Lead Maternity Carer, Ms B

Hospital Midwife, Ms C

Clinical Midwife Manager, Ms D

Northland District Health Board

A Report by the

Health and Disability Commissioner

(Case 10HDC00996)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Table of Contents

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Executive summary

1. This report is about the adequacy of the care provided to Ms A during the labour and delivery of her first child in late 2009.

2. One week prior to Ms A's due date of delivery she was referred to the hospital obstetrician for consideration of an induction of labour. This was subsequently agreed to and booked.

3. On the evening of the agreed date for induction of labour, Ms A was admitted to hospital and provided with routine care and monitoring in accordance with the DHB prostaglandin induction of labour guidelines.

4. On the following day at 10.45am, an increase in the fetal heart rate was noted and a cardiotocogram (CTG) [1] commenced. At approximately 11.15am the on-call consultant obstetrician, Dr E, reviewed the CTG trace and considered that it showed normal fetal activity.

5. The monitoring continued into the afternoon, and Ms A's contractions were noted to be getting stronger, but were irregular. CTG monitoring continued to be "overall reassuring". At 7.50pm, Ms A's waters ruptured and her LMC midwife, Ms B, was called to attend.

6. Ms B arrived and examined Ms A at 11.50pm, noting that Ms A was 1–2cm dilated and that her cervix was 1cm thick. Management options were discussed and Ms A was given sedation to help her rest overnight.

7. At 4.30am, Ms B examined Ms A, noting that she was 2–3cm dilated. At 5am the contractions were noted to have decreased in strength and duration, and a decision was made for an epidural to be commenced.

8. Because Ms B was not certified to administer epidurals, she advised that she handed over to DHB staff and then left the hospital at approximately 6am. She did not document the handover in the clinical records.

9. Ms A was monitored by hospital midwife Ms F until approximately 7.15am, when care was handed over to hospital midwife Ms C. At 8am, Ms A was noted to be fully dilated and had commenced pushing. A CTG was commenced, which Ms C interpreted as showing late decelerations[2] with a "very quick recovery".

10. At 8.30am the Clinical Midwifery Manager, Ms D, went to assist Ms C in response to a request by Ms C to check the resuscitaire.[3] At this time Ms D noted that the CTG was recording the maternal pulse, rather than the fetal heartbeat, and alerted Ms C to this.

[1] Measures the fetal heart rate.
[2] Slowing in baby's heart rate.
[3] Baby resuscitation table.

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11. Ms D returned to check on Ms A's progress at approximately 9.30am. At this time Ms D noted that the CTG was still recording the maternal heart rate. She then repositioned the monitor and noted that the trace was abnormal. Ms A was then placed in the lithotomy[4] position and the birth expedited. An epidural was not provided.

12. Baby A was born at 10.08am. Resuscitation was commenced and Baby A was intubated. Sadly, Baby A died 13 hours later.

Decision summary

Ms B

13. Ms B inadequately managed Ms A's care from approximately 4.30am on Day 3 of her hospital admission. Despite Ms A being considered to be at high risk following her induction of labour and having had three Prostin[5] doses, electronic fetal monitoring was not commenced, nor was Ms A's care adequately handed over to the obstetric team.

14. Ms B breached Right 4(1)[6] of the Code of Health and Disability Services Consumers' Rights (the Code) by failing to adequately monitor the fetal or maternal well-being.

15. Ms B failed to take adequate steps to ensure the quality and continuity of services provided to Ms A. Ms B breached Right 4(5)[7] of the Code.

Ms D

16. The CTG showed an increasingly abnormal trace after 7.49am on Day 3 of Ms A's hospital admission. At 8.30am Ms D was aware that the CTG was measuring the maternal heart rate; however, she failed to take appropriate action until she re-entered Ms A's room at approximately 9.30am. Despite Ms D having identified the abnormalities in the CTG at that stage, being aware that the baby was at risk, and having decided to expedite delivery, Ms D did not call the obstetric team.

17. By failing to take adequate steps to monitor the maternal and fetal well-being once she was aware that the CTG was measuring the maternal heart rate, failing to advise that a fetal scalp electrode should be attached, and failing to provide adequate assistance to Ms C, Ms D did not provide services to Ms A with reasonable care and skill and, accordingly, breached Right 4(1) of the Code.

18. By not contacting the on-call obstetrician at 9.30am when she knew the CTG was abnormal, Ms D failed to provide Ms A with care in accordance with professional standards and, accordingly, also breached Right 4(2) of the Code.

[4] Legs raised in stirrups.
[5] A drug containing prostaglandin, a hormone that induces labour.
[6] Right 4(1) of the Code states: "Every consumer has the right to have services provided with reasonable care and skill."
[7] Right 4(5) of the Code states: "Every consumer has the right to co-operation among providers to ensure quality and continuity of services."

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Ms C

19. By failing to apply a fetal scalp electrode, incorrectly interpreting the CTG, and not seeking assistance when she had concerns about the operation of the CTG machine, Ms C did not provide services to Ms A with reasonable care and skill and, accordingly, breached Right 4(1) of the Code.

20. Ms C's failure to seek assistance when she lacked confidence in her ability to operate the CTG machine impaired the quality and continuity of services provided to Ms A. Accordingly, Ms C also breached Right 4(5) of the Code.

Northland DHB

21. NDHB did not take reasonable steps to ensure that services of an appropriate standard were provided to Ms A by its staff. Accordingly, NDHB breached Right 4(1) of the Code.

22. In addition, the DHB failed to ensure that it had adequate systems in place to ensure that services of an appropriate quality and continuity were provided to Ms A. Accordingly, NDHB breached Right 4(5) of the Code.

Complaint and investigation

23. On 30 August 2010, the Commissioner received a complaint from Ms A about the services provided when she was admitted to hospital for an induction of labour. The following issues were identified for investigation:

- *The appropriateness of the care provided to Ms A by Ms B in late 2009.*
- *The appropriateness of the care provided to Ms A by Northland District Health Board in late 2009.*
- *The appropriateness of the care provided to Ms A by Ms C in late 2009.*
- *The appropriateness of the care provided to Ms A by Ms D in late 2009.*
- *The appropriateness of the care provided to Ms A by Dr E on in late 2009.*

24. An investigation was commenced on 19 April 2011 and extended to include Ms C, Ms D and Dr E on 2 August 2011. Investigation into the care provided by Dr E was discontinued on 22 March 2012, following the receipt of expert obstetrics advice which indicated that the care provided by Dr E was appropriate and in accordance with accepted standards.

25. The parties directly involved in the investigation were:

Ms A	Consumer/complainant
Ms B	Lead maternity carer
Ms C	Hospital midwife
Ms D	Clinical midwife manager

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Northland District Health Board	DHB/provider

Also mentioned in this report	
Baby A	Ms A's baby
Dr E	Consultant obstetrician
Ms F	Hospital midwife
Ms G	Lead maternity carer

26. Independent expert advice was obtained from midwife Lesley Ansell (see **Appendix A**).

Information gathered during investigation

27. In 2009, Ms A, aged 21 years, was pregnant with her first child. She was under the care of Lead Maternity Carer (LMC) midwife Ms G.

28. Ms G works in a job share arrangement with midwife Ms B. Ms G and Ms B work in a remote rural area. They each work half the week and every alternate weekend, acting as back-up midwife for each other. Ms B advised that when women book with them they are informed of this arrangement and told that the on-call midwife will respond to any queries and be with them while they are in labour.

29. Ms A's pregnancy was normal. She had no identified risk factors or abnormalities in her past history. The results from the routine antenatal screening bloods and scans were all normal. Ms A saw either Ms G or Ms B regularly throughout her pregnancy.[8]

30. When Ms A was 39 weeks' gestation,[9] Ms B discussed with Ms A the possibility of her pregnancy extending beyond the due date. The options of induction of labour and epidural pain relief were discussed. Ms B explained to Ms A that if she chose to have an epidural, her care would be handed over to the secondary care team[10] at the hospital because neither she nor Ms G were certified to administer epidurals.

31. At this time, Ms B also discussed alternative options, including having a "stretch and sweep",[11] which Ms A declined. Ms B subsequently made a referral to the hospital obstetrician for consideration of an induction of labour.

Plan for Induction of Labour (IOL)

32. When Ms A was 40 weeks plus one day of gestation, Ms A was seen by an obstetrician for consideration of induction of her labour. This was agreed to, and the first priming dose of Prostin gel 1mg was subsequently arranged for the following week, with the induction booked at the hospital.

[8] Ms A had 11 antenatal appointments.
[9] Gestation indicates the age of the fetus. Delivery normally occurs at 40 weeks' gestation +/- 2 weeks.
[10] The hospital obstetric team.
[11] The process of sweeping a finger over the opening of the cervix to encourage labour.

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33. Ms B saw Ms A the day after she was seen by the obstetrician. At this appointment, Ms B noted that the induction of labour was booked for five days' time, but Ms A was considering waiting for another few days. Ms A again declined a stretch and sweep.

Admission for IOL

34. On the day on which Ms A was booked for induction of labour, she was 41 weeks' gestation. At 6.30pm she was admitted to the Delivery Suite at the hospital. Ms A was assessed by registered midwife Ms C, who documented that Ms A's blood pressure (BP) was 127/83mmHg,[12] temperature 35.9°C,[13] and pulse 95 beats per minute (bpm). A urinalysis revealed "++leukocytes,[14] trace protein, trace blood". Abdominal palpation revealed that the fetal head was at "5/5 ↑".[15] A CTG[16] was then commenced with the plan for it to continue for "20–30 minutes as per guidelines".

35. At 7.45pm, a hospital midwife noted that the CTG showed "[fetal heart] 140bpm baseline 5–15 beats variability, no [decelerations], [accelerations] present, 2 small uterine tightenings". A vaginal examination was carried out, which showed no dilatation,[17] and 1mg of Prostin gel was inserted as charted.

36. The CTG was then reapplied and continued between 7.50pm and 8.50pm. The CTG was interpreted by a hospital midwife, who documented that the fetal heart rate was 140bpm, with a baseline of "5–20 beats variability", accelerations and no decelerations. She noted that Ms A was experiencing "mild tightenings 2 in 60 mins". The hospital midwife also noted that Ms A was comfortable and that the fetal heart rate "need[ed] to be checked hourly unless asleep as per protocol".

37. The fetal heart rate was documented to be 140bpm at 9.45pm, Ms A was asleep during the next check, and it was 140bpm at 11.45pm. Ms A was then noted to be asleep until 7.30am the following day, when care was handed over to Ms C. A CTG was commenced at 7.45am and reviewed by Ms C at 8.20am. Ms C noted a fetal heart rate of 140bpm with good variance, accelerations present and no decelerations. She documented that the CTG was "overall reassuring".

38. At 8.30am, a vaginal examination was carried out, which showed some dilation of the cervix. A further 2mg of Prostin was inserted "as per protocol", and the CTG was continued.

39. At 9.30am, irregular uterine tightenings were noted, and the CTG was interpreted as being "overall reassuring".

40. At 10.45am, after Ms A returned from a walk, the fetal heart rate was noted to be 160bpm+, and a CTG was commenced. This was discontinued at 11.30am and was reported to show a baseline fetal heart rate of 160bpm, good variance, accelerations

[12] Adult blood pressure is considered normal between 90/60mmHg–145/90mmHg.
[13] Normal temperature varies between approximately 35.5°C and 37.5°C.
[14] Leukocytes are white blood cells found in the urine.
[15] Indicating that the head had not yet dropped into the pelvis.
[16] Measures the fetal heart rate.
[17] Indicating that the cervix was not favourable for delivery.

