Registered Midwife, RM B

A Report by the
Deputy Health and Disability Commissioner

(Case 20HDC01269)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Contents

Executive summary

1. This report concerns the care provided to a woman during her labour and birth. The lead maternity carer was a self-employed registered midwife. After an uneventful pregnancy, the woman went into spontaneous labour. Initially, she managed her contractions at home, then was advised to meet the midwife at the public hospital.

2. Throughout her labour, the woman was connected to a cardiotocograph to monitor the fetal heart rate, but the midwife made limited documentation of the recordings. The woman commenced pushing, signalling the second stage of labour, but did not give birth until over three hours later. The baby was born in very poor condition and required resuscitation and intubation, and was transferred to the Neonatal Intensive Care Unit, where he was diagnosed with a brain injury caused by a lack of oxygen.

3. The report considers the standard of midwifery care provided to the woman by the midwife during the labour and birth, in particular the adequacy of monitoring and whether the midwife responded appropriately to signs of fetal compromise.

Findings

4. The Deputy Commissioner considered that the midwife should have identified that the CTG recording was abnormal, and taken steps to rectify the issue or consult with the obstetrics team about possible fetal distress, and escalate the woman's care appropriately. The Deputy Commissioner found that the midwife's care of the woman breached Right 4(1) of the Code. The Deputy Commissioner also considered that the midwife's documentation fell seriously short of acceptable standards, in breach of Right 4(2) of the Code.

5. Adverse comment was made about the midwife's back-up midwife, for her inadequate interpretation of the CTG recording, and for not recommending escalation of the woman's care to the obstetrics team despite a prolonged second stage of labour.

6. The Deputy Commissioner commented that a recommendation for independent practitioners to carry out a "fresh eyes" review of CTG traces was not included in the district health board (now Te Whatu Ora — Health New Zealand[1]) guideline "Fetal Heart Rate Monitoring in Labour and management of an abnormal CTG and Tocolysis in the event of uterine hyperstimulation".

Recommendations

7. The Deputy Commissioner recommended that both midwives complete further training in documentation and fetal surveillance monitoring, and that the Midwifery Council of New Zealand consider whether a further review of the midwife's competence is necessary. The midwife provided HDC with an apology letter to the woman and her whānau.

[1] On 1 July 2022, the Pae Ora (Healthy Futures) Act 2022 came into force, resulting in all district health boards being disestablished and Te Whatu Ora — Health New Zealand being established in their place.

8. The Deputy Commissioner recommended that Te Whatu Ora — Health New Zealand undertake an audit of how often a "fresh eyes" review is being requested, and report back on the findings.

Complaint and investigation

9. The Midwifery Council of New Zealand (the Council)[2] notified the Health and Disability Commissioner (HDC) of concerns about the services provided to Ms A[3] by Registered Midwife (RM) B. The following issue was identified for investigation:

- *Whether RM B provided Ms A with an appropriate standard of care in 2020.*

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

11. The parties directly involved in the investigation were:

Ms A	Consumer
RM B	Provider/registered midwife

12. Further information was received from the Midwifery Council of New Zealand, RM C, RM D, obstetrics registrar Dr E, and the district health board (DHB).

13. Independent expert advice was obtained from RM Isabelle Eadie (Appendix A).

Information gathered during investigation

Introduction

14. This report considers the adequacy and appropriateness of the midwifery services provided to Ms A by RM B[4] in 2020. In particular, it considers whether RM B monitored Ms A during her labour with reasonable care and skill, and in accordance with relevant professional standards.

Background

15. Ms A, aged in her twenties, was in her first pregnancy. When she was 22 weeks' gestation, Ms A booked independent midwife RM B as her lead maternity carer (LMC). Ms A's pregnancy was uneventful.

[2] Originally, the concerns were notified to the Council by the district health board.
[3] Ms A supports the complaint but did not provide any comment on this investigation.
[4] RM B first registered with the Midwifery Council of New Zealand in 2018.

Labour

16. At 37+6 weeks' gestation, Ms A went into spontaneous labour. Initially, she managed her contractions at home, but when her contractions became stronger, following discussion with RM B, the decision was made for Ms A to meet RM B at the public hospital for assessment.

Initial assessment

17. Ms A arrived at the public hospital at 1.55am.

18. At 2.15am, RM B arrived and undertook an initial assessment. RM B documented that Ms A was having contractions at a rate of two to three every 10 minutes, which were moderate in strength. RM B performed a vaginal examination and documented that Ms A's cervix was 3cm dilated, soft and fully effaced,[5] indicating that Ms A was in early labour. The plan was for an intravenous (IV) luer to be inserted and fluids commenced, and for consideration of pain relief when required. Following her initial assessment, RM B documented that Ms A was up and walking around the room.

19. RM B told HDC that following her initial assessment she checked the fetal heart rate (FHR) periodically using a cardiotocograph (CTG)[6] but did not record her observations. RM B stated: "At that time, unless there had been an issue, I would not have recorded my observations."

Continuous CTG commenced and ongoing maternal and fetal monitoring

20. At 3.25am, RM B attached a CTG for continuous FHR monitoring[7] and documented her initial interpretation of the trace into the DHB's progress assessment documentation system (Maternity Clinical Information System (MCIS))[8] — the baseline FHR was recorded as 110–119bpm[9] with accelerations[10] and no decelerations,[11] which she interpreted as a "normal CTG".

21. At 3.42am and 3.46am, RM B administered pethidine for pain relief with consent.

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[5] As the cervix prepares for delivery it dilates and softens (effaces). The baby's head was at station –2 (fetal "station" describes the position of the baby's presenting part (usually the head) in relation to the ischial spines in the outlet of the pelvis. Station 0 means that the presenting part is in line with the ischial spines, –2 means that the presenting part is 2cm above the ischial spines).

[6] An instrument that measures the FHR and the woman's contractions.

[7] Continuous CTG monitoring is more restrictive than intermittent monitoring because the woman remains connected to the machine throughout labour.

[8] MCIS is used for all documentation regarding pregnancy, labour, and postnatal care. The electronic record for the CTG is completed to describe the CTG's features (baseline, accelerations, decelerations, variability), and an algorithm in MCIS then provides an opinion of the CTG based on the features selected. This can be:
— Normal
— Abnormal: Unlikely to be associated with significant fetal compromise
— Abnormal: May be associated with significant fetal compromise
— Abnormal: Very likely to be associated with significant fetal compromise.

[9] Normal baseline FHR is 110–160 beats per minute (bpm).

[10] Increase in the baseline FHR.

[11] Decrease in the baseline FHR.

22. At 3.59am, RM B recorded an initial set of maternal observations, which were all within normal parameters.[12] At that time, RM B documented that the CTG trace was normal,[13] and that contractions continued at a rate of three every 10 minutes.

23. At 4.44am, RM B recorded that the CTG trace was "Abnormal: Unlikely to be associated with significant fetal compromise."[14] In a progress note timed 4.47am, RM B documented that she had been out of the room for 20 minutes on a break, that she recommended that Ms A try changing positions but that Ms A preferred to stay on her back, and that the CTG trace was "reassuring". The plan was to repeat a vaginal examination at 6.15am, and to discuss an artificial rupture of membranes and to attach a fetal scalp electrode.

24. Between 4.49am and 6.29am RM B continued to record regular CTG recordings,[15] noting on each occasion that the CTG trace was showing a normal baseline with "[v]ariable decelerations without complicating features", which she interpreted as "Abnormal: Unlikely to be associated with significant fetal compromise." During that time, RM B also documented that Ms A's contractions had become irregular but continued at a rate of three every 10 minutes and were medium in strength and lasted 30–50 seconds.

Second vaginal examination

25. At 6.29am, RM B performed another vaginal examination and noted that Ms A's cervix was now 5cm dilated but the baby's presenting part[16] had not descended any further. At that time, RM B noted that Ms A's contractions were still irregular at a rate of three every 10 minutes, but were now strong and lasting over 50 seconds. RM B performed an artificial rupture of membranes and attempted to attach a fetal scalp electrode (FSE), but was unable to position it correctly, so it was removed.

Pushing and CTG interpretation

26. Between 6.29am and 9.52am, RM B did not document her observations contemporaneously.

27. In a retrospective record, documented at 9.52am, RM B recorded that Ms A had started to push actively at around 7.30am,[17] and that a vaginal examination had been performed at 8.30am, when the baby was felt to be in a left occipito-posterior (LOP) position (the back of the baby's head toward the mother's spine and slightly to the left), meaning that the baby was not in an ideal position for delivery. RM B recorded that she advised Ms A to stop pushing at that stage and to have a shower to encourage the baby to turn. At 9.10am, RM B disconnected the CTG so that Ms A could have a shower.

[12] Blood pressure 110/78mmHg (normal is between 90/60mmHg and 120/80mmHg), respiratory rate 14 breaths per minute (normal is 12–16 breaths per minute), temperature 36.5°C (normal is around 36–38°C), heart rate 70bpm (normal is 60–100bpm).
[13] Baseline 120–129bpm, no decelerations.
[14] Baseline 120–129bpm, early decelerations.
[15] RM B recorded her CTG interpretation at 4.59am, 5.14am, and 5.34am.
[16] The part of the baby that leads the way out through the birth canal.
[17] At this stage, Ms A was fully dilated.

28. RM B told HDC that up until that point she continued to interpret the CTG as showing variable decelerations that did not require any further action. RM B did not document this interpretation. However, in a subsequent statement to HDC, RM B acknowledged that her interpretation of the CTG between 7.03am and 9am was "faulty", which she stated was "also undoubtedly coloured by the usual practice of the Obstetricians at the public hospital on insisting an abnormal trace be given time to 'normalise' before taking action".

29. RM B reconnected the CTG at 9.30am.

Charge midwife informed and back-up midwife RM C called

30. RM B told HDC that at around 9.30am she became concerned about Ms A's lack of progress and notified Associate Clinical Midwife Manager (ACMM) RM D. RM B stated that at that time "[Ms A] was actively pushing with every contraction and resting between".

31. RM D told HDC that she first spoke to RM B at 7.45am in passing, and asked how things were progressing, and RM B told her that all was well.

32. RM D said that she next spoke to RM B at 9.50am, when she saw her in the corridor. RM D stated:

> "[RM B] informed me that [Ms A] had been pushing well but the baby was in an occipito-posterior position and she was going to try positional changes to aid rotation and descent of the baby's head."

33. RM D said that she asked if everything was OK and that RM B voiced no concerns. RM D said that because of the malposition of the head, and the fact that Ms A had been fully dilated for two hours by that stage, she "advised [RM B] to consult with the on duty [senior medical officer (SMO)] if she was not confident that the baby would be born soon. [RM B] responded that she would consult if needed."

34. RM D said that she did not enter Ms A's room or review the CTG trace at that time, and that RM B did not ask her to review Ms A.

35. In a retrospective note documented at 5.34pm, RM D recorded:

> "09.50 LMC [RM B] then informed me that [Ms A] had been pushing well but baby was in OP [occipito-posterior] position and she was going to try positional changes to aid descent and rotation of head. I asked if things were ok in room and she voiced no concerns. At this point I advised [RM B] to consult with SMO and Team if she did not think baby would be born soon in view of position and noted a few hours since Fully dilated. [RM B] stated she would consult if needed."

36. In contrast, RM B told HDC that when she updated RM D of Ms A's progress, "[RM D] did not at that time make any comment suggesting I consult with the SMO/Obstetric team".

37. In a retrospective note documented at 9.52am, RM B recorded that at 9.45am she "[a]dvised Charge MW: [RM D] that baby [was] in [an occipito-posterior] position".

CTG interpretation 9.30am–10.15am

38. RM B did not document her interpretation of the CTG trace between 9.30am and 10.15am. RM B told HDC:

> "After the CTG was reconnected, the readings were intermittent which I subsequently realised was due to a poor connection. During that period I was focused on assisting [Ms A] to manage her pain and try different positions to assist the baby to turn. … During this period my attention was solely on [Ms A] and I neglected to review the CTG."

