecting the health of the mother and/or baby but are not immediately life-threatening. Surgery should commence within 60 minutes of notification to the theatre.

> "My consultant and I were ready to start the operation as soon as the case was booked, and there were no specific delays that I am aware of. However, as [Ms A] was a high risk case, from an anaesthetic point of view, this may have meant that some time was required to prepare her for surgery."

60. The DHB stated that Hospital 1 is a secondary level hospital and does not have theatre and anaesthetic night staff on site. Staff were on call but there was a time delay owing to travel and setting up the operating theatre. Dr E prepared a report for ACC that states that according to Hospital 1's Acute Theatre Priority Categories, patients listed as category 2 should have their surgery commenced within 60 minutes of theatre notification.

Delivery

61. Baby A was born by Caesarean section at 10.55pm. Dr D performed the surgery with the assistance of Dr E and a trainee intern. A paediatric SHO attended the birth. Dr D said that she noted in the operation record that there was "port wine" coloured liquor, as sometimes that can indicate that a placental abruption has occurred. She stated that no other evidence of a placental abruption was noted during the Caesarean section. Baby A was born in poor condition — she was pale with reduced muscle tone, and made no respiratory effort. The cord was clamped immediately after birth.

62. At the end of the surgery, Dr D considered that no clinical factors required a placental examination, so she did not request histological examination, and thereafter had no involvement in the disposal of the placenta. Dr D noted that Ms A had not indicated on the consent form that she wished to have the placenta returned.

63. In response to the provisional opinion, Ms A stated that following Baby A's birth she was told that the placenta was sent to pathology for testing.

Resuscitation

64. The consultant paediatrician, Dr F, told ACC that the paediatric SHO attended the birth and undertook Baby A's initial resuscitation. Baby A was pale, floppy, and had a low heart rate at birth, and her one-minute Apgar[12] score was one. She was given five inflation breaths and, subsequently, positive pressure ventilation. At one minute her heart rate was greater than 100bpm. Meconium[13] was suctioned from the oropharynx,[14] and positive pressure ventilation continued. At six minutes of age, Baby A's oxygen saturations were 75%. Her five-minute Apgar score was three, and her ten-minute Apgar score was four.

65. Baby A was transferred to the Neonatal Intensive Care Unit (NICU) and her oxygen saturations were maintained between 80% and 86%. Dr F stated that he was called to see

[12] Apgar is a quick assessment performed on a baby at one and five minutes after birth. The baby's breathing effort, heart rate, muscle tone, reflexes, and skin colour are assessed. Each category is scored with 0, 1, or 2, depending on the observed condition.
[13] Meconium is the first faeces passed by a newborn, and is green/black in colour. In some circumstances, the baby passes meconium while still inside the uterus. This may be a sign of distress or can also be a normal process in a post-mature baby.
[14] The part of the throat at the back of the mouth.

Baby A when she was just over 30 minutes of age, because she was not maintaining her oxygen saturations on CPAP and was working very hard to breathe. He recorded that he arrived when Baby A was 45 minutes of age. At 11.55pm, Dr F intubated Baby A and she was started on mechanical ventilation.

66. Dr F stated that Baby A's initial chest X-Ray showed that the endotracheal tube was low, and it was withdrawn by 1.5cm. There was evidence of a pneumothorax,[15] and anterior needle aspiration released a significant volume of air. A chest drain was inserted, and Baby A was commenced on IV antibiotics.

67. The DHB told HDC that formal systemic assessment for encephalopathy[16] occurred. The DHB stated that it is well recognised that encephalopathy (as the result of a brain injury) is often an emergent condition over time. Given Baby A's condition at birth, the team at Hospital 1 documented that she was at risk for this, and staff ensured that her temperature was kept in the normal range. Once she was more stable, passive cooling was initiated.

Hospital 2

68. Dr F stated that he telephoned a main centre hospital (Hospital 2) and requested retrieval. The retrieval team arrived by helicopter at 2.45am, and Baby A was transferred to Hospital 2 NICU.

69. The Medical Director of the NICU completed an initial neurological assessment at 8.50am, shortly after Baby A's admission to the NICU, and other medical team members continued to assess her neurology thereafter.

70. The DHB said that an ambulatory EEG monitor[17] was attached to Baby A later that day as part of her assessment, and snapshots of the EEG readings contained within her notes demonstrate ongoing systematic assessments. Her notes also contain her Sannart scoring (a formal neurological assessment) and neurological observations by the nursing team during this time.

71. Ventilation was continued at Hospital 2, and active cooling was undertaken until 10 Month8.

Further progress

72. On 13 Month8, Baby A was discharged from Hospital 2 and admitted to Hospital 1. She had had no further seizures, and an MRI was reported as normal.

73. Baby A was discharged home on 22 Month8, and at that stage was fully breastfed and had gained weight.

[15] A pneumothorax occurs when air gets in between the lung and the chest wall, causing the lung to collapse.
[16] Brain damage, disorder, or disease.
[17] A portable electroencephalogram to monitor electrical activity in the brain.

74. Dr F stated that he saw Baby A when she was 12 weeks of age. She had had no further seizures and was meeting her milestones at that age. She remained breastfed and was thriving, with her weight on the 75th centile. She had normal head growth and there were no concerns about her progress.

Subsequent events

75. At the age of six months and 21 days, Baby A was assessed by a physiotherapist from the Child Development Service. The physiotherapist's report states that Baby A was performing within the average level for motor and language development, and above average level for cognitive development. The physiotherapist considered that Baby A no longer needed regular Child Development Service therapy, and could be transferred to the Developmental Screening Program.

Further information — RM B

76. RM B told HDC that she has made the following changes to her practice:

- She incorporates Midwifery Council recommendations into her practice.
- She adheres to the new referral pathway.
- She has more extensive discussions with women about the *Referral Guidelines*.
- She has attended a documentation workshop and a fetal surveillance course.
- She is undergoing documentation audits.
- She documents all discussions with women and secondary care colleagues.
- She includes faxed prescriptions in the notes.
- She is converting to an online notes system.
- She has reduced her caseload significantly.

Midwifery Council of New Zealand (MCNZ)

77. In December 2018, the Midwifery Council undertook a competence review in respect of RM B. RM B completed a competence programme that included training on documentation and record-keeping; audit of clinical notes; online training in fetal monitoring; face-to-face training on fetal monitoring; training on fetal growth assessments; and a reflection on changes made to her practice. The Midwifery Council told HDC that the competence programme was completed satisfactorily.

78. Also in December 2018, the Midwifery Council undertook a competence review of RM C. She has undertaken to attend a fetal surveillance workshop and a PROMPT workshop, and to engage in a one-to-one session with an approved midwife in order to discuss professional responsibilities. In an update to HDC, MCNZ advised that due to extenuating circumstances, RM C has until November 2020 to complete the required components of this programme.

ACC

79. ACC noted that the clinical notes show an impression of fetal intolerance of early labour, and that Ms A had multiple risk factors for a Caesarean section and was not suitable for a late night "crash" Caesarean section. Consequently, the emergency Caesarean section was performed under spinal anaesthesia.

Midwifery advice

80. A midwife advised ACC that Ms A presented at the initial antenatal booking visit with several risk factors, including recurrent miscarriage and morbid obesity, which should have alerted RM B that both an obstetric and an anaesthetic referral were indicated.

81. The midwife stated that RM B should have followed a different treatment path at the booking visit, based on the *Referral Guidelines*, and when Ms A presented with a second episode of decreased fetal movements on 1 Month8. Further, on 3 Month8, Ms A should have been reviewed physically by the obstetric team. The midwife also stated that a review was required on 6 Month8, when Ms A alerted RM B to a repeat episode of decreased fetal movements and signs of impending labour.

82. The midwife advised that RM C appropriately applied a CTG and diagnosed a pathological trace, which should have alerted her to the need for an urgent obstetric referral. The midwife stated:

> "There is no requirement for the LMC midwife to attend a woman in hospital for an urgent problem, as services should be provided by the secondary care provider. Midwifery care (treatments) provided by RM C, therefore, does not meet acceptable and appropriate standards."

Obstetric advice

83. An obstetrician and gynaecologist advised ACC that when Ms A presented to Hospital 1, the admission CTG carried out by the core midwifery staff was "obviously pathological" and should have been acted upon immediately and the obstetric staff contacted, but instead no action was taken until RM B attended approximately one hour later.

84. The obstetrician and gynaecologist said that the cord pH indicated that the fetus was suffering from chronic rather than acute hypoxia. He stated: "It is therefore unlikely that delivery one or two hours earlier would have made any significant difference to the fetal prognosis." The obstetrician and gynaecologist said that Dr D attended promptly, diagnosed fetal compromise, and arranged a category 2 Caesarean section. He noted that the time to delivery was one hour 25 minutes, and said:

> "In my opinion this was acceptable for a provincial unit such as [Hospital 1] where anaesthetic and theatre staff were not on site. [Ms A] was also a very high anaesthetic risk, which would also have increased the decision to deliver interval."