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present, no decelerations, and "overall reassuring". The records also note that the CTG "was seen by [Dr E] also".

41. In her statement to HDC, Ms C advised that she sought advice on the CTG from on-call consultant obstetrician Dr E because she was not reassured when she was intermittently listening to the fetal heart with the Sonicaid,[18] and she was not confident in interpreting the CTG.

Consultant review

42. Dr E, who was on call from 5pm on the day of Ms A's admission until 5pm the following day, reviewed and initialled the CTG. Although Dr E is unable to recall the exact details of the consultation, she stated:

> "When I look at the CTG now I believe that I would have been asked whether this represented a fetal tachycardia [19] with decelerations or a normal CTG with accelerations — a fairly common situation. I was satisfied (as indicated by initialling the CTG) that the CTG was reassuring, with a baseline of 155–160, normal variability (difficult to assess but probably 10–15bpm), plentiful accelerations present and no decelerations. There was a brief area of loss of contact. I would have noted that the brief periods of return to baseline corresponded to pauses in fetal movements as detected by the fetal movement sensor, and would have asked the midwife if the baby was active … I was reassured that the CTG represented a normal behaviour state."

43. In a subsequent statement to HDC, Dr E said that there was a single deceleration at 10.56am. However, she advised that "[i]n the presence of an otherwise reassuring CTG, the RANZCOG[20] Intrapartum Surveillance Clinical Guidelines confirm that, in isolation, variable decelerations are unlikely to be associated with significant fetal compromise".

CTG monitoring

44. At 12.35pm, the CTG was recommenced. This was reported at 2.20pm as showing accelerations, no decelerations, and being "overall reassuring". It is also noted that Ms A was still experiencing irregular uterine tightenings. A vaginal examination was then carried out, which showed no further advancement of labour. A further 2mg of Prostin was then inserted.

45. The CTG monitoring continued. The assessment at 3.25pm was unchanged from the review at 2.20pm. At this stage, Ms C documented that she explained to Ms A that the plan was for "no more prostin today, will wait & see — reassess tomorrow morning unless signs of labour start".

46. Intermittent monitoring was continued throughout the afternoon.[21] At 6.30pm, Ms C documented that the CTG, which had been discontinued at 6.10pm, was showing

[18] A handheld ultrasound transducer used to detect the fetal heart rate.
[19] Increased heart rate. Normal fetal heart rate is normally 120–160bpm.
[20] Royal Australasian and New Zealand College of Obstetricians and Gynaecologists.
[21] The FHR was recorded as 120–135bpm at 4.30pm, in the "130's" at 5.45pm, and 135bpm at 7.30pm.

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"[g]ood variance and accelerations". She also noted that Ms A was continuing to experience irregular uterine contractions, which were becoming stronger.

Attendance of Ms B

47. At 7.50pm, it is recorded that Ms A's uterine membranes (waters) had ruptured. A hospital midwife, who had been called into the room by Ms A's partner, documented that she "[r]eassured [Ms A] that small amount of blood in liquor likely to be a show. Auscultated, FHR[22] reassuring."

48. Ms A is then reported to have been experiencing stronger uterine contractions, each lasting no more than 30 seconds. Hospital midwife Ms F then contacted Ms A's LMC, Ms B. Ms B was attending a home birth, and advised that she would attend after that birth. Intermittent monitoring was continued.[23]

49. At 10.05pm, it is documented[24] that Ms A's contractions were getting stronger, and that she "[c]ontinue[d] to drain clear, slightly blood stained liquor".

50. At 11.05pm, the CTG trace was reported as showing accelerations, no decelerations, and to be a "[n]ormal reassuring trace".

51. Ms B advised that she was contacted by the hospital midwife at approximately 8pm, told that Ms A's waters had broken and asked to come in. Ms B advised that because of the time it takes for labour to establish when it has been induced, and the distance to the hospital from where she was attending the home birth, "the usual local practice, at that time, for Induction of Labour, was for the hospital staff … to commence the procedure and then contact the appropriate LMC once the woman had established into labour to then take over her care".

52. Ms B arrived at the hospital at 11.30pm, and at 11.50pm she carried out a vaginal examination, noting that Ms A was experiencing "tightenings 1:3", her cervix was 1–2cm dilated, that she had a cephalic presentation[25] and the fetal head was at "-2 to ischial spines".[26] The fetal heart rate was noted to be 145bpm. Ms B then discussed the management options with Ms A, which included sedation or a Syntocinon infusion.[27]

53. Ms B said she was surprised to find that Ms A was not in established labour when she arrived at the hospital. Ms B advised that she discussed the options available with Ms A. These included her having sedation or commencing Syntocinon. Ms B then left Ms A and her partner alone to consider the options. At 11.55pm Ms B documented:

[22] Fetal heart rate.
[23] The FHR was recorded as 135bpm at 8.45pm, 140–150bpm at 10.05pm, and 140–150bpm at 11.05pm.
[24] Ms F was the midwife at this stage but the notes were written by a student midwife, and countersigned by Ms F.
[25] Fetus is positioned head down.
[26] Position of fetal head in relation to the ischial spines of the mother's pelvis. When the head is at the level of the ischial spines, it is at station 0 (synonymous with engagement). If the head is above the spines, the distance is measured and described as minus stations, which range from -1cm to -4cm.
[27] Syntocinon is a drug used in the induction of labour.

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> "Discussed options — Not in established labour — Have sedation to aid good rest — will either knock off contractions or wake in established labour. Have Syntocinon infusion (need to discuss with o/c obstetrician prior)."

54. Ms B said she had expected to commence an intravenous Syntocinon infusion in order to continue with the induction process, but was informed that the on-call consultant did not approve of running Syntocinon at night.

55. At 12.25am, Ms B documented that Ms A had elected to have sedation. Ms B advised that she listened to the fetal heart and checked that Ms A was happy for Ms B to go to the next room for a rest. Ms B then administered pethidine [28] 100mgs and promethazine[29] 25mgs by intramuscular injection, and Ms A was settled for sleep.

56. Ms B said that, as she expected Ms A to be left until morning, it was agreed with the hospital midwife that Ms B would rest, rather than return to her home, which was a considerable distance away. Ms B said that she arranged for the hospital midwife to continue to observe Ms A, while she went to the room next door to sleep, but told the midwife to call her if she was required.

Progress during night

57. At 1.45am, Ms A was given a further 1mg of paracetamol. At 3am, the FHR was recorded as 141bpm. At 3.45am, Ms A got into the bath to assist with relaxation and pain management. At 4.10am, the FHR was recorded as 130–140bpm with "good variability and acceleration". Contractions were noted to be 3:10 (three contractions over 10 minutes), moderate to strong, but only 30–40 seconds long. The midwife also noted: "No obvious blood stained liquor seen in bath."

58. At 4.10am, Ms A reported that she was "passing clear liquor on toilet". At 4.17am, a "small amount of bloody show" was noted.

59. Ms A advised that on a number of occasions over this time she asked the hospital midwife, Ms F, whether she could have an epidural because she was in so much pain. Ms A said that on each occasion Ms F told her that she would have to wait until morning, "because they wouldn't call the anaesthetist in the middle of the night". Nothing is documented in the clinical records during this time concerning any discussion with Ms A about her having an epidural.

60. The DHB was asked whether any staff involved with Ms A on that night, in particular Ms F, have any recollection of what was discussed in relation to the epidural and, if so, what advice Ms A was given. The DHB advised that Ms A was "keen to remain relaxing in the bath during the night as her labour was in the early stages and she was finding [the bath] helpful". The DHB did not reply to the question as to whether Ms A requested an epidural prior to 4.30am (see the later discussion about the epidural and the DHB's policies regarding epidurals).

[28] An opioid with analgesic and sedative properties.
[29] An antihistamine with analgesic and sedative properties.

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Return of Ms B

61. At 4.30am, Ms B was advised that Ms A wanted to push. Ms B was asked to examine Ms A, and Ms B then resumed management of Ms A. Ms B stated that Ms A confirmed that she was feeling pressure on her bottom, but that she was not having any urge to push. Ms B then carried out a vaginal examination while Ms A remained in the bath. Ms B advised that she assessed Ms A as still being in early labour and showing little progress from the previous night.

62. Ms B recorded: "[Ms A] feeling pressure in her bottom with most contractions — contractions are 1:3 and short", and that Ms A was 2–3 cms dilated. The fetal heart rate was 140–145 bpm.

Decision to delay epidural

63. Ms B advised that she discussed the labour with Ms A, and her wish to have an epidural. Ms B reminded Ms A that having an epidural would require her to hand over Ms A's care to the hospital midwifery staff. In a subsequent statement to HDC, Ms B advised that she did not arrange an epidural at that time because Ms A was not yet in established labour. Ms B advised:

> "Our conversation centred around the fact that [Ms A] had not slept for a considerable time and was now extremely tired; that she wasn't yet in labour, (to which [Ms A] agreed); that in a few hours, she would be commencing on a Syntocinon infusion (hormone drip) which would make her contract frequently and strongly. We discussed the potential time frame for the length of her labour to come, and the need to have her to have sufficient energy when the time came for her to push her baby out. In view of these considerations, [Ms A] made the decision that she would like an epidural anaesthesia at the time the Syntocinon infusion would be commenced."[30]

64. Ms B said that she verbally informed the hospital midwife of her assessment findings and Ms A's decision that she wanted an epidural and that, in light of this, Ms B would be handing over care at approximately 6am. Ms B advised that this was in line with agreed local practice at the time. Ms B said that it was her expectation that the hospital midwife would then make the "necessary arrangements in order to obtain the epidural anaesthesia for the woman". This included contacting the obstetrician.

65. No further fetal monitoring occurred before Ms B handed over to the hospital midwife, Ms F, at 6am.

Handover to secondary care

66. Ms B remained with Ms A until 6am, at which time Ms B documented that Ms A was getting back into the bath and "[c]are handed back to core staff — secondary care for epidural as appropriate". Ms B acknowledges that her documentation in relation to her discussions with hospital staff about her handover and Ms A's decision to have an epidural is not explicit.

[30] Ms A did not receive the Syntocinon infusion because her labour had commenced.

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67. Ms B left the hospital at 6.15am. She stated that her decision to leave the hospital was in accord with the agreed practice between midwives at this time.

Decision not to have epidural

68. In the event, Ms A was not provided the epidural that she originally requested. The DHB advised that the practice was that the hospital midwife, or the LMC who decided that the woman was to have an epidural, would "usually" contact the obstetrician on call. Once the obstetrician agreed that the woman could have an epidural, the Senior House Officer on call would also be notified in case emergency care was needed. However, the DHB said that in this case there was no transfer of clinical responsibility to the medical team. The DHB stated that its understanding is that "[Ms A] decided not to go ahead with the epidural".

69. Ms A advised that the reason she did not have the epidural was because it took some time to obtain approval and insert a luer. Ms A stated that insertion of the luer took "a while" because the hospital midwife, Ms C, could not find a vein and, by that time, Ms A was fully dilated and pushing. She was told that the birth was imminent and likely within the next 30 minutes, and the epidural would take about 20 minutes to start working. Ms A said she decided not to go ahead with the epidural, in light of this information.