39. In a statement to HDC, RM B acknowledged that during that time her interpretation of the CTG trace was "faulty".

RM C

40. Also at around 10am, RM B telephoned back-up midwife RM C to come in to assist her. RM B said that she called RM C to assist because she was feeling tired, having been in the hospital since 2am, and she "felt [she] needed the support of a more experienced colleague".

41. RM C told HDC that RM B told her that there had been no progress with pushing. RM C said that she told RM B to get Ms A up and into the shower to encourage descent. RM C said that at that time it was apparent that RM B was very tired.

42. At 10.23am, RM C arrived at the hospital and entered Ms A's room.

43. RM C said that when she entered the room, RM B informed her that Ms A was actively pushing and that the baby's head could be seen. RM C stated that in light of this, her immediate focus was to assist the imminent birth, so she did not check the CTG trace immediately.

44. RM C said that it was her understanding that Ms A had had the urge to push between 7.30 and 8.30am, at which time she stopped pushing to allow for passive descent. RM C stated:

> "[Ms A] was able to cease pushing when instructed, and my understanding was that there had been passive descent and she had not been in the active stage of pushing until more recently. In my experience an 'urge' to push is not used to denote the active second stage of labour."

45. RM C said that therefore she did not consider that the situation was a prolonged second stage of labour requiring consultation with a specialist.

46. At 10.23am, RM C documented in the progress notes that she was called "to relieve LMC". She recorded that the FHR was 153bpm and that Ms A was actively pushing with every contraction.

47. RM C said that she first looked at the CTG trace at 10.50am, at which time it was apparent that the CTG was not recording correctly, so she adjusted the transducer. At 10.52am, RM

C documented that she adjusted the toco (transducer), noting that the maternal pulse was 82bpm. Following the adjustment, RM C recorded that the CTG was normal.[18]

48. RM C told HDC that after she adjusted the CTG transducer, in her opinion, the CTG trace was interpretable.

Registrar Dr E

49. At around 10.55am, registrar Dr E[19] entered Ms A's room. There are differing accounts of Dr E's involvement, as discussed below.

50. RM C stated:

> "Shortly after I had re-positioned the CTG toco, Registrar [Dr E] entered the room. … She stood behind me and asked if we were okay. I advised [Ms A] was pushing. [Dr E] stated 'looks like station plus 2.[20] The CTG looks fine. We are around if you need us.' [Dr E] then left the room without signing the CTG. No suggestions or recommendations were made and no plan was given."

51. RM C said that given that Dr E had considered that the CTG looked fine, she "did not see a reason to escalate the care and would not have done so without cause". RM C stated: "The care was not escalated as I relied on the statement from [Dr E] that the CTG was fine."

52. RM B told HDC that when Dr E entered Ms A's room, Dr E "stood beside the bed and looked at the CTG". RM B said that she recalls that Dr E reviewed the CTG trace and said that it looked normal. RM B stated: "I recall the Registrar made a statement along the lines of … 'the CTG looks normal, keep going and call me if you need me'."

53. In a retrospective note documented at 12.34pm, RM B recorded: "Obs Reg [Dr E] into room to assess CTG."

54. In contrast, Dr E told HDC that she entered Ms A's room around 11am, having noted on a progress assessment whiteboard that Ms A was a primagravida (in her first pregnancy) and had been pushing for 90 minutes. Dr E said that she was used to the Australian model of care where the medical team on the birthing unit have overall responsibility for all women on the unit, so she knocked on Ms A's door and entered to just past the curtain to ask RM B how Ms A was progressing. Dr E said that she observed that Ms A was actively pushing, and was told by RM B that the baby's head was at station +2. Dr E said that she asked RM B if she was happy with how the labour was progressing, and RM B confirmed that she was and that she planned to give Ms A another 30 minutes of pushing. Dr E stated: "I was reassured and left the room."

[18] RM C documented that the CTG was showing a baseline of 140–149bpm with no decelerations.
[19] At the time of these events, Dr E was in her second year of the RANZCOG obstetrics & gynaecology training programme.
[20] The baby's head is 2cm past the ischial spines (the head is at +4 to +5 at birth).

55. Dr E said that at no time was she asked to review the CTG trace. She recalls seeing the trace when she entered Ms A's room, but because it was folded and at a distance, it was not possible to interpret it. In addition, Dr E said that at no time was she asked, or did she provide, any advice to RM B.

56. In a retrospective note recorded at 5.24pm, Dr E documented:

> "[R]etrospective note after seeing LMC note from 1223 that I assessed CTG.
>
> I entered room after noting from [the] white board that primip had been pushing for 90min. I was never asked to consult by LMC.
>
> I knocked on the door, entered, remained at door. Asked LMC if [patient] was progressing — was told head was at +2, no concerns currently. She did not ask me to assess [patient] or give my opinion on the CTG. LMC plan was to give [patient] another 30min of pushing.
>
> At no stage before or after entry into the room was I requested to review the [patient] or the CTG."

Delivery

57. At 11.01am, RM C noted that a "peep of head [was] seen with pushing", that the FHR was 140bpm with no decelerations with contractions, and that Ms A was actively pushing and coping well.

58. At 11.14am, Baby A was born by spontaneous vaginal delivery.

59. Baby A was born in very poor condition and an emergency call was made. Resuscitation was commenced immediately and continued for four minutes. Baby A was then intubated at 12.5 minutes of age. Baby A's APGARS were one at one minute, two at five minutes, and three at 10 minutes of age.[21] Cord blood gases indicated that Baby A was born very hypoxic (low blood oxygen levels).

60. Baby A was then transferred to the Neonatal Intensive Care Unit and later diagnosed with severe hypoxic ischaemic encephalopathy.[22]

DHB Adverse Event Report

61. Following this incident, in light of the unexpected outcome for Baby A, the DHB undertook an Adverse Event Review (AER). The final AER report noted the following:

[21] An index used to evaluate the condition of a newborn infant based on a rating of 0, 1, or 2 for each of the five characteristics of colour, heart rate, response to stimulation of the sole of the foot, muscle tone, and respiration, with 10 being a perfect score.
[22] Brain injury due to inadequate oxygen to the brain.

- Although the CTG was recording continuously from 3.28am until 11.10am (except for two short periods when it was disconnected to allow Ms A to toilet and shower), RM B did not document any CTG findings between 6.29am and 10.52am.
- The CTG recording is abnormal between 7.03am and 9am.
- From 9.30am to 10.15am, the CTG becomes difficult to interpret but overall remains abnormal. The CTG is unable to be interpreted from approximately 10.15am onwards.
- There is no evidence that RM B recognised that the CTG was abnormal, and therefore she did not follow the *Referral Guidelines*[23] requiring the abnormality to be considered, and RM B did not escalate Ms A's care to a more experienced practitioner.
- Ms A was fully dilated and began to push at 7.30am. Ms A met the criteria for the DHB's Guideline[24] "Slow Progress in the Second Stage of Labour", but RM B appeared not to recognise this, and did not consult with the obstetrics registrar or specialist, or recommend to Ms A that consultation was warranted (as is required by the *Referral Guidelines*).
- No systems issues were identified.

Midwifery Council of New Zealand

62. Following notification by the DHB of these events, the Council undertook a review of RM B's competence. The Council concluded that RM B was meeting the competencies for entry to the register of midwives, and that no further action would be taken.

Further comment from RM B

63. In her response to HDC, RM B acknowledged that her interpretation of the CTG trace at that time "was not of an appropriate standard".

64. In addition, RM B told HDC that at the time of these events she did not routinely record observations unless there was an issue. She stated: "I am now aware I should have recorded my observations regardless, and have changed my practice accordingly."

Further comment from RM C

65. RM C submitted that her involvement in Ms A's delivery was limited to providing support to RM B. She said that care was not handed over to her until after delivery, and RM B remained the LMC responsible for Ms A's care. As such, RM C submitted that in accordance with the *Referral Guidelines*, at no stage during labour was it her responsibility to recommend to Ms A that consultation with the obstetrics team was warranted. RM C submitted that the responsibility for such a recommendation remained with RM B.

[23] *Guidelines for Consultation with Obstetric and Related Medical Services (Referral Guidelines)*, Ministry of Health (2012). See Appendix C for relevant sections.
[24] See Appendix B for relevant sections of the DHB's guidelines.

Responses to provisional opinion

Ms A

66. Ms A was given the opportunity to respond to the "information gathered" and "changes made" sections of the provisional report. She told HDC that she can remember what happened vividly and is still "very very upset" about what happened to her "healthy baby boy". Ms A said that as she was a new mother, she put her trust in RM B, and reading the notes made her sad and upset to relive the painful memories she had under RM B's care. She said that she wished RM B had asked for help from the nurses or doctors at the hospital, instead of calling her back-up midwife, who was 30 minutes away.

67. Ms A told HDC that during her labour, her mother asked RM B for a doctor to come and look as the baby was not out yet. Ms A said that RM B told them that the doctor was coming in 10 minutes, but after 10 minutes when Ms A's mother followed up, RM B told them that the doctor had been held up and could not come. Ms A said that she asked about an epidural, and RM B told her that it was not necessary as she could see the baby's head. Ms A told HDC that she tried her best to get the baby out but was tired after pushing for so long, and it was too painful.

RM B

68. RM B was given the opportunity to respond to the relevant sections of the provisional report, and advised that she accepts the opinion and recommendations. In response to the provisional recommendation, RM B provided HDC with a written apology to forward to Ms A.

RM C

69. RM C was given the opportunity to respond to the relevant sections of the provisional report. RM C advised that she acknowledged and accepted the Deputy Commissioner's provisional decision and recommendations. RM C told HDC that she has enrolled in a RANZCOG CTG course, and will forward the attendance certificate once completed.

DHB

70. The DHB was given the opportunity to respond to the provisional report, and advised HDC that it accepted the proposed recommendations and follow-up actions outlined in the report.

Opinion: RM B — breach

Introduction

71. RM B had a responsibility to provide care to Ms A with reasonable care and skill and in accordance with appropriate standards. I have significant concerns about some aspects of the care RM B provided to Ms A, as outlined below.

Failure to interpret abnormal CTG

Initial interpretation until 6.29am

72. From the time the continuous CTG was commenced, until 6.29am, RM B regularly recorded her interpretation in the MCIS. Expert midwifery advisor RM Isabelle Eadie noted that while she interpreted this part of the CTG trace slightly differently from RM B, "[o]verall, during the first three hours of CTG monitoring, [RM B] made an acceptable number of reviews of the CTG and correctly interpreted that the baby was unlikely to be compromised". I accept this advice.

Review and interpretation of CTG from 6.29am

73. The analysis of RM B's standard of care at this time is hampered by the lack of contemporaneous record-keeping. RM B did not document her interpretation of the CTG trace from 6.29am (discussed further below). I note RM Eadie's advice that a failure to review and interpret the CTG would be considered a severe departure from accepted practice, and I would be highly critical of RM B if she had not reviewed the CTG from 6.29am. However, RM B's response to HDC, coupled with her retrospective records, suggest that RM B did review the CTG trace at the time, but failed to document her interpretation. Accordingly, accepting that RM B did review the CTG, I do not consider that this represents a severe departure from the accepted standard of care.

74. However, RM B's failure to recognise and respond to the abnormality in the CTG tracing is concerning. RM B told HDC that up until 9.10am she continued to interpret the CTG as showing variable decelerations that did not require any further action. RM B accepts that her interpretation of the CTG between 7.03am and 9am was "faulty". RM Eadie advised that from 7.10am the CTG became "very abnormal", and by 7.40am the CTG trace becomes difficult to interpret due to loss of contact. Fetal compromise in labour may be due to a number of factors. In accordance with the guidelines ("Fetal Heart Rate Monitoring in Labour and management of an abnormal CTG and Tocolysis in the event of uterine hyperstimulation"), in a situation where an abnormal CTG trace is identified, immediate management should include identifying any reversible cause of the abnormality and initiation of appropriate action, consideration of further fetal evaluation, and escalation of care if necessary to a more experienced practitioner. Similarly, in accordance with the *Referral Guidelines*, fetal heart rate abnormalities require the LMC to recommend to the woman that she have a consultation with a specialist obstetrician.