Neonatology advice

85. A neonatologist advised ACC that Baby A was resuscitated promptly with positive pressure ventilation and suction. However, he considered that it would have been more appropriate to intubate and ventilate her, rather than have her remain on CPAP for transfer to the NICU. He noted that the large pneumothorax would have contributed greatly to Baby A's persisting early postnatal acidosis and elevated oxygen requirements. He was critical that there was no record of a systematic assessment for encephalopathy,[18] which he considered should be performed serially, including towards the 46-hour mark. However, he stated: "I note that [the team] took care to prevent hyperthermia over the first hours, and this measure alone will have provided an important degree of neuroprotection."

86. The neonatologist concluded:

> "Overall, although there should have been recorded systematic neurological examination and consideration of therapeutic hypothermia, I do not conclude that therapeutic hypothermia should necessarily have been commenced earlier."

Policy — "Monitoring Fetal Heart"

87. The policy "Monitoring Fetal Heart" states:

> "If performing CTG, record and document maternal pulse rate prior to commencing the CTG. Leave on for at least 20 minutes.
>
> - If reduced variability is noted, continue monitoring to exclude a fetal sleep cycle. (Variability is the fluctuation of the fetal heart around the baseline.) If necessary, alter the woman's position and check maternal pulse, temperature, blood pressure, and hydration state. Mark a position change on the CTG.
> - When variability improves, discontinue the CTG after a further 10 minutes of normal tracing.
> - If variability remains poor after 40 minutes of continuous CTG monitoring, refer to an obstetrician.
> - If decelerations are noted on the CTG, continue monitoring and alert an obstetrician. (A deceleration is a drop in the fetal heart from the baseline by at least 15 beats lasting 15 seconds.)"

88. The policy states that "[a] normal CTG includes acceleration of the fetal heart on at least two occasions". The policy refers to the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) 2002 intrapartum fetal heart rate monitoring guidelines for more details.

[18] However, as stated above, the DHB told HDC that formal systemic assessment for encephalopathy did occur.

DHB obstetric review

89. On 17 March 2018, Dr E conducted an obstetric review of Ms A's case (the review). The review states that Ms A had not been seen by the obstetric team before the day of delivery.

90. The review notes that on 6 Month8, Ms A attended the maternity ward because of decreased fetal movements, and the LMC (RM B) asked the core midwives to put Ms A on a CTG. The CTG was placed at 7.15pm, and at 7.35pm the reading was noted to be abnormal with the FHR baseline at 175bpm, no accelerations, no decelerations, minimal variability, and mild intermittent contractions. Dr E commented that Ms A was noted to have an abnormal CTG at 7.30pm, but no obstetric consultation was obtained until 9pm. The review states: "An abnormal CTG that is identified as pathological in the overall assessment (as this was) should trigger an urgent obstetric consultation."

91. The review notes that the LMC was called at 8pm and arrived at 9pm and placed an IV line, and the obstetric SHO was called. At 9.15pm, Ms A's care was transferred to the obstetric team, and anaesthesia commenced at 10.20pm. The review states that Dr E and the registrar were in the theatre when the spinal anaesthesia was sited. The Caesarean section commenced at 10.49pm, and the baby was delivered at 10.55pm and noted to be "flat".

92. With regard to the timing of the Caesarean section, Dr E noted that according to the Hospital 1 Acute Theatre Priority Categories, patients listed as category two should have their surgery commenced within 60 minutes of notification to the theatre. Dr E said that in this case, notification was at 9.30pm and surgery started at 10.49pm, which was a 19-minute delay. The review states:

> "It took a long time to get to theatre preoperative holding area (21:30 to 22:00) and then another 20 minutes (22:20) for patient to get into theatre for anaesthesia to start. It also took another 29 minutes (22:20 to 22:49) until we were able to start the surgery."

93. Dr E noted that the theatre team must be called from home, which creates a delay, and that each part of the process took longer than would be expected, which collectively caused a delay in delivery. The review states:

> "There seems to be no single aspect of the surgical process that was a cause of delay. I have reviewed the Acute Theatre schedule and there was no one else being operated on at that time."

RANZCOG guideline

94. The RANZCOG guideline "Categorisation of urgency for caesarean section" (2002) states that category 1 applies to "[u]rgent threat to the life or the health of a woman or fetus". Category 2 applies to "[m]aternal or fetal compromise but not immediately life threatening".

95. The guideline recommends that no specific time interval is attached to the various categories of urgency of Caesarean section, and that delivery should be carried out with an urgency appropriate to the risk to the baby and the safety of the mother, with each case considered on its merits.

Responses to provisional opinion

96. Ms A, RM C, RM B, and the DHB were given the opportunity to respond to relevant sections of the provisional opinion. Where appropriate, changes have been incorporated into the report.

97. Ms A told HDC:

> "My focus has always been [Baby A] and her needs however as time has passed I am beginning to see the impact on myself. At the time I struggled with the powerlessness, poor communication, lack of support and the dismissive style of reassurance. I knew something was wrong with my baby. I was dismissed and my concerns belittled."

98. RM C made no comment in response to the provisional opinion.

99. RM B accepted the recommendations in the provisional report, and has provided a written apology for forwarding to Ms A.

100. The DHB accepted the provisional opinion, and advised that its Directorate leadership team has taken action to clarify expectations with all members of its maternity team. The DHB offered an apology to Ms A and her family for not having provided care at the consistently high standard expected, and for the impact this has had.

Opinion: introduction

101. There were serious deficiencies in parts of Ms A's care journey and in the information provided to Ms A, which placed Baby A at risk. Ms A's case highlights the importance of clear and open communication by everyone involved in a woman's care, and the need for appropriate action in response to key risk factors that have the potential to affect the safety of the woman or her baby.

Opinion: RM B — breach

Referral Guidelines

102. The *Referral Guidelines* require that in certain situations the LMC recommend to the woman (or parent(s) in the case of the baby) that a consultation with a specialist is

warranted given that her pregnancy, labour, birth, or puerperium (or the baby) is or may be affected by the condition.

103. As I have stated previously,[19] by setting out when specialist services should be accessed to discuss care options and when care should be transferred, the *Referral Guidelines* provide an essential safety-net for pregnant women and their babies. The *Referral Guidelines* also support and guide midwives and, used consistently, the *Referral Guidelines* ensure that every woman receives specialist input when necessary, and the information she requires to make an informed choice, give informed consent, and be a partner in her own care.

104. I am very concerned that RM B claimed that the *Referral Guidelines* were not her focus in 2017. I note that in 2016 the Midwifery Council of New Zealand issued statements[20] reminding midwives of the importance of consistently and appropriately applying the *Referral Guidelines*. In my view, the *Referral Guidelines* should have been an essential aspect of the services provided by RM B to Ms A to ensure that she received full and balanced information about risks and care options.

Recurrent miscarriage

105. The Obstetric History Summary form states that Ms A had had five previous miscarriages and one ectopic pregnancy. Furthermore, the records state that Ms A was taking 100mg aspirin daily at the time of booking. RM B stated that in her view, Ms A had had only two miscarriages and one ectopic pregnancy that had been confirmed medically, and so she did not meet the recurring pregnancy referral criteria.

106. The *Referral Guidelines* provide that consultation is required for recurrent miscarriage, which is defined as three or more miscarriages. My expert advisor, RM Nicky Emerson, stated that the recording of five miscarriages and one ectopic pregnancy in the midwifery notes, plus the addition of unexplained aspirin during pregnancy, required referral under the *Referral Guidelines*.

107. RM Emerson considers that investigation of the cause of recurrent miscarriage is an obstetric decision and not a midwifery decision, and that RM B departed moderately from accepted midwifery practice in not referring Ms A for an obstetric opinion regarding recurrent miscarriage.

BMI

108. The *Referral Guidelines* require that if the mother's BMI is above 35:

> "The LMC must recommend to the woman … that a consultation with a specialist is warranted, given that her pregnancy, labour, birth or puerperium (or the baby) is or may be affected by the condition."

109. The *Referral Guidelines* require that if the mother's BMI is above 40:

[19] See Opinion 16HDC01065.

[20] Media release in response to HDC Case 14HDC00088, 1 February 2016; Statement to midwives on the Referral Guidelines, February 2016; Be Safe: Referral Guidelines, April 2016.

> "The LMC must recommend to the woman … that the responsibility for her care be transferred to a specialist, given that her pregnancy, labour, birth or puerperium (or the baby) is or may be affected by the condition."

110. RM B documented that at the time of the booking visit, Ms A's height was 166cm and her weight was 142kg. Accordingly, her BMI was around 51. However, RM B did not record the BMI on the Maternal History Summary form, although she said that she did calculate it and record it on the Healthy Weight Gain in Pregnancy card.

111. RM B did not recommend that Ms A attend a consultation with an obstetrician owing to her raised BMI. It is not sufficient that RM B discussed exercise and diet and that an obstetrician would be consulted if Ms A developed hypertension or diabetes. RM Emerson stated that despite RM B having counselled Ms A regarding weight gain in pregnancy, that does not mitigate the expectation that the midwife meet her obligation to refer or to follow the *Referral Guidelines*, regardless of DHB capacity.

112. RM Emerson stated:

> "In my opinion, [RM B] has severely departed from accepted Midwifery practice in not recognising the potential risk associated with a BMI of 51, and not referring appropriately."

