Obstetrician & Gynaecologist, Dr C

Midwife, Ms A

Taranaki District Health Board

A Report by the

Health and Disability Commissioner

(Case 12HDC00481)

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Executive summary

Relevant facts

1. In 2011 Mrs B was pregnant with her first child. Mrs B's antenatal care was shared between general practitioner Dr D and her Lead Maternity Carer, obstetrician and gynaecologist Dr C. The nature of the shared care arrangement between Drs C and D was somewhat unclear, and Mrs B saw Dr C only three times during her pregnancy. For the four days following Mrs B's due date (Friday – Monday), Dr C was on leave.

2. At midday on Monday Mrs B was admitted to a public hospital (the hospital), having experienced uterine activity since Thursday. Mrs B was assessed by a duty midwife, who instituted a period of CTG monitoring, the results of which were reassuring. At 5.30pm Mrs B's waters were artificially ruptured by another duty midwife, who recorded the liquor to be stained with old meconium. As the evening progressed, Mrs B laboured in a birthing pool and continued to be monitored, but no further CTG monitoring occurred.

3. At 11pm duty midwife Ms A came on duty and took over Mrs B's care. At that time Mrs B had a raised temperature and had started to feel unwell. Ms A instituted cooling measures, and Mrs B's temperature returned to normal by 11.30pm. However, Mrs B had a raised pulse that was within the same range as the fetal heart rate (FHR), and had begun to feel tired and thirsty. Mrs B left the birthing pool at that time.

4. Between 12am and 1am on Tuesday Mrs B's condition deteriorated. In the context of Mrs B having had a raised temperature the previous hour and a pulse that was significantly above normal limits (and within the same range as the FHR), there was a raised FHR and copious amounts of meconium stained liquor was draining. Ms A called the Neonatal Unit (NNU) at 1.10am to advise "of the possibility of being called for resuscitation" following delivery. However, she did not contact Dr C or institute CTG monitoring. At 2.20am Mrs B's temperature was again raised (39.5°C). At 2.37am, following further assessment, Ms A contacted Dr C.

5. At 2.50am Dr C arrived in the delivery suite. Dr C advised that he considered an instrumental or forceps delivery but discounted those options, partially because of an unfounded assumption that Mrs B did not want obstetric input into her care. At 3.20am a Syntocinon infusion was commenced in the continued absence of CTG monitoring and, at 3.50am, Baby B was born — pale, floppy, and covered in meconium. At 3.55am Dr C consented to Ms A's third request to call the NNU, once his own attempts to resuscitate Baby B had failed.

6. Following resuscitation, Baby B was transferred by air ambulance to another hospital, where she was treated for hypoxic ischaemic encephalopathy,[1] seizures and suspected sepsis (a diagnosis of Group B Streptococcus sepsis was later confirmed). Baby B has since experienced significant health difficulties and developmental delay.

[1] A clinically defined syndrome of disturbed neurological function in the earliest days of life in the term infant, manifested by difficulty with initiating and maintaining respiration, depression of tone and reflexes, sub-normal level of consciousness and often seizures.

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Commissioner's findings

7. Dr C did not provide services to Mrs B and Baby B with reasonable care and skill, failed to adhere to professional standards, did not provide Mrs B with information that a reasonable consumer in her circumstances would have expected to receive, and failed to obtain informed consent. Accordingly, Dr C was found in breach of Rights 4(1),[2] 4(2),[3] 6(1)(b)[4] and 7(1)[5] of the Code of Health and Disability Services Consumers' Rights (the Code).

8. Ms A did not provide services to Mrs B with reasonable care and skill and failed to adhere to professional standards. Accordingly, Ms A was found in breach of Rights 4(1) and 4(2) of the Code.

9. Multiple individual failures of Taranaki DHB staff suggest that there were inadequate systems in place at Taranaki DHB to ensure that women received safe care. Some of the guidelines in place at Taranaki DHB's labour ward were suboptimal and/or not routinely complied with, and a culture existed that compromised the standard of care provided in this instance. Overall, Taranaki DHB did not provide services to Mrs B and Baby B with reasonable care and skill, and did not ensure quality and continuity of services. Accordingly, Taranaki DHB was found in breach of Rights 4(1) and 4(5)[6] of the Code.