75. It is clear that shortly after 7.10am when the CTG became "very abnormal", RM B should have recognised and taken steps to address the FHR abnormality, or sought assistance from a more experienced practitioner in the first instance. However, in this case, it appears that

RM B failed to recognise these abnormalities, and as such did not take any steps to address the concern. As noted by RM Eadie:

> "[O]ften CTG interpretation is challenging, but if a midwife is using a CTG for fetal monitoring, the expectation is that there is a degree of knowledge and understanding, otherwise the midwife should be regularly requesting a second opinion, and [RM B] did not do this."

76. Further to this, RM Eadie advised:

> "It is my opinion that [RM B] did not recognise that the CTG indicated that [Baby A] was compromised which I believe reflects a significant deficit in knowledge which [RM B] appears to have readily accepted and has committed to rectifying, but at the time this meant that she did not appreciate the need to escalate the CTG concerns to either the clinical charge midwife, the obstetric team or her colleague [RM C] when she arrived."

77. RM Eadie considered that RM B's failure to escalate the abnormal CTG, which she did not recognise was likely to be associated with fetal compromise, was a moderate departure from accepted practice. I agree with RM Eadie's advice, and note that a CTG trace can be an extremely valuable aid to gauging fetal wellbeing over the course of the birth process. However, if a midwife chooses this method for monitoring, it is critical to have a sound understanding of the CTG, including interpretation and management.

78. RM Eadie also noted that RM B's decision to stop the CTG monitoring at 9.10am, so that Ms A could take a shower to help with passive descent of the baby, was inappropriate. RM Eadie advised:

> "[W]hilst I can appreciate [RM B's] rationale for advising [Ms A] to get into the shower, it is not appropriate to do this when it prevents fetal monitoring, particularly when the CTG is abnormal and this decision to prioritise the shower over fetal monitoring in the context of an abnormal CTG reflects a mild to moderate departure from expected practice."

79. When RM B then reconnected the CTG at around 9.30am, the CTG trace became largely unreadable. However, RM B did not take any steps to address this. It was not until RM C arrived after 10.30am that the issue was finally addressed. RM Eadie advised:

> "Whilst CTG interpretation can be challenging for even the most experienced practitioners, it is expected that the midwife can recognise a poor quality CTG due to loss of contact and appreciate the need to rectify this, either by seeking help or applying an FSE and [RM B] was familiar with the use of FSEs. Failure to have attempted to improve the quality of the CTG for such a prolonged period of time in order to ensure accurate monitoring of the fetal heartrate and facilitate interpretation reflects a moderate departure from expected practice."

80. I note that RM B accepts that her CTG interpretation was "faulty".

Prolonged second stage of labour

81. Ms A initially started to push at around 7.30am. However, RM B said that she advised Ms A to stop pushing at 8.30am, when she realised that the baby was in an OP position, and Ms A did not start to push again until around 10am. As noted by RM Eadie, this meant that Ms A was actively pushing for 2.25 hours in total, but was in the second stage of labour for almost four hours.

82. The definition of "prolonged second stage" in the *Referral Guidelines* is based on the length of active pushing, rather than the length of the second stage.[25] However, in accordance with the DHB's Guidelines, RM B should have consulted with the obstetrics registrar when there was a lack of progress after one hour of pushing.[26] Accordingly, based on this guidance, RM B should have consulted the obstetrics team at around 8.30am.

83. RM B said that she recognised the lack of progress and attempted to address it by recommending that Ms A have a shower to help facilitate passive descent. In addition, RM B said that she discussed the situation with RM D, and advised her that she was concerned about a lack of progress. However, RM B said that RM D never advised her to consult with the registrar. RM B's only record of this discussion refers to her advising RM D that the baby was in an OP position, but does not refer to the lack of progress.

84. In contrast, RM D said that RM B told her that the baby was in an OP position but voiced no concerns about lack of progress. RM D said that she advised RM B "to consult with [the] SMO and Team if she did not think baby would be born soon in view of position", and that RM B stated that she would consult if needed. RM D documented this advice in a retrospective note, documented at 5.34pm.

85. While I accept that RM B did recognise the lack of progress, as evidenced by her decision to recommend that Ms A take a shower to assist with passive descent, taking into account RM D's and RM B's documentation of the conversation, I find that RM B did not communicate the lack of progress to RM D adequately.

86. I also note RM Eadie's advice:

> "Regardless of whether [RM D] did make this suggestion or not, I would expect [RM B] to be able to come to this conclusion herself — that if she was concerned about the duration and lack of progress of [Ms A's] second stage and the baby's position, then she consults with the obstetric team."

[25] The *Referral Guidelines* define "prolonged active second stage of labour" as "> 2 hours of active pushing with no progress for nullipara".

[26] The DHB's Guideline states that for nulliparous women: "Consult with the obstetric registrar or specialist if:
— there is an abnormal cardiotocograph (CTG).
— the baby is not delivered after two hours of pushing (or lack of progress suspected after one hour). …"

87. I agree. By 10am, regardless of her conversation with RM D, in accordance with the DHB's Guidelines, RM B should have recognised that she needed to consult the obstetrics team owing to the duration of the second stage.[27]

88. RM Eadie considers that RM B's failure to consult an obstetrician "reflects a mild to moderate departure from expected practice". I accept this advice.

Documentation

Observations before 6.29am

89. RM B commenced continuous CTG monitoring at 3.25am, 70 minutes after she first assessed Ms A. There is no record of the FHR being monitored prior to that time. In addition, RM B documented one set of maternal observations at 3.59am. After that time, RM B did not record any further maternal observations.

90. RM Eadie advised that the expected standard during the first stage of labour is for the maternal blood pressure and temperature in low-risk women to be carried out four hourly, and for the maternal heart rate to be recorded every hour.

91. RM B told HDC that she did undertake further maternal observations, as well as FHR monitoring, prior to 3.25am when the CTG was commenced, but did not record these as they were normal.

92. RM Eadie advised that accepted practice is for observations to be recorded, even when they are normal, and the failure to "persistently" document maternal and fetal wellbeing would be considered a moderate departure. I agree.

93. I note that RM B now accepts that she should have documented her observations, even when they were normal.

Observations after 6.29am

94. After 6.29am, RM B did not document any further observations, including her interpretation of the CTG, until she made retrospective notes at 9.52am.

95. While RM Eadie noted that RM B was likely focused on supporting Ms A in the second stage of labour, RM Eadie advised:

> "[U]ltimately it is still expected that the midwife will aim to make timely records pertaining not just to maternal observations but to all aspects of maternal and fetal assessments and care being provided."

96. RM Eadie noted that most significantly RM B did not document any further assessments of the CTG trace.

[27] The Slow Progress in the Second Stage of Labour Guidelines state: "Birth should occur within 4 hours of diagnosis of full dilatation (NICE guideline). Therefore if >1 hour passive descent has been allowed, consultation with obstetrician should occur earlier than the guidance above to facilitate birth within 4 hours."

97. The DHB's Guideline requires the CTG to be "reviewed every 15–30mins and documented that it has been seen and acted upon if necessary".

98. RM Eadie considers that RM B's failure to document any assessment findings after 6.29am, particularly taking into account the concerns she had around Ms A's lack of progress, was a severe departure from accepted practice.

99. I agree. I am very concerned at RM B's failure to document any assessment findings after 6.29am, and in particular her CTG interpretation. I note that these omissions were a departure from the Midwifery Council Competencies for Practice clause 2.17, which states that the midwife "provides accurate and timely written progress notes and relevant documented evidence of all decisions made and midwifery care offered and provided".

Conclusions

100. As set out above, I have a number of concerns about the care provided to Ms A by RM B, and consider that RM B failed to provide services to Ms A with reasonable care and skill for the following reasons:

- RM B failed to identify the abnormal CTG recording from 7.10am, and take steps to improve the recording after 7.40am when there was significant loss of contact. As a result, RM B failed to take appropriate steps to rectify the issue or consult with the obstetrics team about possible fetal distress.
- RM B failed to escalate Ms A's care to the obstetrics team when she identified the lack of progress at around 8.30am, after Ms A had been pushing for one hour.
- RM B failed to consult the obstetrics team after Ms A had had a shower and started to push again, despite Ms A having been in the second stage of labour for approximately four hours.

101. As a result of these omissions, RM B failed to identify the fetal compromise at various points, and the opportunity to respond to these issues in a timely manner was missed, when escalation was warranted. As noted by RM Eadie, sadly these failures appear to have resulted in Baby A's hypoxic condition at birth.

102. Accordingly, for the reasons set out above, I conclude that RM B breached Right 4(1) of the Code of Health and Disability Services Consumers' Rights (the Code).[28]

103. In addition, RM B's documentation fell seriously short of acceptable standards, and I find that RM B also breached Right 4(2) of the Code.[29]

Other comment

104. RM Eadie advised that because Ms A had had a normal pregnancy, with no other risk factors, in accordance with the RANZCOG Intrapartum Fetal Surveillance guideline and the Fetal

[28] Right 4(1) provides: "Every consumer has the right to have services provided with reasonable care and skill."
[29] Right 4(2) provides: "Every consumer has the right to have services provided that comply with legal, professional, ethical, and other relevant standards."

Heart Rate Monitoring in Labour guideline, continuous FHR monitoring was not recommended.

105. While RM Eadie noted that it is unclear why RM B chose to use continuous CTG monitoring in Ms A's case, she advised that it is common for midwives to choose this method when intermittent auscultation is appropriate. Therefore, RM Eadie advised that she is not critical of RM B's decision to use CTG monitoring in this case. I accept RM Eadie's advice. However, I take this opportunity to reiterate that if a midwife chooses this method for monitoring, it is critical to have a sound understanding of CTG interpretation and management. As discussed above, RM B lacked a basic understanding of how to interpret the CTG trace.

Opinion: RM C — adverse comment

CTG interpretation

106. RM C first reviewed the CTG trace at 10.50am, at which time she immediately identified that the CTG was not recording correctly, and appropriately adjusted the transducer. Following the adjustment, at 10.52am and 11.01am, RM C recorded that the CTG was normal. RM C told HDC that after she adjusted the CTG transducer, in her opinion, the CTG trace was interpretable.

107. RM Eadie advised that the CTG was very difficult to interpret at that time, and in her opinion the CTG appears to be recording the maternal heart rate. RM Eadie advised:

> "Overall, I would argue that the CTG was uninterpretable and [RM C] was mistaken in her interpretation that it was normal. If the transducer was recording the maternal heart rate as I suspect, it is not uncommon that this can be mis-interpreted as a normal fetal heart rate recording with accelerations, and I think this reflects a knowledge deficit rather than a deviation from expected practice."

108. I accept RM Eadie's advice.

Progress of labour

109. When RM C was called by RM B to assist, Ms A had been in the second stage of labour for approximately four hours. RM C told HDC that at the time she entered Ms A's room, it was her understanding that Ms A had had the urge to push between 7.30 and 8.30am, at which time she stopped pushing to allow for passive descent. RM C stated: "In my experience an 'urge' to push is not used to denote the active second stage of labour." She said that she therefore did not consider the situation to be a prolonged second stage of labour requiring consultation with a specialist.

110. RM C stated that she was also reassured by the advice provided by obstetrics registrar Dr E, who entered Ms A's room around 11am, shortly after the transducer had been repositioned. However, there are conflicting accounts regarding Dr E's involvement at that time, and what advice Dr E did or did not provide.

111. RM C submitted that after Dr E entered the room she stood behind her and noted Ms A's progress — that the presenting part was at +2 — and advised that the CTG "look[ed] fine". RM C said that Dr E then said that the obstetrics team were around if needed, and left the room without signing the CTG. RM B also submitted that Dr E reviewed the CTG at that time.

112. In contrast, Dr E denies reviewing the CTG, or providing any advice regarding progress. Dr E said that she was provided reassurance that all was OK, and that the midwives would call if needed.

113. Both RM B and Dr E wrote conflicting retrospective records of Dr E's involvement — RM B documented at 12.34pm, following Baby A's delivery, "Obs Reg [Dr E] [came] into [the] room to assess CTG", whereas at 5.24pm Dr E documented that she remained at the door, and at no time was she requested to review the patient or the CTG.

114. While there is no dispute that Dr E entered the room to check on Ms A's progress, given the conflicting accounts and documentation, I am unable to conclude with any certainty exactly what information was discussed between Dr E and the two midwives.