Secondary care

70. At 6.30am, hospital midwife Ms F documented that the FHR was 150bpm.

71. At 6.50am, Ms C documented that care had been handed over to her, and that she had consulted obstetrician Dr H in relation to Ms A having an epidural, and that Dr H had agreed to the epidural.

72. However, at 7.15am, Ms F completed a vaginal examination, noting that Ms A was now 7cm dilated, the FHR was 155bpm, and the liquor "clear/pinkish".

73. At 7.49am a CTG was commenced, and decelerations of 100–110bpm were noted, with a "quick recovery to 130–150's". At 8am, a vaginal examination confirmed that Ms A was fully dilated. At 8.07am, it is recorded that "FHR160, but [decelerations] late" and that pink liquor was draining with the contractions.

74. At 7.50am, Ms A spoke to Ms B on the telephone. The records note that Ms A and Ms B discussed the option of an epidural. Ms B advised HDC that at approximately 8am she contacted the hospital to see whether Ms A had a working epidural. The telephone was then given to Ms A, who asked Ms B whether she should have an epidural. Ms B told Ms A that she could not make that decision, and that Ms A needed to listen to the midwives caring for her.

75. Ms A recalls that Ms B called at about the same time as she was told that the delivery was imminent, and she had to make a decision about whether to proceed with an epidural. She recalls asking Ms B what she thought, but advised that she was asking her more as a friend, as she knew that care had been handed over at that stage.

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Ms C

76. CTG monitoring continued and, at 8.30am, further decelerations of 100–110bpm were noted. Ms C documented that the maternal heart rate was being recorded, but she could hear "baby's in background". The record states that when the CTG transducer was held over the fetal heart, a much better connection was achieved. Ms C noted: "[S]till having [decelerations] (late), but very quick recovery."

77. In her statement to HDC, Ms C advised that at 8.48am when she wrote "maternal" on the CTG trace, while the CTG was picking up and recording the maternal heartbeat, she was clear that she could also hear the fetal heart rate in the background and that she was happy with the fetal heart rate at that stage. Ms C said: "I do not remember why I did not put a fetal scalp electrode on, as in retrospect this would have given a clear fetal heart beat trace."

78. At 8.45am, Ms C recorded that Ms A had a "bloody show", also noting that Ms A was doing well and resting between contractions. At 8.50am, Ms C rang for assistance. She told HDC that this was because she was still having difficulty with the CTG machine, which kept alarming. Ms C stated that she was not familiar with the new CTG machines and was trying to "figure out" the functions.

Ms D

79. NDHB's Clinical Midwifery Manager, Ms D, responded to the call bell. Ms C said that Ms D came in, observed the "Peep",[31] checked the baby resuscitation table, and looked at the CTG machine. Ms D advised Ms C that the CTG was recording the maternal heart rate, and put the pulse oximeter on Ms A to help Ms C to differentiate the maternal heart rate from the fetal heart rate.

80. Ms C advised that "[a]t this stage I was feeling apprehensive about the progress and the CTG machine. But I felt reassured that the CTG was ok, as [Ms D] had looked at it." Ms C later said that Ms D had only "glanced at the trace". Ms C said: "I was embarrassed to ask her to help me more. I felt things must have been going OK as she did not seem concerned."

81. Ms D advised HDC that she answered the call bell because the other midwives were unavailable. She said that when she went into the room, Ms A was in a kneeling position and that Ms C "appeared relaxed". Ms D said Ms C asked her to check the resuscitaire. Ms D stated that she did as asked and, as she was leaving the room, she passed the CTG machine and noticed "on the current piece of recording on the flat screen of the machine appeared to be showing maternal pulse recording".

82. Ms D said she brought this to Ms C's attention and suggested Ms C attach the pulse oximeter to help differentiate the fetal and maternal heart rates. Ms D said she "did not attempt to assist with repositioning the [fetal heart] transducer as [Ms C] did not raise any concerns about the monitoring of the fetal heart and did not ask for assistance e.g. whether to apply a fetal scalp electrode".

[31] The top of the baby's head advancing to the vaginal entrance with a contraction, and then retracting.

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83. Ms D then left the room advising Ms C that she should call her again when she thought the birth was imminent. Ms D said she had no reason to stay in the room to examine the earlier CTG trace, and she expected Ms C to "take action to make sure she was monitoring the [fetal heart] or to ask for assistance if she was unable to do this". Ms D assumed that Ms C would invite her back into the room if she needed further assistance.

Ms A

84. Ms A recalls that when Ms D entered the room Ms A was positioned on her hands and knees. Ms A said that Ms D heard the CTG picking up the heartbeat and said something like, "[Ms C] that's maternal." Ms A recalls that Ms D placed the pulse oximeter on her thumb and then left the room without checking anything else.

85. Ms A recalls that, after Ms D left the room, Ms C kept repositioning the CTG transducer, but it kept falling off with every contraction. Ms A believes that Ms C thought that she was measuring the fetal heart rate, and stated that Ms C never appeared concerned. At 9.15am, Ms C documented that the FHR was 120–130bpm and that Ms A continued to make good progress.

Delivery

86. Ms D stated that she re-entered the room at approximately 9.30am to check on Ms A's progress, as she had expected that Ms A would have given birth by that time.

87. Ms D said she immediately noticed that the CTG was still recording the maternal heart rate and repositioned the transducer. She noted that there did not appear to have been any fetal pulse recorded while she was out of the room. Ms D then noted that the fetal heart rate was showing an abnormal baseline rate with reduced variability.

88. Ms D decided that the birth needed to be expedited. She advised Ms A and Ms C of her observations and suggested that Ms A reposition into the lithotomy position.[32] Ms D did not contact the on-call obstetrician.

89. Ms D advised:

> "[Ms A] was assisted in between contractions to move onto her back and lithotomy poles were put in place, it was apparent when this was being done that the caput[33] was visible and advancing so I felt that quickest thing to do was to infiltrate the perineum [with local anaesthetic] and facilitate the birth via an episiotomy.[34] The paediatric team were called, and were present in the room prior to the birth, as I expected the baby would require resuscitation given the abnormality of the CTG tracing that I had observed. … I feel this was the most expedient action at that time as the Consultant was not present in the delivery suite and the caput was visible at the vulva."

90. At 11am, Ms C documented the following retrospective note:

[32] Lying on the back with feet positioned at the same level or higher than the pelvis.
[33] Swelling to the presenting part of the baby's head.
[34] Cut to the perineum to allow more room for the baby's head to birth.

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> "[Ms A] continued pushing well and [Ms D] was present from 0930hrs. Fetal heart sounds like maternal pulse, FH transducer repositioned, and FH heard 160 with [decelerations] down to 70. Intermittent tachycardia heard. Vertex advancing slowly, so put in lithotomy at 0950hrs. Perineum infiltrated in preparation for episiotomy after discussing with [Ms A]. Mid-lateral episiotomy performed with contraction and [paediatrician] called for delivery …"

91. At 10.08am, Baby A was born. At birth, the cord was tight around the baby's neck and fresh meconium was noted. Baby A was observed to be white and apnoeic,[35] but had a good heart rate. The emergency bell was rung and resuscitation commenced. Baby A was then ventilated and transferred to SCBU.[36]

92. Baby A was diagnosed with severe hypoxic-ischemic encephalopathy[37] and, following a discussion with the family, the decision was made to extubate[38] Baby A and to provide her with comfort cares only.

93. Sadly, Baby A died at 2.48am the following day.

NDHB

Internal review

94. Following this incident, NDHB carried out an internal review. As an outcome of the review, several areas requiring improvement were identified. These include:

- A review of the Induction of Labour guidelines to include more direction for midwifery staff about the inclusion of the obstetrics team in decision-making.
- A change to the morning handover. The night senior house officer will now review all women undergoing an induction of labour and report on the maternal progress and fetal status at the 8am handover.
- A review of the fetal heart monitoring guidelines to include clear instructions about fetal heart monitoring during induction of labour.
- The provision of additional training for staff involved in the incident, including fetal heart monitoring.
- Discussing with Ms B the requirement to ensure clear handover to the secondary care team.

Process to arrange epidurals

95. NDHB was asked for details of any policy or practice at the time of these events in relation to patients who requested an epidural overnight. The DHB provided its policy "Conduct of Epidural Analgesia in Obstetrics".

[35] Not breathing.
[36] Special Care Baby Unit.
[37] Acute brain damage due to asphyxia.
[38] Remove the ventilation tubes.

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96. NDHB stated that the LMC is expected to have ongoing dialogue with the core midwife allocated to assist her. Until midwifery care is handed over to the core midwife, all decisions made and discussions with the consultant are the responsibility of the LMC. The LMC would be expected to hand over to the core midwives when she reached the limit of her scope of practice or became fatigued.

97. The core midwife or LMC who decided that the woman would have an epidural would "usually" contact the obstetrician on call. Once the obstetrician agreed that the woman could have an epidural, the Senior House Officer on call would also be notified, in case emergency care was needed.

98. Once the obstetrician agreed to the request, the woman should have an IV luer inserted, baseline observations should be taken, and the procedure should be explained to the woman. Any other information the anaesthetist would require, such as recent blood results and the progress of the labour, should be collated. The anaesthetist would then be called.

Ms D's role

99. Ms D advised that, as the clinical midwifery manager, she was responsible for "overseeing the functioning of the wards … and staff management for the maternity service for the NDHB". It was her responsibility to roster staff, ensuring an adequate staff mix and levels for each shift.

100. Ms D advised that when she arrived on the delivery suite at 7.30am on Day 3 of Ms A's admission, she noted that Ms A was the only woman in labour, and that Ms C had been allocated to look after her. The senior midwife on duty that day advised that Ms C had requested that she do so because she had been involved in Ms A's care the previous day, and was "keen to provide continuity of care". Ms D considered that this was reasonable, and said there had been no concerns in relation to Ms C's "clinical confidence or competence".

101. Ms D said that she encourages midwives to be involved in autonomous decision-making, as developing critical thinking skills is the hallmark of maturity in a midwife. She stated that staff and midwives know she is usually available for advice, but she does not "look over their shoulder". Ms D stated: "I felt I had to balance the respect for the autonomy of the midwife with the need for information in order to intervene if needed. I relied on the team members to provide me with that information …" Ms D added that on the morning of Day 3 of Ms A's admission there were two senior midwives who were also available to assist Ms C if she had not felt confident approaching Ms D.

Ms C's orientation

102. Ms C completed her midwifery training in 2005 and started working as a Lead Maternity Carer in 2006. She advised that, at the time of these events, she had just started back at work after a break of two and a half years. She said she had been working at the hospital for about two weeks and was just finishing, or had just finished, her orientation programme.

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103. Ms D advised that although Ms C had only just started her employment at the DHB, she was not viewed as a new graduate who needed to have all her decision-making processes overseen. Ms D advised that Ms C was familiar with the Unit and its staff, having worked on it previously in her role as an independent midwife.

104. NDHB advised HDC that Ms C started work with the DHB in October 2009 and had undergone the orientation programme and that, as part of her orientation, Ms C would have been expected to work through the delivery suite protocols, which included the DHB fetal monitoring guideline. However, she had been unable to undertake the on-line CTG training programme because of technical difficulties.

105. Ms C advised that she was not familiar with the CTG machine, having never before used that particular machine. Ms C stated that she always sought a second opinion for CTG traces.