113. RM B stated that Ms A is not a woman defined by a BMI. However, that is not the point; the issue is that Ms A had the right to receive appropriate information about the recommendations in the *Referral Guidelines* in order for her to make an informed choice about having an obstetric consultation.

Reduced fetal movements

114. By 6 Month8 (40 + 5 weeks' gestation) there had been six occasions on which Ms A reported reduced fetal movements (four of which were in the preceding week). RM B stated that Ms A never had confirmed reduced fetal movement.

115. The *Referral Guidelines* state: "4028 — Confirmed reduced fetal movements — Following normal cardiotocograph but still concern — may require liquor assessment/growth assessment — Consultation."

116. RM Emerson advised that the only way to confirm reduced fetal movement is maternal perception/concern. She said that CTGs and scans are reassuring at the time they are undertaken, and may provide a clinical picture at that moment. She stated:

> "I am further guided by the Clinical practice guideline for the care of women with decreased fetal movements (August 2017) page 16, recommendation 12 — In the presence of a normal clinical assessment (including CTG and ultrasound), if maternal concern of DFM persists, seek medical review and further management should be individualised."

Conclusion

117. The guiding principles of the *Referral Guidelines* include that the woman has the right to receive full, accurate, unbiased information about her options and the likely outcomes of her decisions. The woman has a right to make informed decisions on all aspects of her care, including the right to decline care, and to decline referral for specialist consultation or transfer of clinical responsibility. Transfer of clinical responsibility is then a negotiated three-way process involving the woman, her LMC, and the practitioner to whom clinical responsibility is to be transferred.

118. I find that RM B failed to advise Ms A of the recommendations in the *Referral Guidelines* in relation to her raised BMI, recurrent miscarriages, and reduced fetal movements. I consider that this was information that a reasonable consumer in Ms A's circumstances would expect to receive. Accordingly, I find that RM B breached Right 6(1) of the Code of Health and Disability Services Consumers' Rights (the Code).[21] Consequently, Ms A was not in a position to make informed choices during her pregnancy, and I find that RM B also breached Right 7(1) of the Code.[22]

Antenatal care

Raised blood pressure

119. At the booking visit, Ms A's blood pressure was normal at 120/75mmHg. Subsequently, Ms A had raised blood pressure on six occasions. On 11 Month4, her blood pressure was 140/90mmHg. This rise following 20 weeks' gestation met the criteria for consultation.[23]

120. Elevated blood pressure is recorded in Month4 (BP 140/90mmHg — 24 weeks' gestation); Month5 (BP 140/90mmHg — 25 weeks + 4 days' gestation); Month6 (BP 140/90mmHg — 32 weeks + 4 days' gestation); (Month6, BP 140/100mmHg — 34 weeks' gestation); Month7 (BP 140/90mmHg — 37 weeks' gestation); and Month7 (BP 140/98mmHg — 39 + 6 weeks' gestation).

121. There is no contemporaneous documentation in the clinical notes to support that a discussion occurred with Ms A regarding pre-eclampsia symptoms or the *Referral Guidelines* and the need to consult when new hypertension presents after 20 weeks' gestation with no significant proteinuria. There is also no contemporaneous documentation or laboratory results to exclude pre-eclampsia in the presence of the elevated blood pressure readings.

122. RM B stated: "[Ms A] did not develop hypertension, diabetes, thromboembolic disease nor placental insufficiency. [Ms A] did have a partial abruption in early labour. An acute obstetric emergency." In my opinion, this reflects a lack of recognition of the potential significance of the ongoing elevated blood pressure readings.

[21] Right 6(1) states: "Every consumer has the right to the information that a reasonable consumer, in that consumer's circumstances, would expect to receive …"
[22] Right 7(1) states: "Services may be provided to a consumer only if that consumer makes an informed choice and gives informed consent …"
[23] *Referral Guidelines* p 25, Code 4009: "Gestational hypertension [Description:] New Hypertension after 20 weeks with no significant proteinuria [Referral category:] Consultation."

123. I do not accept that it was appropriate for RM B to attribute the blood pressure readings to the cuff being tight. There was no benefit in recording Ms A's blood pressure at these times if the readings taken were not accurate. I note that RM B recognised that the cuff was tight on Ms A's arm, and purchased a longer large adult cuff that just fitted Ms A's large upper arm.

124. However, it appears that RM B did not recognise the potential clinical implications of Ms A's elevated blood pressure. In my opinion, the absence of clinical investigation and referral represent a severe departure from accepted midwifery practice.

1 Month8

125. On 1 Month8, Ms A text messaged RM B reporting cramps and uncertainty as to whether she was feeling fetal movements. RM B arranged for Ms A to attend Hospital 1 for a CTG. The CTG indicated variability of 5/10bpm and a baseline of 150bpm, with the appearance of a "sleepy trace". No decelerations were present.

126. RM Emerson advised that it was reasonable to consider that the CTG was a sleepy trace, and that this could account for the reduced variability and absence of accelerations. She stated that accepted midwifery practice would include leaving the CTG on for a period of more than 40 minutes. If the CTG improved, it would confirm that the baby had been asleep. If the CTG did not improve, then consultation with an obstetrician would be recommended. RM Emerson stated:

> "I am critical the CTG was not left in place until it was evident that the baby was either awake or an obstetric opinion was sought. I am also critical of the absence of clinical *documentation* of the CTG in the hospital notes; in addition I can find no record of any baseline observations or discussion regarding advice if [Ms A] experienced ongoing concern with fetal movements."

127. RM Emerson advised that it was a mild to moderate departure from accepted midwifery practice not to leave the CTG in place until it was reassuring, and not to document the advice and recommendations provided to Ms A. However, RM Emerson noted that Ms A wished to leave the hospital, and had felt fetal movements. Furthermore, RM B followed up with a further CTG the following day.

6 Month8

128. On 6 Month8, Ms A was at 40+5 weeks' gestation. She telephoned RM B at midday to report a bloody brownish mucousy discharge. RM B documented that it was likely a "show", but then recorded that although the baby had been moving well the previous day, it had not been moving as much that day.

129. RM Emerson advised that Ms A required immediate assessment on 6 Month8. RM Emerson stated:

- By this stage, Ms A was 40 weeks and 5 days' gestation (five days overdue).

- Ms A's BMI was >50, and antenatally she was clinically hypertensive on more than one occasion.
- From 11 Month7, Ms A had six documented episodes of reduced fetal movements.
- Labour was not establishing, and when Ms A had been reviewed on 3 Month8 (three days earlier) she was exhausted.
- Brownish bloody discharge was first reported on 6 Month8.

130. RM Emerson advised that while it may have been reasonable to allow Ms A to establish in labour if she did not have the history of multiple episodes of reduced fetal movements, increased BMI, a long latent phase of labour, and antenatal hypertension, the pregnancy was high risk and required assessment at the time of the midday telephone call on 6 Month8.

131. I agree with that advice, and consider that by 6 Month8 there was a cumulative complexity of risk. I am critical that RM B did not offer Ms A an immediate assessment.

Conclusion

132. The midwifery care provided to Ms A by RM B was poor, and I consider that RM B's lack of recognition of the cumulative impact of Ms A's risks represents a severe departure from accepted midwifery practice.

133. I find that by failing to respond to Ms A's raised blood pressure adequately, not running a CTG trace for a period of more than 40 minutes on 1 Month8, and not conducting an immediate assessment on 6 Month8, RM B failed to provide services to Ms A of an appropriate standard and, accordingly, that RM B breached Right 4(1) of the Code.[24]

Opinion: RM C — breach

134. On 7 Month8, RM B received a text message from Ms A saying that she was having pains and had had a bloody vaginal discharge. The pains were five and a half minutes apart, and lasted one minute three seconds. RM B telephoned Hospital 1 to advise that Ms A would be coming in and was in early labour.

135. At handover, RM C was advised that Ms A was about to arrive at the maternity ward, and that a CTG was to be commenced on behalf of RM B, who had been delayed.

136. At 7.15pm, RM C commenced a CTG. The CTG was abnormal, with an FHR of 176bpm, no variability, no accelerations, and no decelerations. RM B retrospectively recorded that RM C called her at 7.56pm. RM C stated that despite recognising that the CTG was abnormal, she did not take any action because she expected RM B to arrive within a short time.

137. RM B arrived at around 8.25pm and took over Ms A's care at 8.30pm. RM B conducted a VE and found that Ms A was 1–2cm dilated and fully effaced. At around 8.45pm, RM B

[24] Right 4(1) states: "Every consumer has the right to have services provided with reasonable care and skill."

contacted Dr D, who arrived at 9.00pm. Dr D decided that a category 2 Caesarean section was necessary, and RM B transferred Ms A's care at 9.15pm.

138. RM Emerson advised:

> "In my opinion, [RM C] has severely departed from accepted midwifery practice in not seeking urgent obstetric review at 7.35pm when the CTG was observed to be, and documented as, pathological, fresh vaginal bleeding was observed and documented, and there was a report of reduced fetal movements."