115. Regardless of Dr E's subsequent involvement, RM Eadie advised that in her opinion, 15–20 minutes after RM C's arrival, when it was clear that birth was not imminent, and in light of the duration of the second stage, the lack of progress during Ms A's first hour of pushing, and the position of Baby A, RM C should have had a discussion with RM B about recommending to Ms A that referral to the obstetrics team was warranted. However, RM C did not do so. RM Eadie advised:

> "I believe the escalation to the obstetric service should have occurred earlier than [Dr E's] review since [RM C] had been present since 1020 hours and had had sufficient time to appraise the situation."

116. RM Eadie considers that the failure to discuss referral to the obstetrics team with RM B was a mild departure.

117. RM C submitted that at no time prior to delivery was care handed over to her, and therefore, in accordance with the *Referral Guidelines*, all decision-making regarding Ms A, including escalation of care, remained with RM B as her LMC.

118. I agree that RM B, as the LMC, remained responsible for Ms A's care. However, RM C still had a responsibility, as a registered midwife, to comply with the Midwifery Council's "Competencies for Entry to the Register of Midwives", which states that the midwife "identifies factors in the woman/wahine or her baby/tamaiti during labour and birth which indicate the necessity for consultation with, or referral to, another midwife or a specialist medical practitioner". I note RM Eadie's advice:

> "It is based upon this expectation of midwifery care, that I believe that [RM C], whose help and support was sought by [RM B], who did recognise that [Ms A's] 2nd stage of labour was prolonged, and having been granted a period of time to assess the progress,

> and given that [Baby A's] birth was not imminent, should have initiated a discussion with [RM B] (and [Ms A]), recommending a consultation with the obstetric team."

119. I accept RM Eadie's advice. In my view, RM C was more experienced, and this was an opportunity for a "fresh eyes" review. There was a clear requirement for RM C to initiate a discussion with RM B and Ms A regarding whether referral to the obstetrics team was warranted.

Conclusion

120. Overall, as noted above and guided by expert advice, I have some concerns regarding the care provided to Ms A by RM C. In particular, RM C failed to interpret the CTG trace correctly once she had adjusted the transducer. Then, in light of the prolonged second stage of labour, when it was clear that the birth of Baby A was not imminent, RM C should have had a discussion with RM B regarding recommending referral to an obstetrician. While I am critical of the shortcomings in RM C's care, I accept that RM B was primarily responsible for Ms A's care, and consider that RM C's shortcomings were influenced by RM B not presenting an accurate account of the labour, including a lack of clarity about the stage of Ms A's labour. For these reasons, I do not consider that RM C breached the Code.

The DHB (Te Whatu Ora — Health New Zealand) — other comment

"Fresh eyes" review of CTG

121. At the time of these events, the DHB's guideline "Fetal Heart Rate Monitoring in Labour and management of an abnormal CTG and Tocolysis in the event of uterine hyperstimulation" did not include the recommendation for a "fresh eyes" review[30] of the CTG trace. As noted by RM Eadie:

> "Perhaps if 'fresh eyes' was recommended by [the DHB] and it became an accepted practice by all practitioners accessing the public hospital then this may have resulted in regular CTG review by another practitioner and a different management course."

122. I note that Te Whatu Ora — Health New Zealand has now incorporated a "fresh eyes" approach into routine care, with education to support this. I endorse this change.

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[30] The review of a CTG trace by another independent practitioner.

Further comment

123. I note RM Eadie's comments regarding LMCs working in isolation:

> "I think this lone practice is entrenched in New Zealand and can be detrimental to care to women and babies. [Ms A] was receiving primary intrapartum care, responsibility for which lay with her LMC midwife [RM B]. The culture or expectation is that no other practitioner will be involved in [Ms A's] labour care unless her midwife, [RM B] specifically seeks it out. The risk to women and babies is that this relies on that sole midwife recognising that there is a 'problem'. This case demonstrates that [RM B] did not recognise that the CTG signified likely fetal compromise for a prolonged period of time prior to the birth and whilst I believe she did recognize the prolonged 2nd stage, I believe that had there been additional senior midwifery input/review of [Ms A] this would have allowed for midwifery discussion about the management. Whilst the 'fresh eyes' of the CTG described earlier may help avoid missed opportunities to intervene in cases of abnormal CTGs, I think a 'fresh eyes' review of the whole labour by a senior midwifery colleague is warranted. [RM B] did advise the clinical charge midwife at 0945 hours, after two hours of pushing that [Baby A] was still not delivered and malpositioned, but [RM B] did not invite review by [RM D], and nor did this information incite [RM D] to 'get involved' and review [Ms A] herself. Seemingly this was the first formal interaction between [RM B] and [RM D] at 0945 hours, despite [Ms A] being in the unit since 0215 hours. This is not meant as a critique of [RM D], who wrote that the unit was very busy that morning, but a critique of a system which does not encourage, advocate or support greater collaboration between midwives, particularly between LMC midwives and senior co-ordinating midwives, especially when the woman is under primary care. If there was a culture, a practice whereby *all* women were *regularly* seen in labour by the senior co-ordinating midwife and a discussion of progress and assessments of maternal and fetal wellbeing were reviewed then I feel this might lead to more optimum care to women and babies and provide an opportunity for midwives to share learning."

124. This is an important observation, and, while I consider that it is important for LMCs to practice autonomously, this should not be at the detriment of the health and wellbeing of a woman or baby, particularly in the context of inexperienced midwives. I consider that this matter is worthy of further discussion, and plan to highlight the matter to the Midwifery Council of New Zealand. I also take careful note of RM D's comment about the busyness of the unit that morning, and whether workloads at the time would have made it difficult for senior co-ordinating midwives to collaborate or offer assistance.

Changes made

RM B

125. RM B said that since these events she has undertaken further training on CTG interpretation, including the RANZCOG CTG training course. RM B advised that she also regularly attends CTG workshops run by Te Whatu Ora — Health New Zealand.

126. RM B said that she plans to enrol in the next NZCOM "Dotting the I's and crossing the T's" documentation course.

127. In addition, RM B stated that she contacted her supervisor for her Midwifery First Year of Practice Programme, and requested further supervision "until such time as [her] competence was at the required level".

128. RM B said that she now records all CTG observations. She stated that in relation to CTG interpretation:

> "[I now pay] proper attention to the CTG trace and document my conclusions. Also, I now have the confidence to request a medical review if I have a concern and to challenge the medical team if I feel their interpretation of a trace may not be correct."

RM C

129. RM C advised that she plans to enrol in the next available online NZCOM "Dotting the I's and crossing the T's" documentation course. In response to the provisional report, RM C also advised that she enrolled to complete the RANZCOG CTG Course.

Te Whatu Ora — Health New Zealand

130. Te Whatu Ora — Health New Zealand advised that it is updating its fetal monitoring policy to include a "fresh eyes" approach to routine care, with education to support this. This will be supported by incorporating CTG monitoring into its electronic notes system to enable CTG readings to be remotely visible to the medical team and the senior midwifery team at all times.

131. Te Whatu Ora — Health New Zealand noted that the "fresh eyes" approach applies to LMCs and all staff, and occurs "when a request is made by any staff member or LMC for a review by a senior staff member midwife or doctor". Further, Te Whatu Ora — Health New Zealand stated: "This is normal practice already in every DHB in the country."

Recommendations

RM B

132. I recommend that RM B:

a) Enrol in the RANZCOG Fetal Surveillance Education programme. RM B should provide confirmation of her attendance, or enrolment, within three months of the date of this report.

b) Provide confirmation of her attendance at, or enrolment in, the NZCOM "Dotting the I's and crossing the T's" course, within three months of the date of this report.

133. I recommend that the Midwifery Council of New Zealand consider whether a further review of RM B's competence is necessary in light of the findings of this report — in particular, whether RM B's competence in CTG interpretation meets relevant standards.

RM C

134. I recommend that RM C provide confirmation of her attendance at, or enrolment in, the NZCOM "Dotting the I's and crossing the T's course", and the RANZCOG CTG training course, within three months of the date of this report.

Te Whatu Ora — Health New Zealand

135. I recommend that Te Whatu Ora — Health New Zealand undertake an audit of how often a "fresh eyes" review is being requested, and the outcome of these reviews.

Follow-up actions

136. A copy of this report with details identifying the parties removed, except the expert who advised on this case, will be sent to the Midwifery Council of New Zealand, and it will be advised of RM B's name. In addition, I will be requesting that the Midwifery Council of New Zealand consider RM Eadie's comments in relation to midwives working in isolation.

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

Appendix A: Independent clinical advice to Commissioner

The following expert advice was obtained from RM Isabelle Eadie:

"Thank you for the request that I provide clinical advice in relation to the concern raised by [the DHB] in their letter to the Midwifery Council [in] 2020 regarding the midwifery care provided to [Ms A] and [Baby A]. In preparing the advice on this case to the best of my knowledge I have no personal or professional conflict of interest. I agree to follow the Commissioner's Guidelines for Advisors. Whilst the letter to the Midwifery Council from the DHB concerned the care by [Ms A's] LMC midwife, [RM B], I have been asked to provide advice on specific aspects of the labour care provided by both [RM B] and her midwifery partner [RM C] who was also present in the last hour prior to [Baby A's] birth.

Overview

[Ms A] was in her first pregnancy and care had been provided by LMC midwife [RM B]. [Ms A] registered with [RM B] at 23 weeks gestation and had an uncomplicated pregnancy. It is unknown if she received antenatal care prior to booking with [RM B]. [Ms A] started contracting [in the evening] and was assessed by [RM B] at [the public hospital] at 0215 hours [the following day] at 37+6 weeks gestation. At this time, a vaginal examination showed that [Ms A's] cervix was 3cm dilated, fully effaced with intact membranes and she was contracting 3:10 regularly. A CTG was commenced for fetal monitoring at 0330 hours which mostly continued throughout the labour. [Ms A] was given pethidine for pain relief at 0340 hours and her 1st stage of labour (up to 10 cm dilated) progressed well. An artificial rupture of membranes (ARM) was done at 0620 hours and the liquor was clear. At 0730 hours, [Ms A] was fully dilated and commenced pushing (the onset of the 2nd stage of labour). At 0945 hours [RM B] updated the clinical charge midwife [RM D] that [Ms A's] baby was in the occipito posterior (OP) position. At 1023 hours, [RM B's] midwifery partner [RM C] arrived and provided care to [Ms A] alongside [RM B]. At 1055 hours, the obstetric registrar [Dr E] enquired about progress. At 1114 hours, [Baby A] was born by spontaneous vaginal delivery. [Baby A] was born in very poor condition which was immediately recognised and escalated. Immediate help arrived and neonatal resuscitation was commenced. [Baby A's] APGARS were 1/10 at 1 minute, 2/10 at 5 minutes and 3/10 at 10 minutes of age. Cord gases showed the arterial pH was 6.77, venous pH was 6.79, the lactate was 22 — these results indicate [Baby A] was born very hypoxic. [Baby A] was admitted to the NICU and diagnosed with severe hypoxic ischaemic encephalopathy.

I have been asked to specifically respond to the following questions pertaining to the midwifery care provided by both [RM B] and [RM C]:

- Whether [RM B] undertook appropriate monitoring of the wellbeing of [Ms A] and her baby during [Ms A's] labour.
- Whether [RM B] interpreted the CTG trace accurately.
- The appropriateness of [RM B's] response to [Ms A's] progress in labour.
- Whether [RM B] appropriately escalated [Ms A's] care.

- The overall standard of [RM B's] documentation.
- Any other issues in respect of the care provided by [RM B] that you consider warrant comment.
- Whether [RM C] interpreted the CTG trace accurately.
- The appropriateness of [RM C's] response to [Ms A's] progress in labour.
- Whether [RM C] appropriately escalated [Ms A's] care.
- The overall standard of [RM C's] documentation.
- Any other issues in respect of the care provided by [RM C] that you consider warrant comment.

Care by [RM B]

- Whether [RM B] undertook appropriate monitoring of the wellbeing of [Ms A] and her baby during [Ms A's] labour.