106. Ms C said that since this incident, she has not had the confidence to work in the delivery suite. She stated that she is "truly sorry for the loss of [Ms A] and her family's baby and the hurt and pain that they have gone/going through".

Responses to provisional opinion

Ms B

107. In her initial response to the provisional opinion, Ms B submitted that when she resumed responsibility for Ms A's care at 4.30am, Ms A was not in established labour. Ms B stated that if Ms A had been in established labour at that time, she would have commenced electronic fetal heart monitoring and taken maternal base line observations to ensure fetal and maternal well-being. In addition, she would have informed the core midwifery staff of Ms A's progress and her wish for an epidural, and confirmed who would take over Ms A's care, ensuring that they would then make the appropriate arrangements for the epidural.

108. Ms B advised that since these events, when a woman requests an epidural, she personally contacts the on-call obstetrician to make the request and advises the obstetrician of her intention to hand over care. She also informs the Delivery Suite midwifery staff of the request and documents it clearly in the woman's patient notes.

109. In addition, Ms B advised that as she no longer attends women requiring care in a secondary care setting this would occur at the primary unit or in the woman's home.

110. Following receipt of Ms B's response, HDC sought further expert advice on 7 November 2012 (see **Appendix A**). This advice was provided to Ms B, who commented, "I fully acknowledge all the information that Ms. Ansell has provided about early, or, latent phase of labour. I particularly take note of the robust evidence she has shared."

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Ms C

111. Ms C has accepted the findings of the Commissioner and has provided a letter of apology for Ms A.

112. Ms C no longer holds a midwifery practising certificate in New Zealand and advised that she has no intention of returning to midwifery practice in New Zealand.

Ms D

113. Ms D advised that she accepts she made an incorrect assumption that Ms C would call for further assistance if Ms C needed support after she (Ms D) had alerted Ms C to the fact that she was recording the maternal heart rate.

114. Ms D reiterated that she was called into the room to check the resuscitaire, and was not asked to, and had no reason to, check the earlier CTG trace. She accepts that, in hindsight, it would have been prudent to do so. However, she said that apart from having the pulseoximeter, the CTG machine had similar features to those previously used by Ms C. She was not aware that Ms C felt out of her depth or unable to ask for assistance.

115. Ms D also accepts that she should have called for a consultant obstetrician when she discovered the abnormal CTG trace at 9.30am. Ms D said that she underestimated how exhausted Ms A was at this time, and expected the birth to occur more quickly than it did once Ms A was moved into the lithotomy position. Ms D submitted that she did recognise that help was needed, and called for urgent paediatric assistance.

116. Ms D advised that at the time of this incident she had been recently appointed to the newly created manager position. She had no role models on how the role should function, had no experience in a leadership position, and relied on others to provide her with information.

117. One of the aims of her role was to "foster education and autonomy of practice, without overt 'surveillance', but encouraging a culture of teamwork and open communication between all Midwives and the medical team. …" Ms D advised that, since this incident, communication in the Unit has greatly improved.

118. Ms D has apologised to Ms A.

NDHB

119. NDHB considers that the failings in this case were the result of individual, rather than systemic failures. It noted that Ms C had been a midwife since 2005, working as an independent midwife for much of that time. Furthermore, having worked on the Delivery Unit while an independent midwife she was familiar with the Unit and its staff.

120. In addition to the changes made following the internal review of the incident, NDHB confirmed the following:

1. All new midwifery staff are given time during their orientation period to complete the RANZCOG fetal/surveillance CTG online training.

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2. The online training programme is linked to a full day training programme provided by RANZCOG. All new midwifery staff are rostered to attend this programme within their first year of employment.
3. All new graduates, and midwives doing a "return to practice programme" or returning to practice after extended leave, are provided with regular oversight from the midwifery educator and a designated mentor, who is generally assigned the same shifts as the new employee.
4. For midwives returning to practise midwifery, the midwifery educator will discuss specific training needs prior to their return, and the orientation programme will be tailored to meet these needs.
5. The midwifery educator meets with new midwifery staff within the first 12 weeks of employment to discuss progress in relation to the orientation requirements. An appraisal is then held after three months, at which time any outstanding orientation requirements are noted and a plan is made to address them.

121. NDHB also confirmed that during orientation all staff are introduced to its "incident management and reporting" policy, which refers to its open "disclosure policy" encouraging open discussion and communication with patients in relation to incidents as well as the provision of support to staff reporting incidents.

122. NDHB has apologised to Ms A.

Relevant Standards

123. The New Zealand College of Midwives' Code of Ethics provides:

"Responsibilities to the woman…

- Midwives are accountable to women for their midwifery practice

…

- Midwives have a responsibility to ensure that no action or omission on their part places the woman at risk
- Midwives have a professional responsibility to refer to others when they have reached the limit of their expertise

…

Responsibilities to colleagues and the profession

…

- Midwives are responsible for sharing their midwifery knowledge with others
- Midwives are autonomous practitioners regardless of the setting and are accountable to the woman and the midwifery profession for their midwifery practice
- Midwives have a responsibility to uphold their professional standards and avoid compromise just for reasons of personal or institutional expedience

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- Midwives acknowledge the role and expertise of other health professionals providing care and support for childbearing women
- Midwives take appropriate action if an act by colleagues infringes accepted standards of care

…"

124. The Standards of Midwifery Practice (2008) provides:

"Standard Six

Criteria
The midwife:
…

- Identifies deviations from the normal, and after discussion with the woman, consults and refers as appropriate
- Works collaboratively with other heath professionals and community groups as necessary
- Has the responsibility to refer to the appropriate health professional when she has reached the limit of her expertise

…

Standard Seven
…
Criteria
The midwife:
- Recognises that she is an autonomous practitioner, regardless of setting, and is accountable for her practice
- Clearly documents her decisions and professional actions
- Records her practice outcomes and makes them freely available
- Ensures relevant information is available to the woman
- In situations where another dimension of care is needed, ensures negotiation takes place with other care providers to clarify who has the responsibility for the care

…"

Opinion: Introduction

125. In this case, the care of Ms A and her baby was dependent on the seamless transfer of her care, and effective communication between her LMC and the DHB staff, and between staff within the DHB. A system designed to ensure that patients receive timely, appropriate, specialised care failed to deliver. Several providers and the DHB's systems all let Ms A down.

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Opinion: Breach — Ms B

Antenatal

126. In 2009, Ms A was pregnant with her first child. She engaged Ms B and Ms G as her LMCs in a shared care arrangement.

127. Ms A was seen regularly throughout the antenatal period. When Ms A was 39 weeks' gestation, Ms B appropriately discussed the possibility of Ms A's pregnancy going past her due date, and the option of induction of labour. Ms B discussed the process of induction of labour and the option of epidural pain relief, advising that if Ms A chose this option, her care would be handed over to the secondary care team. Ms A was appropriately referred to, and assessed by, an obstetrician, and the induction was scheduled.

128. I am satisfied that the care provided during the antenatal period was adequate, noting the advice of my midwifery expert advisor, Lesley Ansell, that Ms A's care provided during this period was "of a reasonable standard".

Ms B's care

129. At 7.45pm on the scheduled day for her induction, Ms A was induced at the hospital as planned. In accordance with the local arrangement, Ms A was monitored by the hospital midwifery staff.

130. At 6.30am the following day, Ms A was noted to be having irregular uterine contractions. Ms A was monitored throughout the day by the hospital midwives, who noted that intermittent fetal monitoring showed a "reassuring trace". Ms A's uterine membranes ruptured spontaneously, following which, at around 8pm, Ms B was called and asked to attend.

131. Ms B arrived at the hospital at 11.30pm to take over Ms A's care. Ms B had expected to find Ms A in established labour; however, when Ms B assessed Ms A she was surprised to find that Ms A was not in established labour. Ms B discussed with Ms A her options, which were either augmentation of labour with Syntocinon, or sedation in order to rest overnight. Ms B advised Ms A that augmentation of labour would have to be discussed with the on-call obstetrician. Ms B was subsequently informed that the obstetrician did not approve of the use of Syntocinon overnight.

132. At 12.25am, Ms B noted that Ms A had requested sedation, which was given. Ms B then asked one of the hospital midwives to check on Ms A, while Ms B rested in the next room.

133. The hospital midwives monitored the fetal heart rate and, at 3.45am, assisted Ms A into a bath for pain relief. At 4.30am, Ms B was advised that Ms A wanted to push with her contractions. At this time, Ms B resumed management of Ms A.

134. Ms B assessed Ms A as being in early labour, with little progress from the previous evening. Ms B auscultated the fetal heart rate, which she noted to be within normal limits. Ms B and Ms A discussed the labour, and Ms A decided that she wanted to have an epidural anaesthetic. Ms B advised that, because Ms A was not yet in

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established labour, Ms A agreed to the epidural being commenced at the same time as the Syntocinon drip.

135. Ms B said that she then verbally informed the hospital midwifery staff of Ms A's decision, advising that she would be handing over care at approximately 6am. She took no steps to arrange the epidural or contact the obstetrician. Ms B said she expected that the hospital midwifery staff would contact the obstetrician in relation to the epidural, as this was the agreed local practice at the time. She documented, "Care handed back to core staff — secondary care for epidural as appropriate", and left the hospital shortly after 6am.

136. I have a number of concerns about the care Ms B provided following her assessment of Ms A at approximately 4.30am.

Monitoring

137. There is no further fetal heart rate recording from 4.30am until Ms B handed over care to the secondary care team at 6am. Furthermore, no maternal observations were recorded during the time that Ms B was in attendance.

138. I note Ms B's submission that she did not conduct fetal or maternal monitoring after 4.30am because she assessed that Ms A was not in established labour at that time. However, Ms Ansell advised that as Ms A was high risk because she was being induced, had received three doses of Prostin, and was a post-term pregnancy, increased fetal heart monitoring such as electronic fetal monitoring was required in accordance with the RANZCOG (2006) *Intrapartum Fetal Surveillance Clinical Guidelines*. Furthermore, Ms Ansell advised that it was particularly important in this case as there was an increased risk of fetal hypoxia because of the contractions. In Ms Ansell's view, Ms B's assessment of the fetal and maternal well-being was inadequate, particularly after 4.30am. Ms Ansell advised:

> "It is likely that fetal hypoxia developed at some point after the short but normal CTG performed at 23.08hrs … The high risk event of induction of labour with uterine activity for a significant period of time should have prompted closer monitoring of the fetal heart with [electronic fetal monitoring] following onset of labour at 04.30hrs."

Epidural/handover

139. Ms B recorded Ms A's requests for an epidural at 4.30am and 5.15am; however, she did not advise the hospital (core) midwifery staff of the requests. At 6am she recorded: "Care handed back to core staff — secondary care for epidural as appropriate." Ms C made the call to the obstetrician at 6.50am, after Ms F had handed care over to her. Ms B submitted that her decision to leave the hospital at 6.15am, and her expectation that the hospital midwifery staff would contact the obstetrician in relation to the epidural, were in accord with the agreed local practice at the time. She advised that she did not make any arrangements for an epidural or communicate Ms A's progress to the core midwifery staff because Ms A was not in established labour at that time. However, I note Ms Ansell's advice that "[i]t would have been appropriate for [Ms B] to continue midwifery care until such a time as the epidural

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had been agreed by the Obstetrician and the Anaesthetist available to site the epidural, before handing care over to core midwifery staff".