139. RM Emerson said that regardless of whether the LMC was present to assess Ms A, and regardless of whether Ms A's previous history was known, at 7.35pm there was sufficient indication of an obstetric emergency to seek urgent obstetric review.

140. Competency 2 of the Midwifery Council of New Zealand Competencies for Entry to the Register of Midwives states: "2.8: Recognises and responds to any indication of difficulty and any emergency situation with timely and appropriate intervention, referral, and resources …"

Conclusion

141. In my view, RM C provided poor care to Ms A by not acting on the pathological CTG at 7.35pm on 6 Month8. Accordingly, I find that RM C breached Right 4(1) of the Code.

Opinion: District health board — adverse comment

142. DHBs are responsible for the operation of the clinical services they provide, and are responsible for any service failures. It is incumbent on all DHBs to support their staff with assistance that guides good decision-making and promotes a culture of safety. I have concerns about some aspects of Ms A's care.

Referral Guidelines

143. With regard to her failure to refer Ms A for an obstetric consultation, RM B stated that Hospital 1 had made it clear to LMCs that it did not have the resources to deal with women with BMIs over 35, and that no extra care was provided other than an anaesthetic consultation. In response, the DHB stated that such a referral would be accepted. I am concerned that the LMC had the perception that despite the requirements of the *Referral Guidelines*, referrals for obstetric consultation would not be accepted.

Delay in delivery

144. Dr E stated in her report to ACC that delays resulted in Ms A's Caesarean section not taking place within the 60-minute limit provided in the Hospital 1 Acute Theatre Priority Categories.

145. In the review, Dr E noted that notification to theatre occurred at 9.30pm and surgery started at 10.49pm, which was 20 minutes outside the Hospital 1 timeframe. The review states:

> "It took a long time to get to theatre preoperative holding area (21:30 to 22:00) and then another 20 minutes (22:20) for patient to get into theatre for anaesthesia to start. It also took another 29 minutes (22:20 to 22:49) until we were able to start the surgery."

146. Dr E noted that although there was a delay while the theatre team was called from home, each part of the process took longer than would be expected, which collectively caused a delay in delivery. The review states:

> "There seems to be no single aspect of the surgical process that was a cause of delay. I have reviewed the Acute Theatre schedule and there was no one else being operated on at that time."

147. My expert advisor, obstetrician and gynaecologist Dr Ian Page, advised that a category 1 Caesarean section (urgent threat to the health of the woman or fetus) should have been called, which would have impressed on the clinicians the need for urgency. He noted that Dr D correctly considered the risks to Ms A of a "crash" Caesarean section and anaesthetic, but said that the final decision about the anaesthetic rested with the anaesthetist.

148. I note that Hospital 1 is a secondary-level hospital that does not have theatre and anaesthetic night staff on site. Furthermore, the O&G advisor to ACC stated that the decision to delivery time of one hour and 25 minutes was acceptable for a provincial unit such as Hospital 1. He noted that Ms A was a very high anaesthetic risk, which would have increased the interval between the decision to deliver and the delivery. Dr Page said that the anaesthetist had to assess Ms A, obtain informed consent for the proposed anaesthesia, and institute the anaesthetic. Dr Page said that this was accomplished within 20 minutes, which was reasonable.

149. Although I am critical of the delay, I accept that it may not have been unreasonable in the circumstances.

150. Dr Page also advised that there was a lack of clarity in the service specifications as to what the core midwife should do whilst awaiting the arrival of an LMC.

Recommendations

151. I recommend that RM B:

a) Undertake training on informed consent, and report back to HDC within three months of the date of this report, confirming that the training has been arranged. Once complete, a reflection on the training should be provided to HDC.

b) Provide a reflection on the training undertaken under the competence review by the Midwifery Council of New Zealand, within three months of the date of this report.

152. In the provisional opinion, I recommended that RM B provide a written apology to Ms A. RM B has provided an apology, and this has been forwarded to Ms A.

153. I recommend that within three months of the date of this report, RM C provide a reflection on the training undertaken under her competence review by the Midwifery Council of New Zealand.

154. I recommend that RM C provide a written apology to Ms A. The apology should be sent to HDC, for forwarding to Ms A, within three weeks of the date of this report.

Follow-up actions

155. A copy of this report with details identifying the parties removed, except the experts who advised on this case, will be sent to the Midwifery Council of New Zealand, and it will be advised of RM B's and RM C's names in covering correspondence.

156. A copy of this report with details identifying the parties removed, except the experts who advised on this case, will be sent to the Ministry of Health, the Health Quality & Safety Commission, the New Zealand College of Midwives, and the Royal Australian and New Zealand College of Obstetricians and Gynaecologists, and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

Appendix A: Independent advice to the Commissioner

The following expert advice was obtained from RM Nicky Emerson:

"1. Thank you for the request that I provide clinical advice in relation to the complaint from [Ms A] about the care provided by LMC Midwife [RM B] and DHB Midwife [RM C]. 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.

2. I have reviewed the documentation on file: Complaint from [Ms A] [date], Complaint Response from [RM C] 24 August 2018, Complaint response [RM B] 7 September 2018, Maternity records from [RM B] 14 [Month1]–10 [Month9], Clinical records from [the DHB] for 11 [Month7]–7 [Month8], [the DHB's] fetal heart monitoring policy, CTGs 11 [Month7], 1 [Month8], 2 [Month8], 4 [Month8], 6 [Month8].

3. **Background:** [Ms A] was pregnant with an estimated due date 1 [Month8]. Her LMC midwife was [RM B]. [Ms A] experienced post term labour on 6 [Month8] and she was admitted to [Hospital 1]. At the Hospital a CTG was commenced by hospital Midwife [RM C]. The CTG was pathological. At 9.30pm, the Obstetric Registrar advised that an emergency Caesarean Section was required. [Baby A] was born with Hypoxic Ischaemic Encephalopathy following a placental abruption.

4. **Advice Request:** I have been asked to advise regarding the care provided to [Ms A] by [RM B] and [RM C], whether it was reasonable in the circumstances and why. In particular, I have been asked to comment on

1. Whether [RM B] should have referred [Ms A] to secondary Obstetric care because of her high BMI and history of recurrent miscarriages.
2. The appropriateness of [RM B's] actions following [Ms A's] CTG on [Month8] 1?
3. The appropriateness of [RM B's] actions and advice on 6 [Month8] when [Ms A] telephoned to advise of a 'bloody brown discharge'.
4. The actions taken by [RM B] when [Ms A] went post-term and reported reduced fetal movements.
5. The appropriateness of actions taken by [RM C] on [Month8] 6 in response to [Ms A's] CTG reading.

1. Whether [RM B] should have referred [Ms A] to secondary Obstetric care because of her high BMI and history of recurrent miscarriages

A. Recurrent miscarriage

In [RM B's] complaint response summary (24 August 2018) she states that [Ms A] *'had only had two medically confirmed miscarriages'*. In the body of the complaint response [RM B] states '*[Ms A] had given a history of multiple miscarriages, however*

only two were medically confirmed by BHcg and she had one ectopic pregnancy, therefore did not meet the reoccurring pregnancy referral'.

- The relevance of the above comment is that the presence of BHcg is detectable by immunologic means within days of fertilization and forms the foundation of the common pregnancy tests.
- I note the Obstetric history Summary in the MMPO notes ([RM B's] Midwifery clinical notes) records 5 miscarriages plus 1 ectopic pregnancy.
- I am unable to find a booking form for [the DHB] so am unable to ascertain whether the miscarriages are recorded at booking to [the DHB].
- In the MMPO Maternal Booking Summary it is noted that [Ms A] is taking 100mg Aspirin daily at booking. The relevance is that Aspirin is frequently prescribed for recurrent miscarriage (with debatable efficacy — Cochrane 2014).
- There is no contemporaneous midwifery documentation to explain [Ms A's] taking of daily aspirin or when it is ceased.

In summary, [RM B] stated in her complaint response (24 August 2018) that *'[Ms A] had never been diagnosed with any clotting disorders, Nor her GP of several years, the Gynae service that dealt with the ectopic, nor [Dr E] who held a follow up meeting with [Ms A] in January 2018, had initiated any investigations into reoccurring miscarriages. Probably for the same reason that I had not. The pregnancy in 2017 was healthy and on-going'*. In my opinion [RM B's] retrospective comment above, regarding the investigations undertaken following [Ms A's] pregnancy, does not mitigate [RM B] from her obligation as LMC midwife, to refer during [Ms A's] pregnancy.

I note [RM B] has documented in her postnatal notes 16 [Month9] *'for follow up for? Clotting disorder following abruption'.*

The recording of 5 miscarriages and one ectopic pregnancy in midwifery notes, plus the addition of unexplained aspirin during pregnancy required referral under *(Guidelines for consultation with Obstetric and related medical services — Section 88, Recurrent Miscarriage page 24, line 3015, three or more — Consultation)*.

In my opinion investigation of the cause of recurrent miscarriage is an Obstetric decision and not a midwifery decision. Given that [RM B] has documented 5 miscarriages and one ectopic pregnancy, in my opinion [RM B] has moderately departed from accepted midwifery practice in not referring [Ms A] for an Obstetric opinion regarding recurrent miscarriage. [Ms A] booked at 11 weeks' gestation therefore, in my opinion, [RM B's] observation of a healthy on going pregnancy is a retrospective observation.