Normal midwifery assessments of maternal wellbeing in labour include maternal observations, abdominal palpation, vaginal examination, attention to the woman's hydration, assessment of the contractions, assessment of pain experienced by the woman and the offer of analgesia/anaesthesia and a review of the effectiveness of any pain relief and an assessment of how well (emotionally and physically) the woman is managing with the labour (NICE 2014). The clinical notes depict that until 0629 hours, [RM B] provided appropriate and timely assessments of maternal wellbeing.

At 0629 hours, with the exception of a brief retrospective note at 0952 hours, [RM B's] documentation ceases, therefore it is difficult to comment on the appropriateness of assessment of maternal wellbeing after this time. Given that there is no documentation, I am inclined to suspect that certain aspects of maternal assessment of wellbeing such as maternal observations were not repeated, because if they had been, then [RM B] would have documented this. For example, NICE (2014) recommends that maternal blood pressure and temperature in low risk women are done 4 hourly and maternal heart rate is recorded every hour, but [RM B] did not record any maternal observations after the initial set done at 0359 hours. But, at 0730 hours, [Ms A] started pushing, and in practice, when women are pushing, quite often maternal observations are repeated less frequently or 'missed' because the midwife is so pre-occupied supporting the woman with the pushing. [RM B's] retrospective note at 0952 hours suggests she had been focused upon supporting [Ms A] with the pushing and encouraging her to try different positions to facilitate [Baby A's] birth.

Overall, I believe that [RM B's] assessments of maternal wellbeing did not always align with expected standards, particularly in terms of timeliness and especially during [Ms A's] 2nd stage of labour and reflects a mild departure from expected practice. But I think it likely that this specific aspect of her care (assessing maternal wellbeing) would align with care provided by her peers in this context (supporting a woman to push in 2nd stage).

Fetal wellbeing in labour is largely assessed by monitoring the fetal heart rate. Enquiring about fetal movements and observing the colour of the liquor once the membranes

have ruptured can also provide some indication of fetal wellbeing. Monitoring of the fetal heart is done either by intermittent auscultation (IA) or continuous CTG monitoring dependent upon the presence of risk factors and in accordance with maternal choice. Intermittent auscultation is generally reserved for women with low risk pregnancies in spontaneous labour and would have been appropriate for [Ms A] based upon both the RANZCOG (2019) Intrapartum Fetal Surveillance guideline and [the DHB's] (2017)[a] Fetal Heart Rate Monitoring in Labour guideline. However, [RM B] chose to use continuous CTG monitoring. The rationale for this mode of fetal monitoring is not made apparent in the clinical notes, but many midwives chose CTG monitoring when IA is appropriate so I am not going to be critical of this.

[Ms A] was first assessed by [RM B] at 0215 hours, however the CTG was not commenced until 0325 hours. I would expect the CTG (or IA) to have been performed earlier as part of [RM B's] assessment of fetal wellbeing. To not assess fetal wellbeing for 80 minutes whilst present with the woman is unusual and reflects a mild to moderate departure from expected practice. The CTG monitoring to assess fetal wellbeing continued for most of [Ms A's] labour, with an exception when [RM B] discontinued it to enable [Ms A] to go into the shower — see later for comment upon this. Whilst [RM B] did monitor [Ms A's] baby during the labour, the CTG is only a tool, the crux of monitoring fetal wellbeing lies in the interpretation and management of the CTG recording, see later comment regarding this.

- Whether [RM B] interpreted the CTG trace accurately.

The following table shows the interpretation of the CTG made by [RM B] and my interpretation

Time	[RM B's] interpretation	My interpretation
0359	CTG normal (baseline 120–129)	CTG normal (cannot define baseline due to printing of the paper)
0444	CTG abnormal (baseline 120–129, early decelerations) — Unlikely to be associated with significant fetal compromise	CTG normal (baseline 130)
0459	CTG abnormal (baseline 120–129, variable decelerations) — Unlikely to be associated with significant fetal compromise	CTG normal (baseline 125–130)
0514	CTG abnormal (baseline 120–129, variable decelerations) — Unlikely	CTG normal (baseline 120–125)

	to be associated with significant fetal compromise	
0534	CTG abnormal (baseline 110–119, variable decelerations) — Unlikely to be associated with significant fetal compromise	CTG normal (baseline 120)
0629	CTG abnormal (baseline 120–129, variable decelerations) — Unlikely to be associated with significant fetal compromise	CTG abnormal (baseline 120, 1 x variable deceleration)

[The DHB's] (2017)[a] guideline recommends that the *'CTG should be reviewed every 15–30 minutes and documented that it has been seen and acted upon accordingly'* (p.5). The RANZCOG (2019) guideline similarly recommends a review of the CTG every 15 minutes. Until 0629 hours [RM B] documented her CTG interpretation using the MCIS CTG page fairly frequently. As the table shows, [RM B] and I have interpreted the CTG differently. From her reviews at 0459 until 0629 hours, [RM B] has recorded the CTG as '*Abnormal: Unlikely to be associated with significant fetal compromise'*, whilst I believe the CTG was actually normal until the documented review at 0629 hours. In [the DHB's] SAE report, the reviewers similarly agreed with [RM B] that between 0445 and 0629 hours that the CTG was abnormal *'but was unlikely to be associated with significant fetal compromise'* (p.6). Overall, during the first three hours of CTG monitoring, [RM B] made an acceptable number of reviews of the CTG and correctly interpreted that the baby was unlikely to be compromised.

After 0629 hours [RM B] did not document any subsequent interpretation of the CTG. It is difficult to know whether she actually reviewed and interpreted the CTG at all and difficult to assess the accuracy of her interpretation when no interpretation is provided. Failure to review and document the CTG for such a prolonged period of time in labour (there is no further documentation pertaining to the CTG until [RM C] does so at 1052 hours) reflects a severe departure from expected practice.

In my opinion, at 0710 hours, the CTG became very abnormal — the baseline was rising, the variability was absent, there were no accelerations and repeated complicated variable decelerations and [Ms A] was now contracting very frequently 5:10 minutes. Based upon the MCIS system used at [the public hospital], this would have identified that the CTG was *'abnormal and may be associated with significant fetal compromise*'. This 'pattern' continued, although by 0740 hours it becomes difficult to interpret the CTG due to the 'loss of contact' — at this point either the abdominal transducer needed re-positioning or it would have been prudent to apply a fetal scalp electrode (FSE).

When [RM B] broke [Ms A's] waters at 0620 hours she had applied an FSE to monitor [Baby A's] heart rate at that time (the reason is not documented), but she explained in her response to HDC dated 23rd February 2021 that she removed it shortly afterwards because it was not well placed, and I agree that this was the correct thing to do at that time because the FSE was causing 'interference' which negatively impacts the ability to interpret the CTG and she resumed CTG monitoring using the abdominal transducer at 0635 hours. But, if it is difficult to record the fetal heart rate continuously with an abdominal transducer, [the DHB's] (2017)[a] guideline states to *'consider a fetal scalp electrode if the recording is inadequate'* (p.4) because when the FSE is well placed and there is not the 'interference' that occurred earlier, the FSE usually enables better monitoring and avoids the 'loss of contact' which was evident on this CTG recording. Whilst there are small snippets of CTG monitoring with better recording, overall this is a poor quality CTG which cannot be properly interpreted. In the absence of being able to interpret the CTG we cannot 'assess the fetal wellbeing'. Whilst CTG interpretation can be challenging for even the most experienced practitioners, it is expected that the midwife can recognise a poor quality CTG due to loss of contact and appreciate the need to rectify this, either by seeking help or applying an FSE and [RM B] was familiar with the use of FSEs. Failure to have attempted to improve the quality of the CTG for such a prolonged period of time in order to ensure accurate monitoring of the fetal heartrate and facilitate interpretation reflects a moderate departure from expected practice.

At 0850 hours, the CTG 'looks different' and it appears to me that the CTG is monitoring the maternal heart rate rather than the fetal heart rate. In the SAE report, the reviewers also commented that there appeared to be periods of maternal heart rate recording. At 0910 hours the monitoring stops because [RM B] recommended that [Ms A] try the shower. [RM B] explained in her response that this was for pain relief and to see if it would help fetal descent and whilst I can appreciate [RM B's] rationale for advising [Ms A] to get into the shower, it is not appropriate to do this when it prevents fetal monitoring, particularly when the CTG is abnormal and this decision to prioritise the shower over fetal monitoring in the context of an abnormal CTG reflects a mild to moderate departure from expected practice. The CTG was re-commenced at 0930 hours and from that point until [Baby A] was born is uninterpretable due to the poor quality. At 1015 hours, the toco which records the contractions was not properly positioned and no uterine activity is recorded from this time which impedes accurate CTG interpretation. At 1035 hours, I would once again suggest that the monitor might be recording the maternal heart rate which appears to continue until [Baby A] is born at 1114 hours.

Given that [RM B's] documentation of the CTG ceased after 0629 hours it is difficult to assess her capacity to accurately interpret the CTG. In her response to HDC when asked whether the CTG indicated any evidence of fetal distress, [RM B's] response was *'The CTG showed periods of variable deceleration which I interpreted as being due to the contractions'.* This is the only comment that [RM B] makes about the CTG in her response to HDC; her failure to elucidate further about the CTG monitoring leads me to speculate that either [RM B] does not comprehend the need to undertake fetal monitoring appropriately and lacks knowledge about CTG interpretation, or has not

appreciated that inadequate fetal monitoring has likely contributed to [Baby A's] outcome.

In a note from the clinical charge midwife on duty that day, [RM D], who documented her discussion with [RM B] after this event, [RM D] wrote *'Following the resus, I looked at CTG which showed evidence of fetal compromise for some time prior to birth. I showed LMC [RM B] CTG and she seemed to think that CTG was alright as [Ms A] was pushing*'. [RM D] subsequently wrote following her conversation with [RM C], *'I informed [RM C] that I would need to speak with LMC [RM B] to further discuss my concerns as she did not appear to think that there was anything to worry about and kept re-iterating that the CTG concerns that I had pointed out were "OK because the woman was pushing"'*.

In the absence of any documented CTG interpretation, my impression from the comments made by [RM B] to [RM D] and in her response to HDC, and her actions during the labour — that she did not escalate any concerns about the CTG to either [RM D], or [RM C] when she arrived, or the obstetric team and that she did not take actions to remedy the poor quality CTG due to the 'loss of contact' and stopped the CTG monitoring to encourage [Ms A] to get into the shower suggests a significant lack of understanding of CTG monitoring, interpretation and management on the part of [RM B] which is concerning.

- The appropriateness of [RM B's] response to [Ms A's] progress in labour.

[Ms A] made very good progress during the 1st stage of labour, and arguably [RM B] did not actually have to do an ARM to augment the labour at 0620 hours because [Ms A] had made acceptable progress (NICE 2014), but it is common midwifery practice to do this so I will not be critical of it. At 0730 hours [Ms A] was fully dilated and started pushing. The NICE (2014) guideline suggests that an appropriate length of 2nd stage of labour for a primigravid woman without an epidural is three hours — one hour of passive descent and two hours of active pushing. [The DHB's] (2017)[b] Second Stage of Labour guideline defines slow progress as *'failure to deliver after two hours of active second stage in nulliparous woman'* (p.1). [Ms A] was actively pushing for 3¾ hours until [Baby A] was born.

At 0952 hours, [RM B] documented that she had advised the clinical charge midwife, [RM D] at 0945 hours that [Ms A's] baby was in the OP position, and in her response to HDC she stated that she had informed the charge midwife because she was concerned about the progress given that at that time [Ms A] had been actively pushing for over two hours. [RM B] recognised that [Ms A's] active 2nd stage of labour had exceeded recommended expectations and although she updated the clinical charge midwife, she did not appear based on both the clinical notes and her response to HDC to be sufficiently concerned to actually seek help or consult with the obstetric team. Indeed, in her retrospective note at 1734 hours [RM D] wrote that she was informed by [RM B] that [Ms A] was pushing well and they were trying positional changes because baby was in the OP position but that she voiced no concerns. [RM D] stated in this clinical note

that she advised [RM B] to consult with the obstetrician if she did not think baby would be born soon given that it was malpositioned and she had been fully dilated for some time and that [RM B] agreed she would consult if she felt it was needed. [RM B] did not consult with the obstetric team regarding the length of 2nd stage.