140. Furthermore, there was a period of one and a half hours between Ms B's examination at 4.30am and her handover to the core midwifery staff at 6am. During this time Ms A continued to have contractions. Ms Ansell advised that if Ms B did not consider Ms A was in established labour and therefore not suitable to have an epidural she should have discussed other pain relief options with Ms A. Then, prior to her handover at 6am, Ms B should have re-examined Ms A to assess her progress and suitability for an epidural at that time. This would have determined whether labour was progressing rapidly. As noted by Ms Ansell, Ms A's labour progressed so rapidly that when reassessment did occur after handover to the core midwifery staff, Ms A was found to be too far advanced in labour for an epidural.

141. I consider that Ms B's transfer of care was suboptimal. She handed over care to the core hospital staff without communicating with the obstetrician and, apart from verbally advising the hospital midwife that Ms A wanted an epidural, Ms B took no steps to ensure that the epidural would be arranged. I also note Ms Ansell's advice that Ms B should have reassessed Ms A to establish her suitability for an epidural prior to handing over care.

142. I note Standard 7 of the *Standards of Midwifery Practice*, which requires: "In situations where another dimension of care is needed, [the midwife] ensures negotiation takes place with other care providers to clarify who has the responsibility of the care." Furthermore, in accordance with the *Primary Maternity Services Notice (2007) (Section 88)*, referral to obstetric services for an epidural is a consultation process. When a consultation occurs, the decision regarding ongoing care, advice on management, and any recommendation to transfer care must involve a three-way conversation between the specialist, LMC and the woman. Responsibility at the time of the consultation remains with the LMC.

143. In my view, it would have been preferable for Ms B to have communicated directly with the obstetrics team with regard to her management of Ms A and Ms A's progress. Furthermore, Ms B should have continued to provide care until the obstetrician had agreed to the epidural and the anaesthetist was available, before handing over to the hospital midwifery staff.

Documentation

144. Standard 7 of the *Standards of Midwifery Practice* requires midwives to clearly document their decisions and professional actions. I note Ms Ansell's advice that Ms B's documentation of her discussions with the hospital staff regarding the Syntocinon infusion and the transfer of care was "less than adequate".

Conclusions

145. Ms B's management of Ms A before 4.30am on Day 3 of her admission was adequate. However, in my view, Ms B failed to provide services with reasonable care and skill after 4.30am, by failing to carry out adequate monitoring of fetal and maternal well-

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being. In particular, there was insufficient monitoring of the fetal heart rate. Accordingly, I conclude that Ms B breached Right 4(1) of the Code.

146. Ms B also failed to provide care of an appropriate standard by not communicating adequately with other care providers once Ms A requested an epidural, by leaving the hospital before arrangements for an epidural had been confirmed, by not handing over care adequately, and by not maintaining adequate documentation. Documentation was particularly important in this case to ensure continuity of care, as a number of midwives were involved in Ms A's care. Ms B failed to take adequate steps to ensure the quality and continuity of services provided to Ms A. Accordingly, I conclude that Ms B breached Right 4(5) of the Code.

Opinion: Breach — Ms C

Standard of care

147. The care Ms C provided to Ms A on Days 1 and 2 of her admission was of a reasonable standard. During this time, Ms C appropriately monitored the maternal and fetal well-being and sought a second opinion from Dr E when she was uncertain about her interpretation of the CTG. She also initiated appropriate monitoring before and after the second prostaglandin dose, and when Ms A's contractions became stronger.

148. However, Ms C failed to exercise reasonable care and skill when she resumed care on the morning of Day 3 by failing to correctly interpret the abnormalities in the fetal heart rate on the CTG trace, and the uterine liquor colour, which were signs of fetal compromise.

149. At 7.49am, Ms C started a continuous CTG to monitor Ms A's baby's heart rate. The CTG between 7.49am and 8am was abnormal. The baseline variability was reduced with variable decelerations which, Ms Ansell advised, indicated that the fetus might be compromised. Ms Ansell stated:

> "The fetal heart during the examination [at 8am] was 100–110bpm and this along with the previously abnormal CTG warranted the attachment of a fetal scalp electrode to ensure adequate contact with the fetus … It would also have been good practice to inform the Obstetrician on call of the abnormal CTG."

150. At 8.07am, Ms C noted that the liquor was draining pink and that the fetal heart was 160bpm with late decelerations. I note Ms Ansell's advice that "[l]ate decelerations are a cause for concern (RANZCOG, 2006) and again it would have been good practice to inform the Obstetrician on call of these two concerning factors".

151. At 8.30am, Ms C noted decelerations with a quick recovery. At 8.48am, Ms C noted that the CTG was recording the maternal heart rate, but said that when she held the transducer over the fetal heart, a better connection was achieved. Ms C documented the word "maternal" on the CTG trace, indicating that she thought that the CTG was monitoring the maternal heart rate. In her response to HDC, Ms C commented that

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although she was aware the CTG was recording the maternal heart, she was confident that she could also hear the fetal heart in the background.

152. I note Ms Ansell's advice:

> "[Ms C] subsequently did not assess fetal well being by ensuring that it was the fetal heart rather than the maternal pulse that was being monitored which could have been achieved by attaching a fetal scalp electrode. Adequate monitoring of the fetal heart at this stage would have highlighted the increasing fetal hypoxia. Maternal assessments of wellbeing such as blood pressure and temperature were never made. Although the pulse oximeter was recording the maternal pulse, [Ms C] did not manually check the pulse. Had she done so she may have been alerted to the fact that the monitor was in fact recording the maternal pulse."

153. It appears that after Ms D informed Ms C that she was recording the maternal pulse instead of the fetal pulse, Ms C then believed that the CTG was correctly recording the fetal heart rate. I note Ms Ansell's advice that Ms C's response, after Ms D advised her that the CTG was measuring the maternal heart rate, was "inadequate". Ms Ansell stated that Ms C "also failed to seek advice when unsure as to the use of the CTG machine".

154. In her statement to HDC, Ms C advised that she felt "reassured" that Ms D had "glanced at" the trace, but added that she was "embarrassed to ask for more help".

Conclusions

155. Ms C had recently returned to midwifery practice after a break of two and a half years, and was completing her orientation, but had not completed her CTG training. Ms C had not previously used the CTG machines that were in use in the delivery suite at the time.

156. The delivery suite was not busy and Ms A was the only woman in active labour at the time of these events. In my view, as Ms C was a new employee, who was returning to midwifery after a break, it would have been appropriate for another DHB midwife to have supported, assisted, and advised Ms C regarding her management of Ms A's labour and birth.

157. However, Ms C still had a professional responsibility to provide care of an appropriate standard and to "recognise that she is an autonomous practitioner, regardless of the setting, and is accountable for her practice".[39] Furthermore, Standard 6 of *The Standards of Midwifery Practice (2008)* requires that a midwife "identifies deviations from the normal, and … consults and refers as appropriate".

158. As stated in a previous opinion:[40]

> "[M]idwives are responsible for their own practice … I note that the Midwives' Code of Ethics provides that 'Midwives have a responsibility to uphold their

[39] The Standards of Midwifery Practice (2008), Standard Seven.
[40] 09/01592

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> professional standards and avoid compromise just for reasons of personal or institutional expedience'. I do not consider being tired or fearing a reprimand justifies inaction in such a circumstance."

159. In this case, Ms C said: "I was embarrassed to ask [Ms D] to help me more." Ms C knew she was uncertain about the operation of the CTG machine. She was on notice that she had previously been measuring the maternal pulse, and she should have ensured she was measuring the fetal heartbeat. If she remained unsure, she knew there was assistance available to her. In my view, she had a professional obligation to act on her concerns.

160. I note Ms Ansell's advice that "[g]iven the lack of support [Ms C] experienced during this time the departures from a reasonable standard of care would be viewed as moderate". While I do have concerns about the level of support provided to Ms C (as discussed below), I consider that Ms C still had a responsibility to Ms A.

161. In my opinion, Ms C failed to provide services with reasonable care and skill when she failed to appropriately interpret the CTG, did not utilise a fetal scalp electrode, and failed to ensure that the fetal heart was being monitored. In my view, Ms C did not provide services to Ms A with reasonable care and skill and, accordingly, Ms C breached Right 4(1) of the Code.

162. Furthermore, Ms C failed to seek assistance from Ms D when she lacked confidence in her ability to operate the CTG machine, because she was too embarrassed to do so. As a result, the quality and continuity of services provided to Ms A were impaired. In my view, Ms C also breached Right 4(5) of the Code.

Opinion: Breach — Ms D

Clinical oversight and assistance

163. At approximately 8.50am Ms C rang the call bell for assistance, and Ms D responded. While I have received differing accounts of the reason Ms D was called — Ms C states that she was concerned about the CTG machine continuing to alarm, while Ms D advised that she was asked only to check the resuscitaire — there is no dispute that Ms D sighted the initial section of the CTG trace (which Ms Ansell advises would have been about 15 minutes) and observed that it was recording the maternal heart rate, rather than the fetal heart rate.

164. It was appropriate for Ms D to then show Ms C how to differentiate the fetal and maternal pulses by using the pulse oximeter. It was also reasonable for Ms D to assume that Ms C would call for further assistance if she still did not understand how to operate the CTG machine. Ms D should have advised Ms C and assisted her to attach a scalp electrode.

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165. Ms D knew that Ms C was a new employee, and so, once Ms D became aware that the CTG was recording the maternal, rather than the fetal heart rate, she should have taken the initiative and reviewed the entire CTG trace. As noted by Ms Ansell:

> "The piece of CTG immediately visible would have been at least 15 minutes long so [Ms D] must have been aware that it was the maternal pulse that had been monitored for at least that length of time. As the senior practitioner it would have been good practice to review the whole clinical picture and advise accordingly."

Delay in delivery

166. When Ms D returned to Ms A's room at approximately 9.30am, she identified that the maternal heart rate was still being recorded. She appropriately intervened at this stage by repositioning the transducer and immediately noted that there were abnormalities in the fetal heart rate. Ms D took steps to expedite the delivery, but did not contact the obstetrician.

167. I note Ms Ansell's advice that the "[f]etal monitoring was still not adequate" and that it would have been appropriate to attach a fetal scalp electrode and inform the obstetrician at that stage. Ms Ansell stated:

> "Despite the episiotomy being performed at 09.54hrs the baby was not born until 10.08hrs which is a significant delay. As the senior practitioner in the room it would be [Ms D's] responsibility to initiate calling for help."

Staff allocation

168. As clinical midwifery manager, Ms D's key responsibilities included: "To co-ordinate and facilitate quality care that is professional and patient-focused." Ms D advised that this involved "overseeing the functioning of the wards … and staff management for the maternity service for the NDHB". This included overseeing the allocation of staff and ensuring an adequate staff mix and levels of experience for each shift.

169. Ms D was aware that Ms A was the only woman in labour on the morning Day 3 of her admission, and that she was undergoing an induction of labour. I note Ms D's statement that, at that time, the DHB had no concerns about Ms C's clinical competence. However, in my opinion, Ms D failed to provide Ms C with adequate support and supervision.

170. In her statement to HDC, Ms C advised that she did not feel confident in her use of the CTG machine and was "embarrassed to ask for more help". The DHB was aware that she had not completed the CTG aspect of her orientation. As discussed above, while Ms C had a professional responsibility to provide Ms A with services of an appropriate standard, in my view, a midwife who had only recently returned to midwifery practice after a break of two and half years should not have been left solely in charge of Ms A, who was a high-risk patient. Once Ms D was aware that Ms C had been unwittingly recording the maternal heartbeat, she was on notice that Ms C required support and assistance.