B. BMI

[RM B] has recorded [Ms A's] height at 166cm and weight at 142kg in midwifery clinical notes (booking visit). BMI is not recorded, however when calculated, it is 51.53.

[RM B] states in her complaint response (7 September 2018) *'[Ms A] is not a woman defined by her BMI. At booking at 11 weeks gestation, [Ms A] was weighed and height taken and recorded'.*

- [RM B] explains in her complaint response (7 September 2018) that she used the MOH resource to assign healthy weight gain range in pregnancy.
- [RM B] explains in her complaint response that she was one of the research midwives involved in [a] study healthy weight gain in pregnancy [date] and that she applied the research materials and relevant discussions to all her clients (…).
- [RM B] explains that BMI does not describe weight distribution or muscle index. She goes on to explain that healthy weight gain and minimising [Ms A's] weight gain was a big focus of the care [Ms A] received.
- Contemporaneous midwifery documentation records discussion regarding the above on the following dates, 14 [Month1], 6 [Month3].

In forming an opinion I have considered the following

- *(Guidelines for consultation with Obstetric and related medical services 2012 Morbid Obesity Body Mass Index (BMI) > 40; page 25, line 4017, may include an anaesthetic consultation — recommend Transfer of care)*

I have considered the risks associated with Obesity and they include as follows (up to date Literature review current through: **Feb 2019.** | This topic last updated: **Feb 08, 2019)**

- Compared with pregnant women with BMI <25 kg/m^2, pregnancies among obese women are at increased risk of several adverse outcomes, including increased rates of early pregnancy loss, congenital anomalies, stillbirth, pregnancy-associated hypertension, preterm and post-term birth, gestational diabetes mellitus (GDM), multifetal gestation, and birth of a large for gestational age infant. Macrosomia may result in shoulder dystocia and its sequelae (brachial plexus injury) or caesarean delivery. Caesarean delivery in obese women is associated with increased rates of wound infection and thromboembolism.
- **Anaesthesia consultation** — Evaluation by an anaesthesiologist prior to labour or in early labour is recommended for all obese parturient because of their higher risk of anaesthetic challenges and complications

I have also considered

Obesity is defined as body mass index (BMI) ≥30 kg/m^2 (table 1) [9]. It is further stratified by class: class I (BMI 30.0 to 34.9 kg/m^2), class II (BMI 35.0 to 39.9 kg/m^2), and class III (BMI ≥40 kg/m^2). An array of maternal and perinatal complications and the risks are amplified with increasing degrees of maternal obesity [1-5]. Offspring are also at increased risk of childhood and adult obesity [6,7]. Obstetric providers should be aware of these risks and modify patient care before pregnancy, during pregnancy,

and postpartum to reduce the risk of these adverse outcomes [8,9]. (Up to date Literature review current through: **Feb 2019.** | This topic last updated: **Feb 08, 2019)**

In [RM B's] complaint response (7 September 2018) she states the following

- *'Secondary care at [Hospital 1] has made it clear to LMC's that they do not have the resources to deal with the large volume of women in [the region] with BMI's over 35'*. She states that no extra care is provided except an anaesthetic consult, this rarely occurs antenatally.
- [RM B] says that regarding the unexpected outcome that she has had a discussion with [the Clinical Director] and on reflection, in hindsight, a referral earlier than 3 [Month8] may have been beneficial.
- [RM B] notes that there were no difficulties inserting [Ms A's] spinal.

My opinion is based on the following

- I can find no contemporaneous midwifery documentation to evidence a discussion between [RM B] and [Ms A] regarding the risks associated with [Ms A's] BMI.
- Contemporaneous midwifery documentation does not appear to record a discussion regarding the recommendation that transfer of care based on BMI was recommended under the referral guidelines.
- [Ms A's] BMI was exceptionally high at 51 and therefore represented an amplified risk of complications associated with obesity.

I have considered [RM B's] assertion that [Hospital 1] did not have resource to review women with a BMI above 35. I have also considered that [RM B] has appropriately counselled [Ms A] regarding weight gain in pregnancy; however in my opinion this does not mitigate the expectation that the midwife meets her obligation to refer, or that the referral guideline is followed regardless of DHB capacity.

In my opinion [RM B] has severely departed from accepted midwifery practice in not recognising the potential risk associated with a BMI of 51 and not referring appropriately.

C. Gestational Hypertension

On review of the Midwifery antenatal documentation, I note that [Ms A] has had elevation of blood pressure on 6 occasions. On 11 [Month4] blood pressure was 140/90. This rise in blood pressure following 20 weeks' gestation, met the criteria for consultation *(Guidelines for consultation with Obstetric and related medical services (Gestational Hypertension) 2012, page 25, line 4009, New Hypertension after 20 weeks with no significant proteinuria)*.

On the following dates elevated blood pressure is recorded, [Month4] BP 140/90 — 24 weeks' gestation, [Month5] BP 140/90 — 25weeks +4 days' gestation, [Month6] BP 140/90 — 32weeks + 4 days, [Month6] BP 140/100 — 34 weeks' gestation, [Month7] BP 140/90, [Month7] BP 140/98 — 39 weeks + 6 days.

- I am unable to find contemporaneous documentation in the supplied notes to support that a discussion has occurred with [Ms A] regarding pre eclampsia symptoms.
- I am unable to find contemporaneous documentation in the notes supplied to support a discussion with [Ms A] regarding the referral guidelines and the need to consult when a blood pressure significantly rises after 20 weeks' gestation.
- I am unable to find contemporaneous documentation/lab results to exclude pre eclampsia in the presence of the elevated BP readings.

In her complaint response, [RM B] (7 [Month8]) states '[Ms A] *did not develop hypertension, diabetes, thromboembolic disease nor placental insufficiency. [Ms A] did have a partial abruption in early labour. An acute obstetric emergency.'*

In my opinion, [Ms A] did develop hypertension as per guideline below

- *(Guidelines for consultation with Obstetric and related medical services — Gestational Hypertension, 2012, page 25, line 4009, New Hypertension after 20 weeks with no significant proteinuria)*

…

Hypertension: Systolic blood pressure (sBP) is greater than or equal to 140 mmHg **or** diastolic blood pressure (dBP) is greater than or equal to 90 mmHg, as measured on two or more consecutive occasions at least four hours apart.

Gestational hypertension: New onset hypertension occurs after 20 weeks' gestation (in a woman who had normal blood pressure before 20 weeks' gestation) and:
- Diastolic blood pressure is ≥90 mmHg or systolic blood pressure is ≥140 mmHg
- The woman has none of the abnormalities that define pre-eclampsia
- Blood pressure returns to normal within three months after giving birth.

Whilst I have considered the above hypertension and pre-eclampsia guideline in the writing of this report, I have also considered that the above guideline was published in 2018 so would not have been available to [RM B].

(Guidelines for consultation with Obstetric and related medical services 2012 — Gestational Hypertension, page 25, line 4009, New Hypertension after 20 weeks with no significant proteinuria) was available and referral criteria were met from [Month4] in the antenatal period.

[RM B's] statement in her complaint response '[Ms A] *did not develop hypertension, diabetes, thromboembolic disease nor placental insufficiency. [Ms A] did have a partial abruption in early labour. An acute obstetric emergency'* in my opinion reflects an omission in recognising the potential significance of the on going elevated blood pressure readings.

- Booking blood pressure was 120/75 ([Month2]). Readings were elevated 140/90 from 25 weeks and 4 days. The increased BP met criteria for referral (Gestational Hypertension).
- There is no documented evidence of discussion regarding pre eclampsia symptoms and no record of tests undertaken to exclude pre eclampsia as the cause for elevated blood pressure.
- Whilst it is impossible to directly correlate [Ms A's] placental abruption with the elevation of BP, there is a known increased risk of placental abruption with Hypertension in pregnancy.

In my opinion [RM B's] omission in recognising the potential clinical implications of the elevated BP and the absence of clinical investigation and referral represent a severe departure from accepted midwifery practice.

2. The appropriateness of [RM B's] actions following [Ms A's] CTG on [Month8] 1?

On 1 [Month8] (8:56 am) [RM B] replied to a text from [Ms A] reporting cramps and uncertainty regarding fetal movements.

- Contemporaneous Midwifery clinical notes record *'pm — Rang [Ms A], still not great movement, to come to hospital for CTG'*.

Clinical notes written on 1 [Month8] (6:30pm) advise CTG variability of 5–10 bpm (beats per minute) and a baseline of 150bpm with the appearance of a 'sleepy trace'. It would appear from clinical notes that [Ms A] and [her partner] wanted to leave the hospital. Further notes state 'happy with heartbeat, say can feel movement'.

In forming an opinion I have considered the following

- Uncertainty regarding fetal movements and cramps were reported via text at 8:56 am on [Month8] 1.
- A CTG in hospital was recorded between 6:03pm and approximately 6:40pm on [Month8] 1.
- The CTG demonstrates variability of 5bpm with one instance of 10bpm. It is concluded that the trace is 'sleepy' (meaning that it is assumed the baby is asleep). The baseline bpm is 150.