The 'Referral Guidelines' (MOH 2012) recommends consultation with the obstetric service after two hours of active pushing with no progress and [the DHB] (2017)[b] guideline recommends consultation with the obstetric team if the baby is not delivered after two hours of pushing, or after one hour of pushing with no progress, or if the CTG is abnormal. I find that [RM B] was cognisant of [Ms A's] prolonged active 2nd stage of labour and understood that this was likely compounded by the fact that [Baby A] was in the OP position, but she did not consult with the obstetric team, despite having this suggested to her by the clinical charge midwife and this reflects a mild to moderate departure from clinical practice.

- Whether [RM B] appropriately escalated [Ms A's] care.

[RM B] did advise the clinical charge midwife after [Ms A] had been pushing for over two hours that [Baby A] was malpositioned, but she did not request help or seek to consult with the obstetric team despite the clinical charge midwife's suggestion to do so. She did contact her midwifery colleague [RM C] and request support though in her response to HDC dated 15th September 2021, [RM C] states that she was called in to take over the *postnatal* care, not explicitly to support [RM B] with the 2nd stage of labour. The Midwifery Council's (2007) competencies for practice states that the midwife *'identifies factors in the woman/wahine or her baby/tamaiti during labour and birth which indicate the necessity for consultation with, or referral to, another midwife or a specialist medical practitioner'* (2.6). [RM B's] failure to escalate [Ms A's] prolonged 2nd stage of labour to the obstetric team in line with both [the DHB's] (2017)[b] guideline and the MOH (2012) 'Referral Guidelines' reflects a mild to moderate departure from expected practice.

[RM B] also failed to escalate the abnormal CTG to anyone. If [RM B] had recognised that the CTG indicated fetal compromise but failed to escalate this to the clinical charge midwife, the obstetric registrar or seek an opinion from another midwife, then this would reflect a moderate departure from expected practice. But I find that [RM B's] comments noted earlier suggests that she did not actually recognise that the CTG inferred fetal compromise and needed attention and consequently it is difficult to criticise [RM B] for failing to escalate the abnormal CTG when its interpretation and significance was not understood. Furthermore, in her response, [RM B] stated that after the obstetric registrar [Dr E] came into the room at approximately 1055 hours, that *'my interpretation [of the CTG] was confirmed by Dr E's comment the recording was fine'* and seemingly [RM B] was reassured by this and felt no further action was required.

- The overall standard of [RM B's] documentation.

The standard of [RM B's] documentation overall is poor because it effectively stops at 0629 hours. Prior to this time, [RM B] made regular notes in the MCIS system pertaining

to the contractions, the CTG, findings from abdominal and vaginal examinations, pain relief, how [Ms A] was managing, her plan regarding management of the labour and the one set of maternal observations. Documentation until 0629 hours was appropriate and provided a 'picture' of [Ms A's] labour.

Unfortunately there was 3½ hours when nothing was documented, until 0952 hours when [RM B] made a retrospective note, but this only referred to certain aspects of the labour care, and then nothing was documented again until 1023 hours when [RM C] arrived. There is no documentation pertaining specifically to the CTG from 0629 hours until 1052 hours. The Midwifery Council (2007) competencies for practice state that the midwife *'provides accurate and timely written progress notes and relevant documented evidence of all decisions made and midwifery care offered and provided'* (2.16). [RM B] did not do this. Whilst I appreciate that at 0730 hours [Ms A] started pushing and as discussed earlier this is a busy time for midwives and often the documentation during this time is less than ideal, but the absence of any documentation for almost 3½ hours in this context (there was no emergency, [RM B] was in the room and able to make notes) is unacceptable and reflects a moderate to severe departure from expected practice.

- Any other issues in respect of the care provided by [RM B] that you consider warrant comment.

My impression is that during [Ms A's] 2nd stage of labour that [RM B] got subsumed by trying to facilitate a normal vaginal birth for [Ms A]. This requires a tremendous amount of work by the midwife and there is a trap that midwives commonly fall into whereby their attention is so focused upon encouraging the woman to push that they lose perspective and supporting the pushing is prioritised over other aspects of labour care such as documentation, CTG interpretation and maternal observations.

<u>Care by [RM C]</u>

- Whether [RM C] interpreted the CTG trace accurately.

[RM C] arrived at 1020 hours. In the clinical notes at 1023 hours she wrote 'Fhr:153 bpm' but did not make a full interpretation of the CTG using the MCIS CTG page at that time. In her response to HDC [RM C] stated that she first 'properly' looked at the CTG at 1050 hours and based upon her response, my impression is that she did not review the earlier recording of the CTG prior to her arrival but focused only upon the current recording. At 1050 hours she stated that the CTG was not recording correctly and she adjusted the toco (the toco records the contractions on the CTG). This is slightly confusing because at that time, and afterwards, the toco isn't recording anything and looks not to be in place, possibly she meant that she adjusted the transducer (which records the fetal heart). In the conversation between [RM C] and clinical charge midwife [RM D] after the event, [RM D] wrote that [RM C] *'stated that she had not really looked at CTG when she arrived at 1023 hours as [Ms A] was actively pushing'.*

At 1052 hours [RM C] completed the CTG documentation on MCIS and recorded that the CTG was normal with a baseline of 140–149, normal variability, accelerations and

no decelerations. Then at 1101 hours, [RM C] made another clinical note that *'Fhr:140bpm. Nil decels with contraction'.* Clearly [RM C's] interpretation of the CTG was that it was normal.

It is actually very difficult to interpret the CTG at this time because the toco is not recording and so we cannot define the baseline of the CTG (we look for the baseline in-between the contractions, but in this case there were no contractions recorded so we can't work out the baseline and defining the baseline underpins the rest of the CTG interpretation). Consequently, it could be a CTG with a baseline of 140 with accelerations as described by [RM C] or it could be a CTG with a baseline of 165 with repeated decelerations. *My impression* of the CTG at this time is that it *looks* like it is a maternal heart rate recording, albeit at that time, [RM C] did record the maternal heart rate as 82 which would not be in keeping with the CTG recording of the maternal heart rate. Overall, I would argue that the CTG was uninterpretable and [RM C] was mistaken in her interpretation that it was normal. If the transducer was recording the maternal heart rate as I suspect, it is not uncommon that this can be mis-interpreted as a normal fetal heart rate recording with accelerations, and I think this reflects a knowledge deficit rather than a deviation from expected practice.

- The appropriateness of [RM C's] response to [Ms A's] progress in labour.

In her response to HDC, [RM C] clearly stated that [Ms A's] 2nd stage of labour was prolonged, and that [RM B] advised her of this when she called to request that she come to the hospital. But, *'at the time I arrived, [Ms A] was actively pushing with the head on view so I took no immediate action'.* Unfortunately, it is not known for how long the baby's head had been visible and whether this represented progress or not and how much was caput as opposed to the baby's skull. Caput is the swelling that can occur on the baby's head during labour which can be quite large and sometimes the caput is visible but the baby's head may still be quite high in the vagina, which implies birth could still be some time off. [RM C] did not state in her response whether [RM B] communicated that progress was being made once they could see the baby's head.

It is reasonable that when [RM C] arrived that she should spend a little time to ascertain the effectiveness of [Ms A's] pushing and the progress she was making, but by 1030 hours, [Ms A] had been actively pushing for 3 hours. I would have expected 15–20 minutes after her arrival and time to assess the situation that [RM C] would recommend consultation with the obstetric team for prolonged 2nd stage as per the 'Referral Guidelines' (MOH 2012) and [the DHB] (2017)[b] guideline. In reality it can be challenging for another midwife not primarily responsible for the care to make these suggestions, it can be seen as undermining the care provided by [RM B], but arguably [RM C] is still accountable for care whilst she is present and [RM B] had requested that [RM C] attend and had voiced her own concerns about the length of [Ms A's] 2nd stage and as midwifery partners presumably they had a good working relationship. Failure of [RM C] to suggest/consult with the obstetric service for prolonged 2nd stage having observed for a short period [Ms A's] progress reflects a mild to moderate departure from expected practice.

- Whether [RM C] appropriately escalated [Ms A's] care.

As noted above, when [RM C] reviewed the CTG at 1050 hours, she believed it was normal, therefore this would not require her to escalate care on the basis of fetal concerns. I do believe she should have escalated care to the obstetric team because of [Ms A's] prolonged 2nd stage which she did recognise. [RM C] stated in her response that at approximately 1055 hours [Dr E] came into the room of her own volition and [RM C] recalls that [Dr E] said *'looks like station plus 2. The CTG looks fine. We are around if you need us'*. Consequently, [RM C] felt that she did not need to escalate care after this time because she was reassured by [Dr E's] comments regarding both the CTG and [Ms A's] progress, and in all fairness, [Baby A] was born twenty minutes later so presumably was making good progress from this time. However, I believe the escalation to the obstetric service should have occurred earlier than [Dr E's] review since [RM C] had been present since 1020 hours and had had sufficient time to appraise the situation.

- The overall standard of [RM C's] documentation.

[RM C] was present for just under an hour before [Baby A] was born. She made several notations in the clinical notes pertaining to the effectiveness of [Ms A's] pushing and her progress and the CTG. This was appropriate documentation given that she interpreted the CTG as normal and seemingly that she did not feel a need to escalate [Ms A's] care.

- Any other issues in respect of the care provided by [RM C] that you consider warrant comment.

No.

<u>Summary</u>

This was a tragic outcome for [Baby A], his parents and family particularly since at the onset of fetal monitoring the CTG was normal which suggests [Baby A] was well oxygenated at that time (Nageotte 2015). The monitoring continued for the vast majority of the labour and changes in the CTG from its commencement are clearly evident. I believe that if there had been intervention and a different course of management for [Ms A's] labour then there may have been a different outcome for [Baby A].

Until 0629 hours, the clinical records show that [RM B] provided appropriate labour care to [Ms A] which included regular CTG review and accurate assessment that [Baby A] was unlikely to be compromised. After 0629 hours, [RM B's] lack of documentation for almost 3½ hours reflects a moderate to severe departure from expected practice and the lack of specific CTG review, interpretation and documentation in labour for 4½ hours (until [RM C] arrived) reflects a severe departure from expected practice.

Given the absence of documentation it is difficult to assess the appropriateness of [RM B's] labour care after 0629 hours, and whilst I do not doubt that [RM B] was supporting [Ms A] with the pushing, midwifery care during the 2nd stage of labour extends beyond

supporting women to push. 'Gold standard' labour care during the 2nd stage of labour can be difficult to achieve, and I acknowledge midwives get very pre-occupied with pushing and often in practice there are lapses in the frequency of assessment of maternal and fetal wellbeing and its associated documentation during this time. But, crucial aspects of labour care during the 2nd stage of labour are review of fetal wellbeing, in this case, review of the CTG and ongoing consideration of progress and an expectation of consultation with obstetric services if there are concerns with either. I believe that [RM B] did recognize that [Ms A's] 2nd stage of labour was prolonged and she failed to appropriately escalate this to the obstetric team and this reflects a mild to moderate departure from expected practice.

Based upon her response to HDC and the comments made to [RM D], I do not believe that [RM B] recognized, or appreciated the significance of the poor quality of the CTG or that the CTG signified that [Baby A] was likely to have been at risk of fetal compromise. I am less critical of this aspect of her care because I believe this reflects a lack of knowledge of CTG interpretation. That said, I do believe that [RM B] recognized that the CTG was abnormal — she stated in her response to HDC that she identified that there were decelerations on the CTG. An abnormal CTG may or may not signify fetal compromise, consequently the RANZCOG (2019) and the DHB (2017)[a] guidelines both advise CTG review/escalation in the context of an abnormal CTG. [RM B's] failure to seek a CTG review when she was aware that it was abnormal reflects a mild to moderate departure from expected practice. I have opted for 'mild to moderate' because I truly believe she did not think that this abnormal CTG was that concerning, so likely she did not appreciate a great need for review, had she recognized that it was very concerning and then failed to seek review/escalate I would find that a greater departure from expected practice.