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171. In my view, in these circumstances Ms D should have ensured that Ms C was appropriately supported and assisted by another NDHB midwife throughout Ms A's labour and the birth of Baby A.

Conclusion

172. In my view, Ms D did not take sufficient steps to assess the clinical picture at around 8.50am, when she became aware that the CTG was not correctly recording the fetal heart rate. Following that, she also failed to ensure that the fetal heart rate was being correctly monitored, by advising and assisting while Ms C repositioned Ms A, replaced the transducer and attached a fetal scalp electrode. I note Ms Ansell's advice that Ms D's failures would be viewed as a moderate departure from an acceptable standard.

173. When Ms D returned to the room at approximately 9.30am and identified that the CTG was abnormal, she should have connected a fetal scalp electrode. Although she recognised that the baby was at risk, she failed to contact the obstetric team. I note Ms D's comment that, because the consultant was not in the delivery suite at the time and delivery appeared to be imminent, she considered that the action she took was "the most expedient action at the time". However, Ms Ansell advised that Ms D's failures would be viewed as a moderate departure from an acceptable standard.

174. Ms D failed to provide services to Ms A with reasonable care and skill by not taking adequate steps to ensure that Ms A's labour was adequately monitored, and not ensuring that Ms C was appropriately supported and assisted. Accordingly, Ms D breached Right 4(1) of the Code.

175. In accordance with Standard 6 of *The Standards of Midwifery Practice (2008)*, once Ms D identified that there was a problem, she had a responsibility to consult and refer as appropriate. Furthermore, Standard 7 states that the midwife "in situations where another dimension of care is needed, ensures negotiation takes place with other care providers to clarify who has the responsibility of care".

176. By not contacting the on-call obstetrician at 9.30am when she knew that the CTG was abnormal, Ms D failed to provide Ms A with care in accordance with professional standards and, accordingly, also breached Right 4(2) of the Code.

Opinion: Breach — Northland District Health Board

177. The successful operation of a multidisciplinary team relies on all members of that team meeting their obligations of care. In this case the multiple failures of DHB staff suggest that there were inadequate systems in place in the DHB to ensure that all women would receive safe care. I am not convinced that NDHB took sufficient steps to ensure that Ms A was provided with appropriate services.

Support of Ms C

178. The provision of appropriate care depended on Ms C recognising that there was a problem with the CTG trace and seeking appropriate advice. Ms C had limited current

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midwifery experience. While she did have some previous experience as an independent practitioner, she had just returned to work after a two and a half year break. She had recently started work at the hospital, and had just completed the NDHB's two-week orientation programme, which included familiarising herself with the delivery suite protocols, such as the fetal monitoring guideline. However, she had not been able to complete the on-line CTG training programme, because of technical difficulties. Ms C had not used the CTG machine previously and was not familiar with its functions.

179. NDHB should have been aware of these factors and taken steps to ensure that Ms C was provided with adequate support until she had established her competence in the skills and knowledge required in the delivery suite. I note Ms Ansell's advice that NDHB "did not provide adequate support or supervision for a newly returned to practice midwife who was still undergoing orientation".

180. As discussed above, Ms D was the person directly responsible for placing Ms C in a position where she was unsupported and unsupervised. In my view, as NDHB failed to ensure that Ms C was provided with adequate training, support and supervision, the DHB did not provide services of an appropriate standard to Ms A.

Ms F's monitoring of Ms A

181. Hospital midwife Ms F was responsible for Ms A's care from the time Ms B handed over to the secondary care team at 6am until Ms C took over care at 6.50am. I acknowledge that there was some uncertainty around the handover from Ms B. However, Ms F listened to the fetal heart at 6.30am, carried out a vaginal examination at 7.15am, noting "clear/pinkish" liquor, and again listened to the fetal heart.

182. As discussed above, in light of the fact that Ms A was in labour following induction, had requested an epidural and was draining pink liquor, electronic fetal monitoring should have been commenced at this stage. Ms F did not monitor the fetal and maternal well-being, despite an indication to do so. However, on the morning of Day 3 of Ms A's admission, Ms F was involved in Ms A's care for only a short period of time, when the handover of care was still unclear.

183. I note Ms Ansell's advice that "[a]ssessment of maternal and fetal well being in this case was less than adequate and would be viewed as a moderate departure from accepted standard of care".

Ms D's monitoring of Ms A

184. Ms D had two opportunities to intervene and commence monitoring by use of a fetal scalp electrode, but she failed to do so.

Continuity of care

185. The interactions between the LMC, hospital midwifery staff, and the medical team were suboptimal. Ms A had asked for an epidural several times after 4.30am. Ms B stated that it was her expectation that the hospital midwife would arrange the epidural, while the DHB stated that the midwife who decided that the woman would have an

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epidural would "usually" contact the obstetrician. Ms B recorded at 6am, "secondary care for epidural as appropriate".

186. However, the obstetrician was not contacted until after care was handed over to Ms C at 6.50am. There was a further delay until 7.30am, when Ms C inserted the luer, by which stage the delivery was thought to be imminent and so Ms A accepted that it was too late to have an epidural.

187. In addition, the communication between Ms C and Ms D was inadequate, and Ms D failed to contact the on-call obstetrician. Given the involvement of a number of providers, the DHB needed to have systems in place to ensure that seamless care was provided to Ms A.

188. In my view, there was insufficient cooperation between the various providers, which impacted on the quality and continuity of the services the DHB provided to Ms A.

Conclusions

189. I consider that, in addition to the DHB's failings with regard to Ms C's training, support and supervision, there was a pattern of deficiencies in the DHB's services. These relate to the inadequate monitoring of Ms A, and responses to the monitoring by several staff members. In my view, NDHB failed to provide services to Ms A with reasonable care and skill and, accordingly, breached Right 4(1) of the Code.

190. In addition, the DHB failed to ensure that it had adequate systems in place to ensure that services of an appropriate quality and continuity were provided to Ms A. Accordingly, I find that NDHB breached Right 4(5) of the Code.

Recommendations

NDHB

191. The following recommendations made in my provisional opinion have been complied with:

- A written apology for its breaches of the Code has been received and sent to Ms A.
- HDC has received a copy of the finalised Induction of Labour and Fetal Surveillance guidelines.
- HDC has received a report reviewing the effectiveness of ensuring that the night senior house officers review all women undergoing induction of labour.
- NDHB has confirmed that all staff are now able to access the on-line training programme as part of their two-week orientation.
- HDC has received details of how the orientation training programme is monitored.
- HDC has received details of the support provided for new and/or returning staff.

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- NDHB has confirmed that its training and induction for all staff includes information that the practice in the DHB is that the asking of questions and reporting of concerns is expected and accepted from all members of the multidisciplinary team.

192. I further recommend that NDHB supply HDC with a copy of the training and induction material, and report to this Office by 4 February 2013 on the steps taken to ensure that there is a culture that encourages these actions.

Ms B

193. I recommend that Ms B provide a written apology to Ms A for her breaches of the Code. The apology should be sent to this Office by **25 January 2013** to be forwarded to Ms A.

Ms C

194. As stated, Ms C has provided a written apology to Ms A for her breaches of the Code.

Ms D

195. As stated, Ms D has provided a written apology to Ms A for her breaches of the Code.

Follow-up actions

- A copy of this report with details identifying the parties removed, except NDHB and the expert who advised on this case, will be sent to the New Zealand College of Midwives and ACC, and they will be advised of the names of Ms B, Ms C and Ms D.

- A copy of this report with details identifying the parties removed, except NDHB and the expert who advised on this case, will be sent to the Midwifery Council of New Zealand, and the Council will be advised of the names of Ms B, Ms C and Ms D. I will recommend that the Midwifery Council conduct a competence review of Ms C should she return to practice in New Zealand.

- A copy of this report with details identifying the parties removed, except NDHB and the expert who advised on this case, will be placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

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Appendix A: Expert advice — Lesley Ansell

"My name is Lesley Ansell. I have been asked by the Health and Disability Commissioner (HDC) to provide advice regarding the above complaint.

I am a Registered General Nurse (1981) and Registered Midwife (1983). I am employed as an Associate Clinical Charge Midwife Manager on the Assessment, Labour and Birth Unit at Middlemore Hospital, Auckland. As such I am familiar with current labour and birthing ward practices including induction of labour. Prior to this appointment I worked as a Lead Maternity Carer (LMC) for 10 years and a Midwifery Educator for 5 years.

I have read and agree to follow the HDC 'Guidelines for Independent Advisors' and have read the file provided by the HDC …

[At this stage Ms Ansell lists the documents provided by HDC, together with a summary of the background facts. This has been removed to prevent repetition].

Advice required

1. Please comment generally on the standard of care provided to [Ms A] by [Ms B], [Ms C], [Ms D] and NDHB.
2. What standards apply in this case?
3. Were those standards complied with?

I have addressed the above questions individually as follows:

[Ms B]
Summary of [Ms B's] involvement:

The clinical records indicate that [Ms B] attended [Ms A] at 23.30hrs on [Day 2 of Ms A's hospital admission]. [Ms A] had been experiencing painful contractions from 16.30hrs and the membranes had ruptured at 19.50hrs. [Ms A] was concerned about the presence of blood in the liquor which was thought likely to be a 'show'.

[Ms B] performed a vaginal examination at 23.50hrs. The cervix was 1–2cms dilated, 1 cm thick indicating that [Ms A] was not in labour at this time but she was experiencing significant uterine activity. The fetal heart was l45bpm after the examination. Following discussion with [Ms A], at 00.25hrs [Day 3] [Ms B] administered 100mg pethidine for pain relief. The fetal heart was auscultated again at 0l.15hrs and the rate was normal. [Ms A] was unable to sleep through the contractions which were unchanged.

There is no documentation in the clinical records to indicate that care had been handed over to a core midwife but the next entry occurs at 01.45hrs signed by [Ms F] when [Ms A] was given heat packs and paracetamol for pain relief. The fetal heart was auscultated next at 03.00hrs (141bpm) following a shower. [Ms F] comments that at this time [Ms A] was tired and unable to sleep through the contractions. Auscultation of the fetal heart took place again at 04.10hrs and was noted to be 130–140bpm.

[Ms B] performed a vaginal examination at 04.30hrs and the cervix was found to be 2–3cms dilated and effacing. This indicates that [Ms A] was now in the early or latent phase of labour. This phase of labour is described as 'a period of time, not necessarily continuous,

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when there are painful contractions and there is some cervical change including cervical effacement and dilatation up to 4cm' (NICE, 2007). By this time, [Ms A] had been experiencing painful contractions for 12 hours, required narcotic analgaesia, was in early labour and was classified as high risk for labour because labour had been induced with prostaglandins (RANZCOG, 2006). It would have been good practice to assess fetal well being with the use of electronic fetal monitoring (EFM) at this time. In fact, the fetal heart was auscultated by [Ms B] at 004.30hrs and no further fetal monitoring occurred before [Ms B] handed the care of [Ms A] over to core staff at 06.00hrs. No maternal observations were recorded during the period of time that [Ms B] was in attendance.