Complaint and investigation

10. The Commissioner received a complaint from Mr and Mrs B about the services provided to Mrs B and their baby. The following issues were identified for investigation:

- *Whether midwife Ms A provided Mrs B and Baby B with an appropriate standard of care in 2012.*
- *Whether obstetrician Dr C provided Mrs B and Baby B with an appropriate standard of care.*

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[2] Right 4(1) of the Code states: "Every consumer has the right to have services provided with reasonable care and skill."
[3] Right 4(2) of the Code states: "Every consumer has the right to have services provided that comply with legal, professional, ethical, and other relevant standards."
[4] Right 6(1)(b) of the Code states: "Every consumer has the right to the information that a reasonable consumer, in that consumer's circumstances, would expect to receive, including — an explanation of the options available, including an assessment of the expected risks, side effects, benefits, and costs of each option."
[5] Right 7(1) of the Code states: "Services may be provided to a consumer only if that consumer makes an informed choice and gives informed consent, except where any enactment, or the common law, or any other provision of this Code provides otherwise."
[6] 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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- *Whether Taranaki District Health Board provided Mrs B and Baby B with an appropriate standard of care in 2012.*

11. The parties directly involved in the investigation were:

Ms A	Midwife
Mrs B	Consumer
Mr B	Consumer's husband
Dr C	Obstetrician/Gynaecologist/LMC
Taranaki District Health Board	Provider

Also mentioned in this report:
Dr D, general practitioner
Ms E, duty midwife
Dr F, obstetrician and gynaecologist advisor to ACC

12. Information from ACC was also reviewed in the course of the investigation.

13. Independent expert advice was obtained from midwife Jacqueline Anderson (**Appendix A**) and obstetrician and gynaecologist Dr Jennifer Westgate (**Appendix B**).

Information gathered during investigation

Background

14. In 2011 Mrs B, aged 20 years, was pregnant with her first child.

15. Mrs B's antenatal care was shared between general practitioner (GP) Dr D and Mrs B's Lead Maternity Carer (LMC), obstetrician and gynaecologist Dr C.[7] Throughout that period Mrs B was in good health, and the progress of her pregnancy was generally unremarkable.

Antenatal care provided

Shared care arrangement

16. Dr C advised HDC that, when acting as LMC in the context of a shared care arrangement, his normal practice was to see a woman for her initial consultation and then take over her care at 28 weeks (Dr C advised that this would normally involve him seeing the woman around 10 times). However, Dr C advised that he saw Mrs B only twice after her initial appointment with him, at 33 and 37 weeks' gestation.

[7] Dr C was employed by Taranaki District Health Board (Taranaki DHB) and also practised privately. In the course of this investigation, Dr C advised HDC that he provided services to Mrs B in his capacity as a private obstetrician. Dr C has since retired from both public and private practice.

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17. Dr C initially stated that the reason for his having seen Mrs B only twice after 28 weeks was "unknown to [him]"; however, later he advised of his impression that this was because Mrs B did not wish to attend further consultations with him, as she did not want to have obstetric "interference" in her pregnancy and/or labour. Dr C said that this impression was based on what his nurse had told him (he advised of his understanding that, when the nurse had tried to schedule appointments for Mrs B, she had declined). However, when questioned further about this during HDC's investigation, Dr C conceded, "I haven't actually discussed [this issue] with my nurse at all."

18. Dr D advised HDC that patients who requested antenatal care in rural towns outside of the city would see her for their antenatal checks, but Dr C (based in the city) would be their LMC. Dr D advised that, in this shared care context, "[the patient] would see [Dr C] for a booking visit around 14 weeks and then often see him again in the third trimester for at least one visit". Regarding the third trimester, Dr D advised that "[m]any [patients] preferred to keep coming to [the rural town] throughout the third trimester as it was a lot less travelling for them". Regarding Mrs B, Dr D advised:

> "[Dr C] knew that [Mrs B] [knew my practice nurse] and that she wanted to have most of her third trimester visits in [the rural town] both to avoid travelling and to see me and [my practice nurse]."

19. Mrs B advised HDC that she saw Dr C "maybe three or four times" in the course of her pregnancy and saw Dr D every week. Mrs B said that the reason she continued to see Dr D, rather than Dr C, was that she was in closer proximity to Dr D and felt comfortable with her. When Mrs B was asked if Dr C was her LMC, she replied "along with [Dr D]".[8]

Communication between shared care providers

20. Dr D and Dr C did not provide copies of any written communication between themselves regarding their shared care of Mrs B's pregnancy. In terms of verbal communication, Dr D advised that she and Dr C "often talked about the patients as we worked closely together at the hospital". However, Dr C stated:

> "There was very little communication between me and [Dr D] during the pregnancy except for her to say that [Mrs B] was happy to continue to see her. At the time, [Dr D] was also working in our department at the hospital as a Medical Officer and we would occasionally discuss [Mrs B]."