[RM C] arrived an hour before [Baby A] was born. I believe that having undertaken a period of assessment of the situation after she arrived and given that after three hours of active pushing that [Baby A] had still not delivered it would be expected that [RM C] recommend consultation with the obstetric service, but she did not do this and this reflects a mild to moderate departure from expected practice. [RM C] interpreted the CTG as normal, this was incorrect and reflects a lack of knowledge of CTG interpretation. Based upon her incorrect interpretation, I would not expect that she would escalate care due to concerns for fetal wellbeing.

There is an unresolved issue as to whether [Dr E] went into [Ms A's] room and viewed the CTG and [Ms A] pushing. In their responses to HDC both [RM B] and [RM C] are quite clear that [Dr E] did go into the room and made a comment pertaining to [Ms A's] progress and the CTG that I would have thought would be difficult to make from the doorway which is where she said she stood in her retrospective note. I cannot comment upon whether [Dr E] did or did not see the CTG, but of greater relevance is that she was not consulted to review [Ms A] by either [RM B] or [RM C] and she should have been.

In [the DHB] SAE report, the reviewers believed there were no 'systems issues' which contributed to [Baby A's] outcome. I would disagree. In the SAE report there is a

description of the CTG page used in the MCIS which has a space for a 'fresh eyes' review of the CTG. The 'fresh eyes' concept in CTG monitoring refers to when another practitioner comes and reviews the CTG, the aim being that the two practitioners can discuss the CTG, and if the 2nd practitioner's interpretation differs from the primary caregiver this may lead to further review/escalation. Even when [RM B] made frequent CTG reviews using the MCIS page, there was no 'fresh eyes' of the CTG done. However, I note that [the DHB's] (2017)[a] guideline does not recommend a practice of 'fresh eyes', albeit the RANZCOG (2019) guideline does. Perhaps if 'fresh eyes' was recommended by the DHB and it became an accepted practice by all practitioners accessing [the public hospital] then this may have resulted in regular CTG review by another practitioner and a different management course.

During my time at HDC I have reviewed several cases whereby a sole midwife provides labour care to a woman for many hours without any other midwifery input or support. I think this lone practice is entrenched in New Zealand and can be detrimental to care to women and babies. [Ms A] was receiving primary intrapartum care, responsibility for which lay with her LMC midwife [RM B]. The culture or expectation is that no other practitioner will be involved in [Ms A's] labour care unless her midwife, [RM B] specifically seeks it out. The risk to women and babies is that this relies on that sole midwife recognizing that there is a 'problem'. This case demonstrates that [RM B] did not recognize that the CTG signified likely fetal compromise for a prolonged period of time prior to the birth and whilst I believe she did recognize the prolonged 2nd stage, I believe that had there been additional senior midwifery input/review of [Ms A] this would have allowed for midwifery discussion about the management. Whilst the 'fresh eyes' of the CTG described earlier may help avoid missed opportunities to intervene in cases of abnormal CTGs, I think a 'fresh eyes' review of the whole labour by a senior midwifery colleague is warranted. [RM B] did advise the clinical charge midwife at 0945 hours, after two hours of pushing that [Baby A] was still not delivered and malpositioned, but [RM B] did not invite review by [RM D], and nor did this information incite [RM D] to 'get involved' and review [Ms A] herself. Seemingly this was the first formal interaction between [RM B] and [RM D] at 0945 hours, despite [Ms A] being in the unit since 0215 hours. This is not meant as a critique of [RM D], who wrote that the unit was very busy that morning, but a critique of a system which does not encourage, advocate or support greater collaboration between midwives, particularly between LMC midwives and senior co-ordinating midwives, especially when the woman is under primary care. If there was a culture, a practice whereby *all* women were *regularly* seen in labour by the senior co-ordinating midwife and a discussion of progress and assessments of maternal and fetal wellbeing were reviewed then I feel this might lead to more optimum care to women and babies and provide an opportunity for midwives to share learning.

<u>Recommendations</u>

[RM B] referred to some education she had already undertaken and a period of supervision organized by the Midwifery Council. Fetal surveillance education needs to

be on-going (for all practitioners), so I would recommend that [RM B] **regularly** undertake fetal surveillance education courses/reviews.

I recommend that [RM B] attend the NZCOM 'dotting the i's and crossing the t's' documentation course, she did allude to this course in her response.

I recommend that [RM B] seek regular 'fresh eyes' of her CTGs in labour and be encouraged to seek support/discuss the management of women in her care with senior midwifery colleagues.

I similarly recommend that [RM C] also undertake regular fetal surveillance education.

I recommend that when their fetal surveillance guideline is reviewed, that the DHB include reference to regular 'fresh eyes' CTG review.

I recommend that [the DHB] consider incorporating a practice of frequent review of all women in labour (under core and LMC care) by the clinical charge midwife.

Addendum 10th December 2021
Following the initial writing of this report which has been presented to midwives [RM B] and [RM C] and the DHB and based on their responses to my advice, I have the following amendments to make:

- Whether [RM B] undertook appropriate monitoring of the wellbeing of [Ms A] and her baby during [Ms A's] labour.

My initial report noted that until 0629 hours that [RM B] did make appropriate and timely assessments of maternal and fetal wellbeing, but that after 0629 it was not possible to assess the care provided to [Ms A] in labour because of the absence of documentation. In her response to HDC dated 4th November 2021 (the third response), [RM B] states that she did do repeat maternal observations but because they were unchanged from the initial set (the only set documented), [RM B] did not believe it was necessary to document them. I find this surprising, it's not a belief I have observed amongst other midwives, however, [RM B] wrote *'I am now aware I should have recorded my observations regardless and have changed my practice accordingly'*.

Similarly, I had commented that it would be usual practice to assess fetal wellbeing by listening to the fetal heart/commencing the CTG much earlier than was evident from the clinical notes — the CTG wasn't commenced for 70 minutes after [RM B] first assessed [Ms A]. In her third response to HDC, [RM B] described that she had listened to the fetal heart periodically before starting the CTG, but again did not document this because there were no concerns. Again, I would expect midwives to document these fetal heart rate recordings, even when they are normal. The feedback from [RM B] suggests that she was undertaking these fundamental assessments of maternal and fetal wellbeing, but *persistently* failing to document them reflects a moderate departure from expected practice.

From 0629 hours, [RM B] was likely very focused on supporting [Ms A] in the second stage of labour and this is time consuming for the midwife and can take priority over documentation but ultimately it is still expected that the midwife will aim to make timely records pertaining not just to maternal observations but to all aspects of maternal and fetal assessments and care being provided. Significantly, [RM B] did not input into MCIS any further documentation of CTG interpretation after 0629 hours and I believe this reflects a moderate to severe departure from expected practice ([the DHB] 2017[A] , RANZCOG 2019).

❖ Whether [RM B] interpreted the CTG trace accurately.

My perspective on this aspect of [RM B's] care remains unchanged. In her second response to HDC dated 23rd August 2021 and in her third response, [RM B] clearly acknowledges that her understanding of CTG interpretation and management was very inadequate. In her second response, [RM B] specifically wrote that she incorrectly interpreted that the variable decelerations on the CTG were a benign consequence of labour and that no action/escalation was required. [RM B] wrote about the poor quality of the CTG *'After the CTG was reconnected, the readings were intermittent which I subsequently realised was due to a poor connection'* — thus implying she had not recognised there was a problem with the CTG recording due to the loss of contact at the time, hence why she did not attempt to rectify this. In her third response, [RM B] explained that she stopped the CTG to enable [Ms A] to go into the shower (which was inappropriate because the CTG was abnormal and because there was no fetal monitoring during the time [Ms A] was in the shower) because *'of my failure to correctly read the CTG recording'*. These examples portray [RM B's] inabilities regarding CTG interpretation and management, and often CTG interpretation is challenging, but if a midwife is using a CTG for fetal monitoring, the expectation is that there is a degree of knowledge and understanding, otherwise the midwife should be regularly requesting a second opinion, and [RM B] did not do this, perhaps she hadn't realised how little she knew.

❖ The appropriateness of [RM B's] response to [Ms A's] progress in labour.

I stand corrected in that I wrote that [Ms A] was actively pushing for 3¾ hours, although there was very little information in the clinical notes to contradict this. In her second response to HDC, [RM B] explained that [Ms A] started active pushing at 0730 hours, but stopped at 0830 hours when [RM B] realised that [Baby A] was in the OP position and [RM B] wanted to allow for passive descent and to encourage [Ms A] to adopt different positions to facilitate fetal rotation. [RM B] explained that [Ms A] started active pushing again at about 1000 hours. This would equate to approximately 2¼ hours of active pushing which is acceptable (NICE 2014), but arguably the whole duration of the second stage was quite protracted (almost 4 hours).

The quandary is that the 'Referral Guidelines' (MOH 2012) do not specify a requirement for consultation based on length of second stage, but on the duration of active pushing, and similarly, the NICE (2014) guideline also provides parameters for acceptable duration of active pushing, but not the absolute length of second stage. However, [the

DHB's] (2017)[B] guideline does recommend consultation with the obstetric team after one hour of pushing with no progress, therefore it might be expected that [RM B] would have consulted with the obstetric team at approximately 0830 hours, when [Ms A] had been pushing for one hour seemingly with no progress, (presumably, [RM B] would have been unlikely to suggest [Ms A] stop pushing regardless of the baby's position if there had been progress).

In addition to this, in her first response to HDC dated 23rd February 2021, [RM B] referred to informing the clinical charge midwife [RM D] at 0945 hours of what was occurring because *'… [Ms A] had been pushing for two hours, I was concerned regarding the lack of progress and notified the charge midwife accordingly'.* This comment, and [RM B's] actions to recommend that [Ms A] stop pushing strongly implies that [RM B] was cognisant of a problem with [Ms A's] second stage of labour that would warrant a consultation with the obstetric team in line with [the DHB's] (2017)[B] guideline. I find her failure to consult reflects a mild to moderate departure from expected practice.

❖ Whether [RM B] appropriately escalated [Ms A's] care.

It is my opinion that [RM B] did not recognise that the CTG indicated that [Baby A] was compromised which I believe reflects a significant deficit in knowledge which [RM B] appears to have readily accepted and has been committed to rectifying, but at the time this meant that she did not appreciate the need to escalate the CTG concerns to either the clinical charge midwife, the obstetric team or her colleague [RM C] when she arrived. Sadly, [Baby A's] hypoxic condition at birth was very likely a consequence of [RM B's] deficient assessment of fetal wellbeing and it is difficult to be critical of this failure to escalate when [RM B] did not understand what the CTG was signifying. But, ultimately if a midwife does not feel overly confident in their ability to interpret a CTG, but they recognise that it is abnormal — which [RM B] did — she referred to the decelerations on the CTG in her 2nd response to HDC, then I would expect the midwife to actively request a second opinion from another midwifery or obstetric practitioner, and [RM B] did not do this. In addition, [the DHB's] (2017)[A] guideline does state that all abnormal CTGs should be escalated. Consequently, for both these reasons, I find her failure to escalate on the basis of an abnormal CTG reflects a moderate departure from clinical practice.

It is my opinion that [RM B] did recognise a problem with progress during the second stage of labour. Indeed, [RM B] took actions to try to remedy the situation such as changing maternal position to encourage fetal rotation into a more advantageous position, and she did advise the clinical charge midwife [RM D], albeit she wrote in her third response that [RM D] failed to offer any help. [RM B] also wrote that [RM D] did not suggest that she consult with the obstetric team, despite [RM D's] assertion to the contrary.

Regardless of whether [RM D] did make this suggestion or not, I would expect [RM B] to be able to come to this conclusion herself — that if she was concerned about the duration and lack of progress of [Ms A's] second stage and the baby's position, then she consults with the obstetric team.

[RM B] did request that her more experienced colleague [RM C] attend to support her, and whilst she did make some efforts to seek support, at no point has she reflected that escalation to the obstetric team was warranted. Overall, I believe that [Ms A's] progress during the second stage of labour was slower than is traditionally accepted and followed an unusual pattern (commencing active pushing, then stopping pushing for over an hour, then re-starting again) and I believe that [RM B's] midwifery peers would also agree and would be likely to consult. In her responses to HDC [RM B] doesn't appear to recognise this concern with the second stage of labour as a whole, given that [Ms A's] *active* second stage was of an acceptable duration. But had she escalated concerns about progress and consulted with the obstetric team, this likely would have resulted in an obstetric review which would have included both an assessment of [Ms A's] progress *and a review of the CTG*. I find her failure to have escalated to the obstetric team reflects a mild to moderate departure from expected practice.