Advice required:

4. Please comment of the adequacy of [Ms B's] management of [Ms A's] labour. In particular:

a. The adequacy of her assessments:

The assessment of fetal and maternal well being made by [Ms B] was inadequate particularly after labour began at 04.30hrs. It is likely that fetal hypoxia developed at some point after the short but normal CTG performed at 23.08hrs [Day 2]. The high risk event of induction of labour with uterine activity for a significant period of time should have prompted closer monitoring of the fetal heart with EFM following the onset of labour at 04.30hrs.

b. The adequacy of her communication with the obstetrics team.

There is no record of [Ms B] having communicated with the obstetric team. In the absence of any identified deviation from the normal this is acceptable but when there is to be a transfer of care the requirement is to have a three way discussion between the woman, obstetrician and midwife (Primary Maternity Services Notice, 2007). I understand that it is not common practice for LMC's to contact the Obstetrician prior to handover of care at NDHB. As [Ms A] was undergoing induction of labour it would have been good practice to liaise with and inform the obstetric team with regard to management and progress.

c. The adequacy of her documentation.

The documentation by [Ms B] regarding discussions with and the care that [Ms A] received is explicit throughout. The documentation regarding discussions with core staff regarding the Syntocinon infusion and the transfer of care to core staff (01.45–04.30hrs) is less than adequate.

Additional comment:

Even though [Ms B] had clearly explained to [Ms A] that she would not provide care if an epidural was sited, [Ms A] never in fact had an epidural. It would have been appropriate for [Ms B] to continue midwifery care until such time as the epidural had been agreed by the Obstetrician and the Anaesthetist available to site the epidural, before handing care over to core midwifery staff.

Conclusion

The midwifery care provided by [Ms B] to [Ms A] was of a reasonable standard prior to the onset of labour but was not of a reasonable standard following the onset of labour at 04.30hrs.

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[Ms B] failed to make appropriate assessments of maternal and fetal well being. This would be seen as a moderate departure from a reasonable standard of care (Standard 6).

[Ms B] transferred care to core staff without communication with the obstetric team or facilitating the epidural request thus denying [Ms A's] right to continuity of care. This would be seen as a moderate departure from a reasonable standard of care (Standard 6).

The documentation was below standard because there was no reference to discussions regarding Syntocinon infusion or transfer of care (01.45hrs–04.30hrs) to core midwifery staff. This would be seen as a minor departure from a reasonable standard (Standard 7).

[Ms C]
Summary of [Ms C's] involvement:

[Ms C] cared for [Ms A] in the 2 days prior to the birth of [Baby A]. During this time appropriate maternal and fetal assessments were made including seeking advice regarding a CTG which began at 10.36hrs on [Day 2] when [Ms C] was concerned about increases in the fetal heart rate. In my opinion, this is a normal CTG which accelerates in response to fetal movements and the baseline rate returns to a normal rate of 150bpm by 11.35hrs. A subsequent CTG commencing at 13.35hrs is entirely normal and shows the presence of some irregular uterine activity. [Ms C] monitored the fetus appropriately before and after administration of prostaglandin and again at 17.50hrs soon after the tightening experienced by [Ms A] became painful. [Ms C] handed over care to [Ms F] at 19.30hrs.

[Ms C] reassumed care for [Ms A] at 06.50hrs on [Day 3] when [Ms A] was in labour (7cm dilated) and had requested an epidural. At 07.l5hrs, a vaginal examination was performed by [Ms F] and the fetal heart was noted to be 155bpm with the liquor documented as clear/pink. Epidurals can cause a decrease in maternal blood pressure which can affect the fetus and there was now the possibility of bleeding (pink liquor). The liquor had previously been clear. Given these factors along with the induction of labour, it would have been appropriate to commence continuous CTG monitoring at this time. Maternal observations to assess well being were never recorded.

Continuous CTG was commenced at 07.49hrs as decelerations of the fetal heart were heard by [Ms C]. The CTG between 07.49 and 08.00hrs is abnormal. The baseline variability is reduced with variable decelerations which indicate that the fetus may be compromised (RANZCOG, 2006). [Ms C] conducted a vaginal examination at 08.00hrs and found the cervix to be fully dilated. The fetal heart during the examination was 100–110bpm and this along with the previously abnormal CTG warranted the attachment of a fetal scalp electrode to ensure adequate contact with the fetus, particularly during the second stage of labour when the fetal heart cannot be easily auscultated during a contraction. It would also have been good practice to inform the Obstetrician on call of the abnormal CTG.

At 08.07hrs, [Ms C] documented that the liquor was pink and the fetal heart l60bpm with late decelerations. Late decelerations are a cause for concern (RANZCOG, 2006) and again it would have been good practice to inform the Obstetrician on call of these two concerning factors. [Ms A] began pushing at this time.

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The CTG between 08.07hrs and 08.24hrs continued. It is difficult to ascertain whether the CTG here is recording maternal pulse rate or fetal heart and this may have falsely reassured [Ms C]. The CTG pattern is however markedly different from the CTG between 07.49 and 08.00hrs and should have alerted [Ms C] to the possibility of this not being the fetal heart that was recording.

At 08.25hrs [Ms A] was turned into the kneeling position (as documented on the CTG). It is very difficult to maintain contact in the kneeling position with the fetal heart when monitoring by external ultrasound transducer. [Ms C] wrote on the CTG and in the clinical records 'picking up maternal, can hear baby in background'. She also documented in the records at 08.30 that the CTG was recording the maternal pulse. This indicates that [Ms C] was unsure whether she was monitoring the fetal heart or maternal pulse, so again it would have been appropriate to attach a fetal scalp electrode.

At 08.25hrs [Ms C] wrote 'been holding CTG monitor on FHR, much better connection, still having decels (late) , but very quick recovery'. At 08.48hrs the comment 'maternal' is documented on the CTG which again indicates that [Ms C] was unsure whether she was monitoring the maternal pulse or the fetal heart.

At 08.50hrgs [Ms D] answered the call bell and suggested to [Ms C] that she put on the maternal pulse oximeter to ensure that she was differentiating between maternal and fetal pulse. [Ms C] did this and documented accordingly on the CTG at 08.52hrs. The maternal pulse rate is recorded intermittently on the tocograph section of the CTG — in figures — and corresponds with rate as recorded on the cardiograph section. If the maternal pulse and ultrasound transducer are recording the same rate, then a question mark (?) is displayed on the recording. In this case, the question mark was displayed from this point onwards. The facility to record maternal pulse is only available on more recent versions of the CTG machines. [Ms C] states in her response that she believed she was monitoring the fetal heart following placement of the pulse oximeter yet this was not verified by the CTG recording. She also states that she had not used that particular CTG machine before, was trying to figure out the different functions and that the machine kept alarming. It would have been appropriate therefore to ask for assistance if she was unsure as to the functionality of the machine.

The CTG remained unchanged until [Ms D] re-entered the room at 09.40hrs as recorded on the CTG tracing. She adjusted the cardiograph transducer and found that there was a fetal tachycardia, with reduced variability and decelerations. She subsequently instituted measures to expedite the birth.

Advice required:

5. Please comment on the adequacy of [Ms C's] management of [Ms A's] labour. In particular:

a. The adequacy of her assessments:

In the 2 days preceding [Ms A's] labour ([Days 1 and 2]), [Ms C] made assessments and managed [Ms A's] care appropriately. When she reassumed care at 06.50hrs on [Day 3], [Ms C] failed to monitor fetal and maternal well being adequately. She did not make the

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appropriate assessment of the CTG at 07.49hrs which was abnormal. She subsequently did not assess fetal well being by ensuring that it was the fetal heart rather than the maternal pulse that was being monitored which could have been achieved by attaching a fetal scalp electrode. Adequate monitoring of the fetal heart at this stage would have highlighted the increasing fetal hypoxia. Maternal assessments of well being such as blood pressure and temperature were never made. Although the pulse oximeter was recording the maternal pulse, [Ms C] did not manually check the pulse. Had she done so she may have been alerted to the fact that the monitor was in fact recording the maternal pulse

b. Her assessment of the CTG trace.

If [Ms C] believed that during the second stage it was the fetal heart that was being monitored, then she could have misinterpreted the CTG as being acceptable except for the CTG tracing between 07.49hrs and 08.05hrs which was abnormal and required referral to the Charge Midwife or Obstetrician on call. If she was aware that it was the maternal pulse that was being monitored, then she had a responsibility to ensure this was corrected. Her statement and the clinical records indicate the difficulty she had with the function of the CTG machine. It is difficult therefore to form a definitive opinion regarding [Ms C's] interpretation of the CTG during the second stage.

c. Her response after [Ms D] highlighted to her that she was monitoring the maternal heart beat at approximately 8.30am.

[Ms C's] response after [Ms D] highlighted to her that she was monitoring the maternal heart beat at approximately 8.30am was inadequate as she subsequently did not ensure that it was the fetal heart that was being monitored. She also failed to seek advice when unsure as to the use of the CTG machine.

d. What other steps should she have taken in relation to her assessment and management of [Ms A]?

[Ms C] should have commenced EFM when taking over the care of [Ms A] at 06.50hrs as she was established in labour following induction with prostaglandin, requesting an epidural and draining pink liquor. When the CTG at 07.49hrs was abnormal, referral to the obstetric team would have been the appropriate course of action. [Ms C] should also have attached a fetal scalp electrode during the vaginal examination at 08.00hrs to ensure adequate monitoring of the fetus throughout the second stage. Doing this would have identified the need for intervention.

Additional comment:

Midwife [Ms F] took over the care of [Ms A] at 06.30hrs and auscultated the fetal heart at 06.30hrs and only once again following the vaginal examination performed at 07.15hrs. She also did not commence continuous EFM despite the fact that [Ms A] was now in established labour following induction and draining 'clear/pinkish' liquor. Assessment of maternal and fetal well being in this case was less than adequate and would be viewed as a moderate departure from an accepted standard of care (Standard 6).

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Conclusion

The midwifery assessments made by [Ms C] prior to the onset of labour were reasonable. Following the onset of labour however, [Ms C] failed to make adequate assessment of fetal or maternal well being, failed to refer to the obstetrician on call when the CTG was abnormal at 07.49hrs She did however continue the CTG as she recognised the need to monitor the fetal heart and was probably falsely reassured by the continuing CTG which was in fact tracing maternal pulse. Her statement and the clinical records indicate the difficulty she had with the function of the CTG machine but she was reassured by the fact that [Ms D] had seen the CTG at 08.50hrs.

In addition, [Ms C] had recently been employed at NDHB and was still orientating to the labour ward. She had not worked as a midwife for over two years. The labour ward was quiet and [Ms A] was the only woman in labour at the time. In this case it would have been appropriate for another NDHB midwife to be supporting, assisting and advising her throughout [Ms A's] labour and birth. Given the lack of support [Ms C] experienced during this time the departures from a reasonable standard of care would be viewed as moderate (Standard 6).

[Ms D]
Summary of [Ms D's] involvement:

At 08.30hrs on [Day 3 of Ms A's admission] [Ms D] responded to an assist call from [Ms C]. [Ms A] was pushing in the kneeling position. [Ms D] noticed that the machine appeared to be recording the maternal pulse and advised [Ms C] that she should put on the maternal pulse oximeter to ensure she was differentiating between the maternal and fetal pulse. At approximately 09.30hrs, [Ms D] re-entered the room as she had expected [Ms A] to have birthed by then. She noticed that the CTG was still tracing the maternal pulse and repositioned the monitor. The CTG indicates that the monitor was repositioned at 09.40hrs. The subsequent tracing initially shows a marked fetal tachycardia, with absent variability and profound decelerations, the quality of the remaining CTG trace is poor with significant loss of contact and episodes of maternal heart rate again being recorded from 09.50hrs. [Ms D] moved [Ms A] into the lithotomy position, infiltrated the perineum with local anaesthetic and an episiotomy was performed at 09.54hrs (as indicated on CTG) to expedite the birth. The baby was born at 10.08hrs, in very poor condition, requiring resuscitation.