A reassuring CTG according to the hospital sticker would contain the following features

- Baseline rate 110–160bpm
- Variability of 5 or more bpm (recent evidence suggest 6–25bpm as normal)
- Accelerations 15bpm > 15 seconds
- No decelerations

[RM B] considered that [Ms A's] CTG has two reassuring features, they were normal baseline and variability of 5–10 bpm, assuming the baby was asleep. There were no decelerations present.

A sleeping trace

Summary of the literature I have reviewed concludes *'Most decreased baseline variability is due to normal fetal sleep. If decreased variability continues for more than 40 minutes, in spite of manoeuvres to encourage fetal movements, obstetric review is required.'*

The above is supported by [the DHB's] guideline on Monitoring Fetal Heart (6 [Month5]).

In my opinion it was reasonable to consider that the CTG on 1 [Month8] was a 'sleep trace' and this would account for the reduced variability and absence of accelerations. Accepted Midwifery practice would include leaving the CTG on for a period of more than 40 minutes. If the CTG improved then it would likely conclude that the baby had been asleep. If the CTG did not improve then consultation with an Obstetrician would be recommended.

I note that contemporaneous clinical notes suggest that [Ms A] wanted to go home. The normal baseline and detection of fetal movements is documented. I also note that [RM B] has contacted [Ms A] the following day to follow up on fetal movements. She has requested that [Ms A] return for a repeat CTG.

I am critical the CTG was not left in place until it was evident that the baby was either awake or an obstetric opinion was sought. I am also critical of the absence of clinical documentation of the CTG in the hospital notes; in addition I can find no record of any baseline observations or discussion regarding advice if [Ms A] experienced on going concern with fetal movements.

I acknowledge that [Ms A] is documented as wanting to leave and [RM B] followed up the next day repeating the CTG.

In my opinion, there is a mild to moderate departure in accepted midwifery practice in not leaving the CTG in place until it was reassuring and in not documenting advice and recommendations to [Ms A]. Mitigating factors include [Ms A's] request to leave the hospital, fetal movements, and the follow up by [RM B] the following day (including a repeat CTG).

3. The appropriateness of [RM B's] actions and advice on 6 [Month8] when [Ms A] telephoned to advise of a 'bloody brown discharge'

On 6 [Month8] [RM B] received a phone call from [Ms A] reporting a bloody brownish mucousy discharge. [RM B] documents that it sounds like a 'show' and that [Ms A] should expect to get pains. Further documentation reports that the baby had been moving well the previous day but not so much today.

In the previous days 1 [Month8]–6 [Month8]

- 1 [Month8] reduced fetal movements CTG

- 2 [Month8] a reassuring CTG was undertaken
- 3 [Month8] cramps 05:16 am, 10:33am text to say contractions further apart and irregular, 6:00pm [RM B] has requested [Ms A] come to hospital for review. Review by [Dr D]. The following is noted in contemporaneous midwifery notes:

  I. Increased BMI
  II. Exhausted, failing to establish
  III. Cervix long and anterior, admits one finger
  IV. Reduced movements.

  Plan: to allow [Ms A] to establish in labour on her own as [Dr D] did not want to perform a C section on a 154kg woman if avoidable. Script for codeine offered and declined as [Ms A] has her own supply.

- 4 [Month8] [RM B] contacted [Ms A] to check on movements. Advised to present for CTG. Reassuring, home to await labour.
- 5 [Month8], no contact from [Ms A]. Enquiry from Registrar to LMC regarding whether [Ms A] has birthed or not.
- 6 [Month8] [Ms A] phoned at midday to report a bloody brownish mucousy discharge and reduced movements. She texted at 5:30pm to report pains, bloody discharge. [RM B] advised that she was attending rural appointments and that [Ms A] should present in hospital for assessment as she was some distance away. She then informed the hospital of the expected arrival of [Ms A].

I have considered the following in forming an opinion regarding actions and advice on 6 [Month8]

- [Ms A] was now 40 weeks and 5 days pregnant (5 days overdue).
- [Ms A's] BMI was >50 and she was clinically hypertensive on more than one occasion antenatally.
- [Ms A] had 6 documented episodes of reduced fetal movements from 11 [Month7].
- Labour was not establishing and [Ms A] was exhausted on 3 [Month8] (3 days earlier) when reviewed.
- Brownish bloody discharge was first reported on 6 [Month8]

In my opinion, [Ms A] required assessment at the initial phone call on 6 [Month8]. It may have been reasonable to allow [Ms A] to establish in labour if she did not have the history of multiple episodes of reduced fetal movements, increased BMI, a long latent phase of labour and antenatal hypertension. The pregnancy was high risk and in my opinion required assessment at the time of the midday phone call on 6 [Month8].

Reduced Fetal movements

In [RM B's] complaint response she states *'[Ms A] had never confirmed reduced movement. In fact, the evidence was to the contrary. Good CTG's, good scans and a movement pattern not consistent with slowed movement. As [Ms A's] LMC, I never once minimised her concern and always saw her in a timely manner. [Ms A] was seen 20 times in her pregnancy, 13 routine visits and 7 non-routine visits'.*

I have considered the above and in my opinion the only way to confirm reduced fetal movement is maternal perception/concern. CTGs and scans are reassuring at the time undertaken and may provide a clinical picture at that moment; however in forming an opinion, I am guided by the following clinical guidelines.

Guidelines for consultation with Obstetric and related medical services 2012, page 26. Line 4028 — Confirmed reduced fetal movements — Following normal cardiograph but still concern — may require liquor assessment/growth assessment — Consultation

I note that the most recent scan in the antenatal notes was from 37 weeks and 3 days (14 [Month7] — 3 weeks earlier) and was reassuring.

I am further guided by the *Clinical practice guideline for the care of women with decreased fetal movements ([Month7]) page 16, recommendation 12 — In the presence of a normal clinical assessment (including CTG and ultrasound), if maternal concern of DFM persists, seek medical review and further management should be individualised.*

Long Latent phase

In her complaint response [RM B] states: *At the time the cervix was only 1–2cm dilated. [Ms A] was not in an active labour phase. [Ms A] had not been left contracting for days. The only previous uterine episode had been Saturday night and throughout Sunday. These were mild to palpate and short lasting with a vaginal examination on 3 [Month8] confirming [Ms A] was not in labour.*

Clinical notes on 6 [Month8] 6.50pm state *Rang hospital to advise that [Ms A] coming in early labour. D/W (discussed with) DHB [core midwife] I felt due to [Ms A] being high risk (increased) BMI and long latent phase that she needed to come.*

Summary

In my opinion consideration of the multiple risk factors and history of episodes of decreased fetal movement required immediate assessment of [Ms A]. In my opinion, [RM B] has moderately departed from accepted practice in not recognising the cumulative complexity of risk when [Ms A] phoned her on 6 [Month8] at Midday.

4. Actions taken by [RM B] when [Ms A] went post-term and reported reduced fetal movements

I have covered much of this in the previous question: In summary

- [Ms A] reported reduced fetal movements on 11 [Month7] at 37 weeks' gestation. Assessment was arranged at [the DHB] by [RM B]. CTG reassuring and when reported to [RM B], consultation with Obstetric team declined by [RM B]. (Midwifery clinical notes and DHB notes 11 [Month7]).
- Follow up phone call 12 [Month7] from [RM B] 10.30am to check on movements — not much. Phoned again at 4pm — good movements.

- Follow up phone call from [RM B] 13 [Month7] re fetal movements — good movements.
- 14 [Month7] at 37 weeks and 3 days' gestation. Scan arranged — indication reduced fetal movements, high BMI. Scan reassuring.
- 1 [Month8] reduced movements assessed.
- 2 [Month8], follow up CTG reassuring.
- 3 [Month8] Hospital review.
- 4 [Month8] [RM B] phoned [Ms A] and based on history repeated CTG — reassuring.
- 5 [Month8], no contact from [Ms A] — Enquiry from Registrar regarding whether [Ms A] had birthed.
- 6 [Month8] reduced movements and Brown Discharge.

[RM B] has appropriately followed up with phone calls and repeated CTG assessment following [Ms A's] reports of reduced movements. On 6 [Month8] there had been 6 interactions requiring investigation regarding reduced movements (4 incidents in the preceding week).

As stated above, consideration of the repeated episodes of reduced movements in relation to the other risks do not appear to have been considered by [RM B]. In my opinion there is a moderate departure from accepted midwifery practice in not assessing [Ms A] at midday on 6 [Month8] when she phoned to report reduced movements and brown discharge.

5. The appropriateness of actions taken by [RM C] on [Month8] 6 in response to [Ms A's] CTG reading

On [Month8] 6 [RM C] was working a 12 hour shift which commenced at 6.45pm. She was made aware that [Ms A] would be presenting to Maternity and that her colleague had agreed to commence a CTG. [RM B] was delayed but was to meet [Ms A] for a primary assessment. [RM C] was not aware of [Ms A's] previous history.

[RM C] commenced the CTG at 7.16 pm (according to complaint response 24 August).