- The overall standard of [RM B's] documentation.

[RM B's] overall documentation is very poor given the absence of any documentation (except for the retrospective note at 1000 hours) after 0629 hours despite being physically able to document (she was in the room, and [Ms A] was not pushing during all of this time which should have freed up [RM B's] time to be able to complete documentation) and the concerns that she had with [Ms A's] progress and this reflects a severe departure from expected practice. In her second and third responses, [RM B] does accept this criticism of this aspect of her practice and is attempting to change her practice accordingly.

- Any other issues in respect of the care provided by [RM B] that you consider warrant comment.

I do feel that [RM B] was trying really hard to support [Ms A] to have a vaginal birth by utilising skills and making decisions to facilitate it, and she did raise her concern with progress to the clinical charge midwife, but perhaps did not communicate a request for help very effectively, and then she did request her more experienced midwifery partner to come and support her. Unfortunately she failed to recognise the problems with the CTG monitoring and the fetal compromise and I am inclined to think that she tried to solve the problems with progress herself, rather than seeking an obstetric consultation. Overall, this case reflects that supporting women to birth physiologically — which underpins midwifery practice (Midwifery Council 2007), whilst simultaneously remaining assured about maternal and fetal wellbeing, and maintaining timely documentation is sometimes too onerous for one midwife, especially less experienced midwives, yet this is the prevailing system.

- Whether [RM C] interpreted the CTG trace accurately.

My opinion remains unchanged that [RM C's] interpretation of the CTG was inaccurate. I recommend that [RM C] also regularly attend fetal monitoring education (as should all practitioners providing intrapartum care), and she notes in her second response to HDC dated 19th November 2021 that she has been trying to attend a course. My

understanding is that [the public hospital] provides regular in-house CTG training for all their staff, so this may be a viable option for [RM C].

❖ The appropriateness of [RM C's] response to [Ms A's] progress in labour.

In her first response to HDC, [RM C] did state that [Ms A's] length of second stage was prolonged, however, in the more recent response, she too has clarified the length of time that [Ms A] was *actively* pushing and seemingly did not perceive that there was a problem because [Ms A] had not been pushing all the time.

Neither [RM B] nor [RM C] have elaborated in their responses about the rate of progress that [Ms A] was making when she commenced pushing for the second time. Ultimately [Baby A] was not born for almost an hour after [RM C] arrived, but if [Ms A] was making good progress during this hour, perhaps [RM C] felt this negated the whole length of the second stage of labour and I can appreciate this perspective.

❖ Whether [RM C] appropriately escalated [Ms A's] care.

[RM C's] interpretation of the CTG was that it was normal, therefore this would not require her to escalate [Ms A's] care for this reason. Whilst [RM C] claimed that [Ms A's] second stage of labour was prolonged, the fact that she had not been actively pushing during all that time seems to have negated any concerns she may have had, and therefore she did not perceive a need to escalate [Ms A's] care for this reason, though in her second response she did write '*If the pushing had in fact been continuous, I have no doubt I would have discussed this with the LMC with a view to her recommending the obstetric team be called*'. [RM C] noted again in her second response (as did [RM B]) that she was reassured by [Dr E's] lack of concern regarding both the progress and the CTG when she came into the room at 1055 hours.

It remains my opinion, that when [RM C] arrived and ascertained that birth was not imminent, that she recommend to [RM B] to seek a consultation with the obstetric team in view of the duration of second stage, the lack of progress during her first hour of pushing and the position of [Baby A]. However, given the clarification that [Ms A] had not been actively pushing for three hours at the time when [RM C] arrived, I am less critical of [RM C's] disinclination to escalate care than I was in my initial report, but I do feel it reflects a mild departure from expected practice.

❖ The overall standard of [RM C's] documentation.

Given [RM C's] impression that there was no need to escalate care, I find that [RM C's] documentation was appropriate.

❖ Any other issues in respect of the care provided by [RM C] that you consider warrant comment.

No.

Additional comments

I note in their response to HDC dated 29th November 2021, that [the DHB] is considering including a recommendation of formal 'fresh eyes' review of the CTG when they update their fetal monitoring guideline. In their letter they claim that it is already a common practice amongst staff to seek a second opinion about their CTGs, but I wonder if this only occurs when the practitioners recognise that there is a problem — the crux of the issue in this case is that neither [RM B], nor [RM C] recognised that the CTG suggested significant fetal compromise, therefore neither of these practitioners felt a need to seek a CTG review.

I acknowledge the response from [the DHB] that it is the LMC's responsibility to consult with other midwifery/medical personnel either in accordance with the 'Referral Guidelines' (MOH 2012) or when they feel they need advice or support and that [RM B] (and [RM C]) did not make such a request. However, [RM B] did update clinical charge midwife [RM D] of events at 0945 hours and although there is some disagreement between [RM B's] and [RM D's] accounts of what was said, and whilst [RM B] did not explicitly ask [RM D] for support, nor did [RM D] offer to review [Ms A] with the aim of providing advice. My initial comment was that in my opinion it would be advantageous for the wellbeing of women and babies and the ongoing learning of midwifery staff, especially inexperienced midwives, if senior midwifery support could be offered to LMC and core midwives *without it having to be requested.* This is a comment aimed not just at [the public hospital], as I mentioned previously, this is a practice and a culture change that would be beneficial throughout New Zealand maternity units to avoid the pitfalls that can occur when just one practitioner is providing care independently.

Addendum 2 added 30TH January 2022

This report (which includes the addendum added on 10th December 2021) has been presented to midwives [RM B] and [RM C], and a response from [RM C's] lawyers was written on 21st January 2022 to HDC. In this response, [RM C's lawyer]) is concerned that the role and responsibilities of the LMC were wrongly attributed to [RM C], and as such, that it was not [RM C's] responsibility to escalate care to the obstetric team.

It has always been my understanding that [RM B] did **not** hand over care and the 'LMC role' to [RM C], that [RM B] remained as the LMC and [RM C] provided support to [RM B]. I concede that from the way in which this report has been written, it appears that I believed that [RM C] should have referred/ escalated [Ms A's] care to the obstetric team (due to the prolonged 2nd stage of labour) independently of [RM B] (the LMC), but my implication (though not clearly articulated) was that such a referral would be made in conjunction with the LMC (and [Ms A]) in a 'teamwork' capacity.

[The lawyer's] argument is that the 'Referral Guidelines' (MOH 2012) specifically state that it is the role and responsibility of the LMC alone to make recommendations to the woman pertaining to a referral to the medical team, however this document, or its interpretation does not account for the context in which midwives actually work. In a situation whereby the LMC is working together, or receiving support from another midwifery colleague, (as was the case for [RM C]), in practice, the colleague may discuss

and recommend to the LMC (and the woman) the need for referrals and escalation, and the colleague may even make the referral on the behalf of the LMC. In the addendum added 10th December, I clearly wrote '*It remains my opinion, that when [RM C] arrived and ascertained that birth was not imminent, that she recommend to [RM B] to seek a consultation with the obstetric team in view of the duration of second stage, the lack of progress during her first hour of pushing and the position of [Baby A].*' Here I did clearly state that [RM C] *recommend to [RM B]* (not the woman) to escalate care to the obstetric team.

Ultimately, whilst [RM C] was not primarily responsible for [Ms A's] care, she was actively involved in the care being provided to [Ms A] and regardless of the legality of who was the LMC, as a midwife, the Midwifery Council's competency 2.6 (Midwifery Council 2007) states that the midwife *'identifies factors in the woman/wahine or her baby/tamaiti during labour and birth which indicate the necessity for consultation with, or referral to, another midwife or a specialist medical practitioner*' (p.3). The presumption being that the midwife then acts upon the factors she has identified. It is based upon this expectation of midwifery care, that I believe that [RM C], whose help and support was sought by [RM B], who did recognise that [Ms A's] 2nd stage of labour was prolonged, and having been granted a period of time to assess the progress, and given that [Baby A's] birth was not imminent, should have initiated a discussion with [RM B] (and the woman), recommending a consultation with the obstetric team. In the addendum dated 10th December, I suggested that her failure to have done this reflected a mild departure from expected practice, rather than the mild to moderate departure I suggested earlier in recognition that [RM C] was less concerned with the progress since [Ms A] had not been pushing continuously for the whole duration of her 2nd stage.

References

[DHB] (2017)[a]. Guideline: Fetal Heart Rate Monitoring in Labour and Management of an Abnormal CTG and Tocolysis in the Event of Uterine Hyperstimulation.

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Appendix B: Key DHB Policies and Guidelines

Guideline: Fetal Heart Rate Monitoring in Labour and management of an abnormal CTG and Tocolysis in the event of uterine hyperstimulation (2017)

The Guideline requires the CTG to be "reviewed every 15–30mins and documented that it has been seen and acted upon if necessary."

It defines a "Normal CTG" as:

> "1. FHR between 110 and 160 bpm
>
> 2. Baseline variability at least 5 bpm
>
> 3. Accelerations with fetal movement (often absent in normal labour)
>
> 4. No decelerations"

All other CTGs are considered "abnormal". It further states:

> "The following features are unlikely to be associated with fetal compromise when occurring in isolation:
>
> - Baseline rate 100–109
> - Absence of accelerations
> - Early decelerations
> - Variable decelerations without complicating features.
>
> The following features may be associated with significant fetal compromise and require further action
>
> - Fetal tachycardia
> - Reduced baseline variability
> - Rising baseline fetal heart rate
> - Complicated variable decelerations
> - Late decelerations
> - Prolonged decelerations.
>
> The following features are very likely to be associated with significant fetal compromise and require immediate management, which may include urgent delivery:
>
> - Prolonged bradycardia (≤100 bpm for ≥5 minutes)
> - Absent baseline variability
> - Sinusoidal pattern
> - Complicated variable decelerations with reduced baseline variability
> - Late decelerations with reduced variability."

In situations where the CTG is "abnormal", the guidelines states that immediate management should include:

> "Identification of any reversible cause of the abnormality and initiation of appropriate action …
>
> Consideration of further fetal evaluation …
>
> Escalation of care if necessary to a more experienced practitioner."

Guideline: Slow Progress in the Second Stage of Labour

The Guideline defines the second stage of labour as "the time from full cervical dilatation to birth of the baby" and active second stage as "the time from onset of active maternal expulsive efforts to birth of the baby".

The Guideline states: "The definition of slow progress in the 2nd stage of labour is arbitrary. A useful working definition is: Failure to deliver after two hour active stage in a nulliparous woman …"

For nulliparous women, the Guideline states:

> "Consult with the obstetric registrar or specialist if:
>
> — there is an abnormal cardiotocograph (CTG).
>
> — the baby is not delivered after two hours of pushing (or lack of progress suspected after one hour).
>
> — the mother is exhausted and spontaneous birth is not imminent.
>
> Birth should occur within 4 hours of diagnosis of full dilatation (NICE guideline). Therefore if >1 hour passive descent has been allowed, consultation with obstetrician should occur earlier than the guidance above to facilitate birth within 4 hours."

Appendix C: Referral Guidelines

Ministry of Health, *Guidelines for Consultation with Obstetric and Related Medical Services (Referral Guidelines)*. Wellington: Ministry of Health (2012)

The *Referral Guidelines* provide LMCs with a list of conditions and criteria about referring pregnant women for consultations with other clinicians, transferring clinical responsibility for care to specialists, as well as transferring care in emergencies.

The "Conditions and referral categories" section of the guidelines lists "5011: Fetal heart rate abnormalities" and "5023: Prolonged active second stage of labour" in the "Consultation" referral category, whereby the LMC "must recommend to the woman (or parent(s) in the case of a baby) that a consultation with a specialist is warranted".

Prolonged active second stage of labour is defined as "> 2 hours of active pushing with no progress for nullipara".