6. Please comment on the adequacy of [Ms D's] involvement in [Ms A's] labour. In particular:

a. Do you consider that [Ms D] should have reviewed the CTG more carefully when she went in to assist [Ms C] at 8.30am?

I do consider that [Ms D] should have reviewed the CTG more carefully at 08.30hrs. When [Ms D] entered the room she was aware that the CTG was recording maternal pulse and not the fetal heart. The piece of CTG immediately visible would have been at least 15 minutes long so [Ms D] must have been aware that it was the maternal pulse that had been monitored for at least that length of time. As the senior practitioner it would have been good practice to review the whole clinical picture and advise accordingly particularly as she was aware that [Ms C] was new to service and was obvious not familiar with the functions of the CTG machine.

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b. The adequacy of the advice [Ms D] gave to [Ms C].

When [Ms D] realised that it was the maternal pulse that was being monitored she appropriately advised [Ms C] to connect a maternal pulse oximeter and in her letter of 5 May 2011, she states that she showed [Ms C] how to differentiate the fetal and maternal heart. Following this, if [Ms C] did not understand the function of the machine then she should have alerted [Ms D] accordingly and sought further advice.

[Ms D] also states that [Ms A] was in the kneeling position and as it is difficult to maintain ultrasound contact with the fetal heart in this position, a fact which [Ms D] had identified in this case, then it would have been appropriate for [Ms D] to have advised [Ms C] to attach a fetal scalp electrode to ensure contact with the fetus.

[Ms D] returned to the room at approximately 09.30hrs and by 9.40hrs identified the abnormalities occurring in the fetal heart pattern. She acted appropriately by moving the woman in order to expedite the birth, but there were significant delays in achieving this. The quality of the CTG tracing was poor for the remainder of the second stage and it would have again been appropriate to attach a fetal scalp electrode and inform the obstetrician on call to ensure expedition of the birth as soon as possible. Despite the episiotomy being performed at 09.54hrs the baby was not born until 10.08hrs which is a significant delay. As the senior practitioner in the room it would be [Ms D's] responsibility to initiate calling for help.

c. Should [Ms D] have taken more steps to assist [Ms C] when she identified she was monitoring the maternal heart beat at 8.30am?

Yes, by ensuring that the fetal heart was adequately monitored. As [Ms C] had just returned to midwifery practice and was unfamiliar with the new CTG machines it would have been good practice to remain in the room and ensure that the ultrasound was in fact tracing the fetal heart, or by asking [Ms C] to attach a fetal scalp electrode.

d. Was there anything else that [Ms D] should have done in relation to her assessment and the CTG?

As discussed above, it would have been good practice for [Ms D] to have advised [Ms C] to attach a fetal scalp electrode at 08.30hrs when it was obvious there were difficulties in monitoring the fetal heart. As the senior practitioner, when it became obvious at 09.40hrs that the CTG was very abnormal, she should have informed the Obstetrician on call to expedite the birth and attach a fetal scalp electrode to ensure adequate assessment of the fetal heart.

Conclusion

The midwifery care provided to [Ms A] by [Ms D] was below standard. As the senior practitioner it would have been good practice to review the CTG more closely at 08.30hrs and advise that a fetal scalp electrode be attached, This would be seen as a moderate departure from a reasonable standard of care (Standards 6 & 7).

Whilst [Ms D] did make efforts to expedite the birth when the CTG was very abnormal at 09.40hrs there were significant delays. Fetal monitoring was still not adequate and obstetric assistance was not sought. Instrumental delivery of the baby could have hastened the birth but given the severe hypoxia in the fetus it would have been extremely unlikely to have altered

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the outcome. This departure from a reasonable standard of care would be seen as moderate (Standard 6).

Northland DHB

7. Did Northland DHB have adequate systems in place to ensure that women in labour were adequately monitored?

I note that NDHB Prostaglandin Induction of Labour and the Intrapartum Fetal Surveillance Guidelines provided have an issue date of September 2010 so were not current at the time of the event. I am unable therefore to comment as to the expectations of NDHB regarding fetal surveillance during induction of labour at that time.

NDHB were following the Primary Maternity Services Notice: Referral Guidelines (2007) whereby induction of labour is classified as level 2 meaning that the LMC must recommend that consultation with a specialist is warranted but that the specialist will not automatically assume responsibility for ongoing care. Since this unfortunate event however, I note that there has been an appropriate change in practice whereby women undergoing induction of labour are admitted under the Consultant of the day and highlighted on the labour ward board so that the obstetric team are kept informed of the clinical situation.

[Ms C] had recently returned to midwifery practice and was allocated the care of [Ms A] at the commencement of her shift at 07.00hrs. The labour ward was quiet at the time and [Ms A] was the only woman in labour. [Ms C's] management of the labour was not reviewed by the midwife in charge until [Ms C] called for help at 08.50hrs and the situation was not reviewed in full by [Ms D] at that time. NDHB therefore did not provide adequate support or supervision for a newly returned to practice midwife who was still undergoing orientation.

Further advice

In addition to the above, I have read the following which have been forwarded by HDC:

• NDHB Induction of Labour Guideline: Current Issue date: July 2008.

• NDHB Performing CTG Recordings (Draft Protocol): Date of Issue: Sept 2000.

• HFA Maternity Services: A Reference Document: Nov 2000.

These guidelines were current at the time of the event.

Advice required:

Did Northland DHB have adequate systems in place to ensure that women in labour were adequately monitored?

The Induction of Labour Guideline (July 2008) provides clear guidelines regarding the dose and administration of prostaglandin and Syntocinon. The assessments to be undertaken including maternal recordings of temperature, blood pressure and pulse rate as well as monitoring of the fetal heart rate are clearly identified. This guideline relates to induction of labour only, not to ongoing intrapartum care, and is appropriate in this regard.

The Fetal Monitoring in Labour Guideline is a draft protocol and is out of date (revision due 2004) but was the document current at the time of the event. The protocol for continuous

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FHR monitoring in labour states 'Should be performed as per HFA guidelines or as directed by an obstetrician.' The HFA guideline is a lengthy (92 pages) document which does not make specific reference to fetal heart rate monitoring in labour and was less than adequate in this regard. The facility services provided by NDHB were adequate in that they provided the appropriate equipment for care during labour and obstetric, paediatric and core midwifery staff were available throughout."

Further advice provided by Ms Ansell — 7 November 2012

"*1. If [Ms A] was not in established labour at 04.30am, what were [Ms B's] responsibilities for maternal and fetal monitoring?*

At 04.30hrs [Ms B] performed a vaginal examination and the cervix was found to be 2–3cms dilated and effacing. Contractions were occurring every 3 minutes. This indicates that [Ms A] was in the early or latent phase of labour. This phase of labour is described as 'a period of time, not necessarily continuous, when there are painful contractions and there is some cervical change including cervical effacement and dilatation up to 4cm' (NICE, 2007). By this time, [Ms A] had been experiencing painful contractions for 12 hours. Narcotic analgaesia had been administered for pain relief. She was therefore in early labour following and classified as high risk because labour had been induced with prostaglandins (RANZCOG, 2006) in a post-term pregnancy (NICE, 2007). The fetal heart was auscultated by [Ms B] at 04.30hrs and no further fetal monitoring occurred before [Ms B] handed the care of [Ms A] over to core staff at 06.00hrs. No maternal observations were recorded during the period of time that [Ms B] was in attendance.

Women who are being induced are high risk for two reasons. Firstly, prostaglandins have been administered (RANZCOG, 2006) to stimulate uterine contractions and secondly, the reason for the induction deems that it is safer for the fetus to be delivered than to remain in-utero e.g. post-term pregnancy (NICE, 2007) as was the case with [Ms A]. Women who are being induced therefore should not be managed in the same way as women in normal labour. Increased fetal surveillance is required in these circumstances i.e. continuous electronic fetal monitoring (EFM) (RANZCOG, 2006). This is particularly important during the presence of contractions as there is an increased risk of fetal hypoxia at this time (NICE, 2007).

At 04.30hrs following induction of labour for a post-term pregnancy, [Ms A] has been experiencing painful contractions for 12 hours. At this point, the contractions were occurring every 3 minutes. The fetal heart was not monitored and maternal observations were never recorded. [Ms B] had a responsibility to manage [Ms A's] care in accordance with her individual high risk circumstances i.e. as for induction of labour with a post-term pregnancy and EFM should have commenced.

In this case, both fetal and maternal monitoring was inadequate.

1. In light of [Ms B's] view that she was not in established labour, when [Ms A] advised that she wanted an epidural, what were her responsibilities in relation to:
   a. handing over to core midwifery staff

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The vaginal examination was performed at 04.30hrs. Care was handed to core midwifery staff at 06.00hrs. During this time [Ms A] continued to experience regular contractions. Epidural anaesthesia for pain relief is only administered to women who are in labour. If [Ms B] believed that [Ms A] was not in labour then she should have advised her that it was not appropriate to have an epidural and discuss other forms of pain relief. Also — there was a period of one and a half hours following the examination and before handing over to core midwifery staff where [Ms A] continued to experience contractions. It would have been appropriate therefore that [Ms B] re-examine [Ms A] at 06.00hrs to assess cervical dilatation to see whether it was appropriate for her to have an epidural. This would have determined whether labour was progressing rapidly — as happened with [Ms A]. In fact the labour was progressing so rapidly that once the core midwifery staff took over the care and examined [Ms A] it was discovered that the labour was too far advanced to administer an epidural. [Ms B] should have made this assessment prior to leaving.

b. contacting the obstetric team to make arrangements for the epidural.

Referral to obstetric services for an epidural is a consultation process (previously known as a level 2 referral) (Primary Maternity Services Notice, 2007). When a consultation occurs, the decision regarding ongoing care, advice to the LMC on management, and any recommendation to subsequently transfer care must involve a three-way conversation between the specialist, the LMC and the woman. At the time of the consultation, the responsibility for maternity care remains with the LMC (Primary Maternity Services Notice, 2007).

[Ms B] never discussed [Ms A's] request for epidural with the Obstetrician as per the Primary Maternity Services Notice: Guidelines for Consultation with Obstetric and Related Medical Services (2007) nor did she assess [Miss A's] suitability for an epidural. She handed care over to core midwifery staff and left.

[Ms B] did not fulfil her responsibilities regarding suitability for, or transfer of care.

References

NICE. (2007). Clinical guideline: Intrapartum Care. London: National Institute of Clinical Excellence.

NZCOM. (2008). Midwives Handbook for Practice. Christchurch: New Zealand College of Midwives.

Primary Maternity Services Notice, (2007). Notice Pursuant to Section 88 of the New Zealand Public Health and Disability Act 2000. Wellington: Ministry of Health.

RANZCOG. (2006). Intrapartum Fetal Surveillance Clinical Guidelines. 2nd edition. Victoria: Royal Australasian and New Zealand College of Obstetricians and Gynaecologists.

Lesley Ansell

Midwifery Council No: 15-19068"

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