Clinical documentation of consultations

21. Dr D and Dr C each provided the notes from their appointments with Mrs B.[9] The notes recorded by Dr C were brief, and recorded little more than Mrs B's weight, blood pressure and gestation at each appointment. The brief notes under the column

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[8] Under DA2(7) of the Primary Maternity Services Notice (pursuant to section 88 of the New Zealand Public Health and Disability Act 2000), a woman can have only one LMC.

[9] It is noted that Taranaki DHB also provided Mrs B's undated Birth Booking Form, which had Dr C's stamp on it.

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entitled "Remarks, Discharge, Prescriptions, etc" were difficult to decipher, but appear to record that Mrs B's presentation was satisfactory, with no tests required.

22. In terms of the documentation that Dr C was required to complete as Mrs B's LMC,[10] he advised:

> "I do not have any documentation relating to [Mrs B] as her LMC care plan would have been discussed later in her pregnancy and, as discussed in earlier communications, most of the pregnancy was managed by her general practitioner … I do not have any information that I would have provided to [Mrs B] regarding my role and responsibilities as LMC."

23. The notes provided by Dr D did not include any care plan regarding Mrs B's pregnancy or labour.

Expectations regarding labour

24. Dr C advised HDC that he "always attended all [his] patients in labour and deliveries". Similarly, Dr D stated that "[t]he understanding for all our shared care patients would be that [Dr C] would have overall responsibility for their care and provide labour and birth care". However, when HDC asked Mrs B about her expectations regarding the birth, she advised that she was not under the impression that Dr C would be there; she said, "[A]s far as we were aware, the [hospital] midwife was going to do it," and that Dr C would not be called in unless he was needed.

Dr C's leave

25. Between Friday and Monday, Dr C was out of town on leave. Dr C advised HDC that "[w]hen away from [the city] we [LMCs] have an understanding that the LMC duties are taken over by the on call duty obstetrician. This rule has been in place for many, many years."

26. Dr C explained that the above understanding/rule is activated by the departing obstetrician writing his or her name on the notice board in the labour ward office at the hospital, resulting in the duty obstetrician taking over the responsibility of that LMC. Dr C advised that he recalls following that process when he went on leave on Friday. Regarding Dr C's return on Monday, he advised that he "didn't give a return time because [he] wasn't sure what time [he] would return". Dr C was therefore asked if he expected to be contacted on Monday evening. In response, Dr C stated:

> "I wasn't expecting to but usually, I don't know what they usually do. I often have got back and had a call similar to that. I guess being a specialist obstetrician for all these years, one expects to be on call 24 hours a day, seven days a week. So I guess my expectation was that I would be called although as I say, I had no idea that [Mrs B] was there at all."

[10] The requirements of an LMC are set out in The Maternity Service Notice pursuant to section 88 of the New Zealand Public Health and Disability Act 2000 (April 2007).

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27. Taranaki DHB confirmed the above process at the hospital for when an obstetrician goes on leave, and advised that it is "known to everyone who works on the unit" and "who to contact as the duty Obstetrician is clear 24/7". Duty Midwife Ms A also confirmed her knowledge of the process, but advised that she understood that Dr C's "normal practice" was to be back on duty from 8pm on the evening he was down to return from leave (ie, in this case, Monday).

28. Dr C advised that, when acting as an LMC, he expected to be contacted by the relevant midwife as soon as there were any problems or, if there were no problems, as soon as the woman was fully dilated. Dr C advised that his expectation in this regard was known by the hospital. Ms A confirmed Dr C's expectations regarding being contacted and, in addition, stated that Dr C also liked to be contacted when the woman arrived in the labour ward.

Thursday (40 weeks plus one day)

29. At 5pm on Thursday, Mrs B telephoned the hospital and spoke to the duty midwife. The clinical notes record that Mrs B advised that she had been having Braxton Hicks contractions[11] for two days at the rate of one every 30 minutes, had had a show[12] at 2.30am, and was experiencing uterine activity (contractions) every seven to ten minutes. Mrs B advised that she had seen Dr D the previous day, and all was well at that visit.