[RM C] noted that the fetal heart rate was high at 180bpm (tachycardia). [RM C] left the student while she reallocated her workload and informed her colleagues of the concerning CTG. She attempted position changes and intended to site an IV cannula for the administration of IV fluids. These measures are in keeping with accepted midwifery practice and in my opinion do not represent a departure.

[RM C] phoned [RM B] at 8:00pm to inform her of the concerning CTG who confirmed she was not far away.

The clinical notes indicate that [RM B] did not arrive until 8:25pm.

In forming an opinion on the appropriateness of [RM C's] actions on 6 [Month8], I have considered the following

- The CTG was commenced at approximately 7:16 pm, tachycardia was observed.
- [RM C's] patient load was reallocated and exclusive attention was organized, position changes and attempts to secure IV access were attempted.
- At 7:35pm the CTG sticker in the clinical notes indicates that the CTG is pathological and requires urgent consultation. The sticker also indicates that the CTG was commenced at 7:15pm so had now been in place for 20 minutes. 3 out of the 4 CTG features were not reassuring.
- Clinical notes at 7:35pm indicate that fetal movements had been reduced during the day and there had been fresh vaginal bleeding (about a dessertspoon observed by student midwife and documented). Clinical notes also indicate [RM C] was supervising the student midwife.

In my opinion [RM C] has severely departed from accepted Midwifery practice in not seeking urgent obstetric review at 7:35pm when the CTG was observed to be, and documented as pathological, fresh vaginal bleeding was observed and documented, and there was a report of reduced fetal movements.

In my opinion, regardless of whether the LMC was present to assess [Ms A] and regardless of whether previous history was known there was sufficient indication of an obstetric emergency to seek urgent obstetric review at 7:35pm. There are no clinical entries until 8:00pm when [RM B] was phoned. There are no clinical entries between 8:00pm and 9:00pm when [RM B] arrived and appropriately assessed, sited IV and urgently requested review. The CTG remained pathological in the time between 7:35pm and when [RM B] arrived at 8:25pm (according to complaint response 24 August 2018) with no further action taken by [RM C].

In forming my opinion of a severe departure I have considered

Competency Two (NZ Midwifery Council — Competencies for Entry to the Register)

2.8: Recognises and responds to any indication of difficulty and any emergency situation with timely and appropriate intervention, referral, and resources;

Summary

[Ms A] booked with LMC [RM B] at 11 weeks' gestation. At booking, obstetric history included recurrent miscarriage and current BMI of 51. During the course of the pregnancy [Ms A] had numerous episodes of reduced fetal movements and developed an elevated blood pressure. The previous miscarriages, reduced fetal movements, elevated blood pressure and BMI met the criteria for referral during the course of the pregnancy. This did not occur.

In her complaint response RM B states that

'The referral guidelines are guidelines and as much as I respect these and utilize these appropriately, women are referred when negotiated.'

In her complaint ([date]) [Ms A] states *'I was not made aware that I should have been transferred to obstetrician due to my BMI. This may have led to closer monitoring as outlined by MOH guidelines.'*

Midwifery council has released a statement regarding their referral guidelines.

Midwifery Council reminds midwives to use Referral Guidelines
29/5/2018

The Midwifery Council urges midwives to ensure they are familiar with the Referral Guidelines and the processes within them as they are required to be under the Section 88 Primary Maternity Services Notice.

'The Referral Guidelines are based on best practice and were formed using evidence, expert opinion and tailored to a New Zealand context,' says Chief Executive/Registrar of the Midwifery Council, Sharron Cole. 'They are in place to improve maternity care and quality as well as promote the coordination of care across different providers. The Council understands and accepts that there may be variation from the guidelines where a woman makes an informed decision to decline treatment, referral, consultation or transfer of care. However, any variation must follow the process set out in *section 5 of the Referral Guidelines'.*

'Our first priority is always the safety of mothers and babies and the Council is clear it expects all midwives use the referral guidelines and the processes set out in them. Midwives should read the *Be Safe paper on Referral Guidelines* on our website.'

[Ms A's] Midwifery notes do not appear to record any discussion, negotiation or decline of referral regarding the need to refer/transfer [Ms A's] care.

Clinical notes do not record fundal height measurement in centimetres or gestation on palpation. I acknowledge that accurate palpation and measurement is difficult on women with increased BMI. Given the difficulty, a customised growth chart would be recommended and serial growth scans. The last scan is at 37 weeks and 3 days. The pregnancy continued for a further 3 weeks without recording growth.

I note daily aspirin is being taken at pregnancy booking. There appears to be no documented reason for this or no documentation of this being stopped. It would be usual practice to stop taking aspirin at 36 weeks' gestation.

It is my opinion that [RM B] has not referred for history of miscarriage, increased BMI, hypertension, recurrent DFM. There appears to be no evidence of documentation in the contemporaneous notes of discussion with [Ms A] regarding the recommendation of referral/transfer of care. The cumulative impact of the risks and the lack of recognition from [RM B], in my opinion represents a severe departure from accepted midwifery practice.

In my opinion [RM C] has severely departed from accepted midwifery practice in not acting on the pathological CTG, once recognised at 7:35pm on [Month8] 6.

Finally I extend my heartfelt condolences to [Ms A] and [her partner] for their experience. I wish them well with the on going care of their precious daughter [Baby A]. I hope this report has answered some of their remaining questions.

Nicky Emerson BHSc — Midwifery
Midwifery Advisor
Health and Disability Commissioner

Addendum

As you may be aware, there is continuing controversy regarding generation of customised growth charts (however less so recently) and in 2017 despite recommendation, some midwives elected not to use them. Given that [Ms A] did have reassuring scans (from memory) up until 37 weeks and 3 days, the growth was monitored.

Best practice would include referral, customised chart, serial growth scans and fundal height measurement in cms; however I have encountered a practice amongst some midwives that is of the view that

- Palpation on a significantly overweight woman is inaccurate
- A recent scan is the best guidance regarding growth in the circumstances
- Customised growth charts are a practice adjunct (I think this point is changing now)

My concern here is regarding the non recognition of the complexity [Ms A] presented. My point above is that I think that the accepted standard could be argued either way."

Appendix B: Independent advice to the Commissioner

The following expert advice was obtained from Dr Ian Page:

"30 November 2019

Complaint: [The DHB]

Your ref: C18HDC01268

Thank you for your letter of 17 October 2019 and the enclosed documents, requesting expert advice to the Commissioner on the obstetric care provided by [the DHB] to [Ms A] between 6–7 [Month8]. I have read and agree to follow the Commissioner's Guidelines for Independent Advisors.

I am a practising Obstetrician & Gynaecologist and have been a consultant for over 30 years. I obtained my MRCOG in 1985, my FRCOG in 1998 and my FRANZCOG in 2002. I have been employed for the past 19 years by Northland DHB. I have been a member of the RANZCOG Expert Witness register since 2012.

Background

[Ms A] became pregnant, and her estimated date of delivery was 1 [Month8]. She had a raised BMI (51) and was cared for throughout her pregnancy by her LMC. In light of her raised BMI she had growth scans at 32 and 37 weeks' gestation, and these were reported as being normal.

On 6 [Month8] [Ms A] was admitted to [Hospital 1] at 7pm. The notes record she had been having abdominal cramps for several days, that she had had some fresh vaginal blood loss in the afternoon and again on admission, and that she hadn't felt the baby move that day. The CTG was abnormal and [Ms A] was subsequently delivered of [Baby A] by caesarean section that night.

[Baby A] was in poor condition and was transferred to [Hospital 2] for further care. She was discharged home on 22 [Month8].

Advice Requested

You asked me to review the documents and advise whether the obstetric care provided to [Ms A] at [Hospital 1] was reasonable in the circumstances and why. You also asked me to comment specifically on:

1. The decision to undertake a category 2 Caesarean section
2. The time taken to perform the Caesarean section following the decision
3. The adequacy of relevant policies and procedures in place at [Hospital 1]
4. Whether I had any further matters in this case that warrant comment.

Sources of Information

In assessing this case I have read:

- Complaint form received [date]
- [DHB's] response dated 24 August 2018
- Clinical records from [the DHB] covering the period 11 [Month7] to 7 [Month8]
- Maternity records
- Records for [Baby A]
- [DHB] policies
- Response from obstetric registrar

Summary of the Case

[Ms A] became pregnant. Her estimated date of delivery was 1 [Month8]. She had a raised BMI (51) and was cared for throughout her pregnancy by her LMC. In light of her raised BMI making clinical assessment of fetal growth difficult she had growth scans at 32 and 37 weeks' gestation, and these were reported as being normal. After 11 [Month7] she reported concerns about reduced fetal movements on a number of occasions. Each time she was reviewed, a CTG was performed and thought to be normal.

On 6 [Month8] [Ms A] was admitted to [Hospital 1] at 7pm. The notes record she had been having abdominal cramps for several days, that she had had some fresh vaginal blood loss in the afternoon and again on admission, and that she hadn't felt the baby move that day.