30. The duty midwife documented that she advised Mrs B to have a shower or bath, take two paracetamol and keep in touch with the hospital once her contractions were every five minutes or she was unable to talk through the contractions, or had a spontaneous rupture of membranes or bleeding (at which point she was advised to come into the hospital). The notes documented that Mrs B was aware that Dr D was on call and was at the hospital that day.

Friday (40 weeks plus two days)

31. At 11.30am on Friday, Mr Mr B telephoned the hospital and spoke to the duty midwife. The clinical notes record that Mr B advised that Mrs B was in labour and had been experiencing contractions at the rate of one every five minutes. The duty midwife advised Mrs B to stay at home until she was contracting once every two to three minutes, with the contractions lasting 60–90 seconds. The duty midwife advised Mr B to call if Mrs B's waters broke and the liquor was green, or if there was any fresh vaginal bleeding or any other concerns. Mrs B was advised to stay at home as long as she could, as that would aid her progress in labour. The clinical notes record that Mr and Mrs B were happy with that advice.

[11] Braxton Hicks contractions are a tightening of the uterine muscles for one to two minutes and are thought to be an aid to the body in its preparation for birth. Not all expectant mothers feel these contractions. They are not thought to be part of the process of effacement of the cervix.

[12] A show is the passage of a small amount of blood or blood-tinged mucus through the vagina near the end of pregnancy.

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Saturday (40 weeks plus three days)

32. At 7.44am Mrs B arrived at the hospital and was seen by the duty midwife. A CTG was commenced, and Mrs B was noted to have a pulse of 90 beats per minute (bpm)[13] and a temperature of 36.4°C.[14] The duty midwife performed a vaginal examination and recorded "very posterior",[15] "just tipped cervix" and "? finger tip". The duty midwife concluded that Mrs B was not in labour. The plan was to discuss the findings with Dr C; however, the duty midwife's clinical notes state: "Phoned LMC — [Dr C] — No answer."

33. At 8.36am the duty midwife discussed with Mr and Mrs B whether they should go home, and ways for Mrs B to stay relaxed (take paracetamol, have a bath and attempt to sleep). The clinical notes record that Mrs B was happy to go home, and understood that she could return to the hospital at any time if her contractions increased, her waters broke, the baby's movements lessened, or there were any other concerns. Accordingly, Mr and Mrs B went home.

Monday (40 weeks plus five days)

Admission to hospital

34. At midday on Monday Mr and Mrs B and their support person returned to the hospital for assessment. Mrs B was seen by the duty midwife, who recorded that Mrs B's latent phase of labour had been long and she had not slept for two days. Mrs B had a pulse of 96bpm and a temperature of 36.7°C, and her blood pressure was 138/95mmHg.[16] A Transcutaneous Electrical Nerve Stimulation (TENS) machine[17] was applied to help with the pain of Mrs B's contractions, which she found to be helpful. The contractions were one every five minutes of irregular strength. CTG monitoring[18] was commenced and then discontinued, and was noted to be "reassuring".

35. At 12.45pm the duty midwife conducted a vaginal examination and found that Mrs B's cervix was still posterior but was 5cm dilated. The fetal heart rate (FHR) was 137–142bpm.[19] The clinical notes record that the plan was for Mrs B to mobilise for two hours and have another vaginal examination performed by the afternoon staff, who would perform an artificial rupture of membranes (ARM) if the dilation of her cervix had not changed by that time.

[13] The normal pulse for healthy adults ranges from 60 to 100 beats per minute.
[14] A normal adult temperature is 36.5°C.
[15] A woman's cervix points slightly towards her spine (a posterior position). In the course of labour, the cervix moves to point more towards the front (an anterior position).
[16] Normal blood pressure is less than 120/80mmHg.
[17] TENS is the use of electric current produced by a device to stimulate the nerves for therapeutic purposes. The term is often used to describe the kind of pulses produced by portable stimulators used to treat pain.
[18] Cardiotocography is used to monitor a baby's heart rate and a mother's contractions while the baby is in the uterus.
[19] The normal range of a full-term FHR is between 110 and 160bpm.

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36. At 1pm Mrs B's pulse was 106bpm and her blood pressure was 124/88mmHg. At 2.20pm the FHR was 120bpm and the contractions were recorded as being stronger but still far apart. Mrs B continued to use the TENS machine.

37. At 3.15pm, following the afternoon shift change, a new duty midwife, Ms E, took over Mrs B's care. At that time the FHR was 130bpm, at 4.30pm it was 130–140bpm, and at 5.30pm it was 138bpm. Mrs B's contractions were recorded as two every ten minutes. At 5.30pm Ms E conducted a vaginal examination, which showed that the cervix could be stretched to 6–7cm dilation and the fore waters were bulging. An ARM was performed, after which Ms E recorded "quite a lot of liquor, mec[onium] stained (old) — postdates". Mrs B advised HDC that her waters were green, but that she had been assured by Ms E that this was because she was overdue.

38. At 6.30pm Ms E recorded that Mrs B's pulse was 96bpm, the FHR was 152bpm, and the contractions were recorded as three to four every 10 minutes, lasting around 60 seconds.

Bath and birthing pool

39. At 7.15pm Mrs B went into the bath and was noted to be "coping beautifully". At 7.50pm Ms E recorded the FHR as 148bpm.

40. At 9.00pm Mrs B entered the birthing pool, as she was struggling in the smaller bath. At that time the FHR was recorded as being 152bpm, and Mrs B's pulse was 100bpm. Ms E recorded in the clinical notes: "Spoke re water birth. [Dr C] doesn't do water births & it depends on m/w [midwife] on as to how comfy she will feel or familiar with water births."

41. At 9.30pm Ms E recorded that the FHR was 160bpm, and that Mrs B was "quietly labouring" and "coping well". At 10.15pm and 10.25pm the FHR was recorded as being in the "150s". At 10.25pm Ms E undertook a vaginal examination and recorded that the cervix was 8cm dilated and that moulding[20] and caput[21] were present. At that time Ms E topped up the birthing pool with more hot water.

Ms A takes over care

42. At 11.00pm, following the evening shift change, Ms A[22] took over Mrs B's care. Ms A described meeting Mr and Mrs B as follows:

> "As I established my rapport with [Mrs B] there was a very strong sentiment expressed by [Mrs B], [Mr B] and their support person that they wanted a normal delivery with minimal intervention. It is always difficult to take over the care of a woman when she is nearing the transition stage of labour, as part of care is building a relationship in a caring and unrushed manner. I spent time discussing

[20] Movement in the sutures and fontanels allows the skull bones to overlap each other to some extent as the head is forced down the birth canal by the contractions of the uterus. The extent of overlapping of fetal skull bones is called moulding.
[21] Some babies' skulls have a swelling called a caput in the area that was pressed against the cervix during labour and delivery.
[22] Ms A is a registered nurse and a registered midwife and had been employed by Taranaki DHB since 2004.

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my reasons for not doing a water birth, even though this possibility was presented to her before my arrival. [Dr C], the LMC does not do water births in any case."

Raised temperature in birthing pool

43. At 11.00pm Ms A recorded that Mrs B had a pulse of 135bpm, a temperature of 37.9°C, and a blood pressure reading of 123/65mmHg. The FHR was recorded as 146bpm (using a Doppler, which Ms A continued to use throughout Mrs B's labour). Mrs B advised HDC that she had started to feel unwell around this time — in particular she advised as follows:

"I was really hot as well and that was when I felt like the temperatures started because I was hot, cold, hot, cold, shivery and one minute I was boiling and the next minute I was shivering and then that happened throughout. I was really thirsty as well so I was drinking lots of water …"

44. In response to my provisional opinion, Ms A advised that she "never saw [Mrs B] shivering once".

45. In light of Mrs B's raised temperature, Ms A gave Mrs B a cold drink and a cool face wash, and had her stand up and kneel in the bath periodically. Ms A made the following comments to HDC regarding Mrs B's raised temperature at 11pm:

"It is common for women to get an elevated temperature and pulse in the bath and that is why we check it regularly when they are in there. The fact that hot water had just been added to the bath by the pm staff, due to the suspected imminent delivery, was even more cause to think [it] was the reason for the elevated temperature and pulse at 2300 hours."

46. At 11.30pm Ms A recorded that Mrs B's pulse was 149bpm and her temperature had reduced to 36.9°C. The FHR was recorded as being 145–153bpm. The clinical notes state that there was a small fresh vaginal loss but "no mec[onium]".