A CTG was commenced at 7.15pm, and at 7.35pm the notes record it showed a baseline rate of 176bpm, no variability, no accelerations and no decelerations. This was viewed as pathological by [the DHB] midwife, who planned to insert an IV line and start fluids. At 8pm [the DHB] midwife records she telephoned the LMC midwife who was 'not far away'. At 9pm the LMC documented she had inserted an IV line, and that [Ms A] was trying different positions but it was difficult to keep contact with the fetal heart. She performed a vaginal examination, noting that the cervix was 1–2cm dilated. During the examination the membranes ruptured. An old bloody loss was noted and thought to possibly have come from the cervix. The duty registrar was summoned. The registrar's notes from 9.30pm stated the CTG was pathological, with no improvements despite IV fluids and position change. The impression was of fetal intolerance of early labour. In light of [Ms A's] high BMI the registrar felt she was not suitable for a late night 'crash' caesarean section and so organised the procedure as category 2.

At 10.15pm the notes in the operating theatre recorded 'the fetal heart rate has remained tachycardic at 175bpm'. The Operation Data Form records the theatre was ready at 10.17pm, the anaesthetist started at 10.20pm and the operation started at 10.49pm. Under regional anaesthesia a caesarean section was performed by the registrar, assisted by the consultant and a trainee intern. The liquor was recorded as

being port-wine in colour with meconium staining. [Baby A] was born in poor condition at 10.50pm according to the Operation Data Form, although elsewhere in the notes the time is recorded as 10.55pm. The discrepancy is probably due to different clocks being used. She was transferred to the care of the consultant paediatrician. Her umbilical artery pH was moderately acidotic at 7.100, and the cord artery lactate was markedly elevated at 11mmol/L. The cord vein pH was 7.221.

[Baby A] had a stormy neonatal period requiring transfer to [Hospital 2] where she was diagnosed as having grade II Hypoxic Ischaemic Encephalopathy. An MRI of her brain on 19 [Month8] was normal, and she was discharged home on 22 [Month8].

My Assessment

You asked me to review the documents and advise whether the care provided to [Ms A] was reasonable in the circumstances and why. You also asked me to comment specifically on:

1. The decision to undertake a category 2 Caesarean section
The RANZCOG definition[1] of a Category 2 caesarean section is one in which there is maternal or fetal compromise which is not immediately life-threatening, whereas in a Category 1 situation there is said to be an urgent threat to the health of a woman or fetus. Using the definitions on page 18 of the RANZCOG Intrapartum Fetal Surveillance Clinical Practice Guideline[2] the CTG would be said to be likely to be associated with significant fetal compromise and require immediate management which may include urgent delivery. The registrar decided the CTG was pathological, as described by the FIGO guidelines[3], and this implies a high probability of fetal hypoxia/acidosis for which delivery should be expedited.

I think that a Category 1 caesarean section should have been called, but RANZCOG[1] is clear that no specific time-interval should be attached to the various categories. The registrar was correct to consider the risk to the woman of a 'crash' caesarean section and anaesthetic, but the final decision about the anaesthetic rests with the anaesthetist. Downplaying the urgency and risk to the fetus was unhelpful — a category 1 call would have impressed on everyone the need for urgency, and the anaesthetist would then have to deal with the balance of risk to the mother and baby.

It has not been possible from the documentation provided to ascertain just what degree of urgency was imparted to the theatre team and anaesthetist by the obstetric registrar when the caesarean section was being organised. I note that the LMC's response states that the obstetric registrar told the orderly 'that there was no urgency'. The registrar has not made any comment about this (as she would not have been aware of the LMC's allegation) in her report. If she did make that statement to the orderly I would view it as inappropriate. The reason for that is, as given in her response, she would still aim to deliver the baby within 75 minutes of the decision. Although I would therefore view this as a departure from the accepted standard of care it is, nonetheless, a close call and I think the departure would be viewed with only mild disapproval by my peers.

I cannot be certain how much difference a different classification of urgency would have made to the clinical outcome for [Baby A], and note that there had already been significant delay by the midwives before informing the registrar of the abnormal CTG. They do not appear to have told the registrar that [Ms A] had not felt fetal movements that day.

2. The time taken to perform the Caesarean section following the decision
RANZCOG[1] states that judgement on the appropriateness of the decision-delivery interval (DDI) should be made on the basis of the information available to the clinician making the decision for caesarean section before delivery, and not on the condition of the baby at birth nor on the time required to access a functional and staffed operating theatre. In this case the decision to proceed to caesarean section was made at about 9.30pm, and [Baby A] was born at 10.55pm.

Most of the time appears to have been that required to get the operating theatre ready, and that is a function of having the theatre team based at home, rather than within the hospital. That is a decision [the DHB] makes within its resource limitations. Having the on-call theatre team off-site is common in most smaller DHBs, but can delay urgent caesarean sections.

The anaesthetist has to assess the patient, obtain informed consent about the proposed anaesthesia and finally institute that anaesthetic. This would appear to have been accomplished within 20 minutes, which I think is reasonable.

3. The adequacy of relevant policies and procedures in place at [Hospital 1]
[The DHB's] policy [number] refers to monitoring the fetal heart, but most of the detail relates to antenatal CTG management rather than intra-partum management. There is no clarity as to whether the core midwife should contact the LMC or the registrar when a CTG is abnormal in labour and the LMC has not arrived. This should be addressed by [the DHB] to reduce the risk of delay in management.

4. Whether I had any further matters in this case that warrant comment.
There are a number of areas of [Ms A's] antenatal care which puzzle me. Her LMC recorded her height and weight but did not calculate her BMI. It was 51, and according to the Maternity Referral Guidelines[4] that should have prompted a referral for consultation (4017) with both an obstetrician and an anaesthetist. Asking the duty registrar to see [Ms A] on 3 [Month8] with regard to her raised BMI was far too late a referral for any meaningful care to be organised.

In addition she recorded [Ms A] as having had 5 miscarriages, which would also prompt a referral for an obstetric consultation (3015), and this ideally should occur before 16 weeks' gestation. Her comments about only two of the miscarriages having been proven relate to information of which she became aware only after [Baby A's] birth. [Ms A] was recorded by her LMC as taking Aspirin 100mg daily, but no reason was stated for this. One reason may have been her history of recurrent miscarriages.

The last item that puzzles me in the antenatal period is why [Ms A] was not referred for consultation on 31 [Month7], when her LMC recorded her blood pressure at 140/98. The LMC makes a number of allegations about resource shortages in [the DHB], but they are not an excuse to ignore guidelines.

[Ms A's] midwifery care in labour appears to have been sub-optimal, and I expect your midwifery advisor will have addressed this. Whilst [the DHB] midwife was correct to take steps to try to correct the abnormal CTG, I would have expected her to refer [Ms A] to the obstetric team within about 20 minutes given that it was markedly abnormal (elevated baseline rate, absent variability) and in the context of a woman who said her baby hadn't moved all day. Her response shows that she informed the LMC of concerns about the CTG after some 45 minutes, and accepted the LMC's response that she would be in attendance very shortly. It appears that the LMC did not actually arrive for a further 25 minutes, and then took a further 30 minutes or so before informing the obstetric registrar about the CTG. The LMC's retrospective note (written on 7 [Month8]) suggests she contacted the registrar 15 minutes after her arrival in the unit. I cannot see any explanation from either midwife for their delays in taking appropriate action.

The operation note records port-wine staining of the liquor, but makes no mention of an abruption having occurred. I am not sure why the LMC remembers the obstetric consultant, who was present at the caesarean section, telling her the placenta had completely detached, and wonder if the consultant meant the placenta had been removed in its entirety — as would be normal practice at any birth.

I do not have any personal or professional conflict of interest to declare with regard to this case. If you require any further comment or clarification please let me know.

Yours sincerely,

Dr Ian Page MB BS, FRCOG, FRANZCOG
Consultant Obstetrician & Gynaecologist
Whangarei Hospital

References

1. RANZCOG: Categorisation of Urgency for Caesarean Section (C-Obs-14)
2. RANZCOG: Intrapartum Fetal Surveillance Clinical Guideline 2014
3. FIGO: Guidelines on Intrapartum Fetal Monitoring 2015
4. Ministry of Health: Guidelines for Consultation with Obstetric and Related Medical Services 2012

Addendum

Thank you for your email of 27 January 2020, enclosing further information and policies from [the DHB].

Looking at the letter from the CEO, dated 20 January 2020, I think there is a lack of clarity in the service specifications as to what the core midwife should do whilst awaiting the arrival of an LMC. At a professional level I would expect the core midwife to manage the woman as though she was the sole midwife, and yet I know from many conversations around the country (with midwives and obstetricians) that is not the case. Frequently the core midwives feel they have to have an LMC's permission to do anything, and I don't think the service specifications get into that level of detail.

Policy [number] is appropriate and complete — I think I was only sent the first few pages with the original documentation.

Policy [number] is appropriate, although it goes into more detail than my own DHB — which has 4 categories for surgical patients and only 3 for caesarean section. However the real issue, as I noted in my report, is the degree of urgency which is in the discussion between the obstetrician, anaesthetist and theatre coordinator.

The lack of a specific guideline about neonatal staff attending caesarean sections is not a concern, providing there is a culture in the unit of good communication about the expected need for resuscitation (or otherwise) between the obstetric and paediatric teams."