Out of birthing pool

47. At 11.45pm, a vaginal examination undertaken in the birthing pool found the cervix to be 9cm dilated with the baby's head at the level of the ischial spines.[23] The notes state that Mrs B was happy to get out of the birthing pool at that time, and that she was feeling "tired and thirsty". A retrospective note made by Ms A at 4pm the following day stated, "at my advice due to ↑ p[ulse] & t[emperature]". Within the notes made at 11.45pm it appears that "FHR 145" was also added in retrospect, but that addition was not dated or timed. In response to my provisional opinion, Ms A clarified that "FHR 145" was not added in retrospect, "but as a reflection of the post VE heart rate".

[23] Fetal descent can be quantified by relating the level of the fetal presenting part to a bony reference point in the maternal pelvis. Conventionally the ischial spines provide such a reference point.

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Tuesday (40 weeks plus 6 days)

Fresh meconium draining

48. At around midnight (once Mrs B was out of the birthing pool and back in her room) the FHR was recorded as being 145–150bpm, and it was noted that there was "fresh watery thin meconium on the pad". Within those notes, "watery thin" was added in retrospect, but the addition was not dated or timed.

49. Mr B advised HDC that Ms A kept telling him and their support person to get water and face washes for Mrs B, and told Mrs B that she was "coping beautifully". However, Mrs B advised HDC that "this was not the case at all"; she advised that she was "absolutely exhausted" but just wanted to "get her out", so kept persevering, and was quiet and focused. Ms A advised HDC that, at this stage, she believed birth to be "imminent".

50. At 12.45am Ms A recorded that Mrs B was experiencing "pressure with contractions and increasing back pain", and was feeling like pushing with each contraction, but there was "nil on view". At that time Ms A recorded the FHR as 156–162bpm, and noted "fresh bright" vaginal discharge.

Raised FHR/no CTG monitoring

51. At 1.00am the clinical notes state: "FHR 170–172–160." Within those notes it appears that "160" was added in retrospect, but the addition is not dated or timed. In response to my provisional opinion, Ms A clarified that "160" was not added in retrospect, "but was added from an awkward position as [Mrs B] was crouching down and the notes would have been on the floor or the bed".

52. Ms A did not initiate CTG monitoring at this or any other time. Ms A advised HDC that she interpreted the raised FHR as an acceleration rather than tachycardia, and stated that it "was only over a short time and would pick up on a CTG as an acceleration". In addition, Ms A made the following comments regarding this stage of Mrs B's labour:

> "If I had been more aware of the slowness of progress on the previous shift I may have noticed the increasing foetal heart rate baseline over time and placed [Mrs B] on the CTG monitor once there was fresh meconium and an elevated foetal heart rate at 0100 hours."

More meconium draining

53. Also at 1.00am the clinical notes state: "[F]resh watery meconium draining." Again, within those notes, "watery" was added in retrospect, but the addition was not dated or timed.

54. Contrary to what is described in the clinical notes, Mrs B advised HDC that there was "so much meconium" that it "poured" down her legs and that there was a "massive puddle of thick green meconium" on the floor. Mrs B described the meconium as a dark green/brown colour, said it was "thick", "definitely not watery", and a number of towels were required to clean it up. Mr and Mrs B advised that, in response to this, Ms A reassured them that everything was fine.

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55. In response to the above recollection, Ms A accepted that there was a "copious amount of liquor draining" at this stage, accepted that it was meconium stained, but disagreed that it was of thick consistency. She advised:

> "[Mrs B] probably didn't have a pad between her legs at that point and the reason it was pouring out was because it was mostly liquor with some meconium in it. The towels were needed to clean it up because it was mixed with so much liquor.
>
> …
>
> I did not consider the meconium to be thick at any stage. Green meconium is considered to be old."

Further meconium draining

56. At 1.10am Ms A conducted a vaginal examination and recorded in the notes that there was still a "small rim" of cervix present and a "large caput" on the left side of the baby's head, which was at the level of the ischial spines. The FHR was noted as being 156–160bpm. It was also noted that there was "more meconium liquor draining". Within that entry in the clinical notes it appears that "liquor" was added in retrospect, but the addition was not dated or timed.

57. The notes at 1.10am also state: "N[eo] N[atal] U[nit] informed about mec[onium] and ↑ FHR earlier." Regarding Ms A's contact with the Neonatal Unit (NNU) at that time, she advised as follows:

> "I did update the neonatal unit at 0110 hours letting them know [Mrs B] was close to fully dilated and I also mentioned the short run of tachycardia at 0100 hours and that there was more meconium being passed."

58. Ms A advised that the purpose of the above phone call was to make the NNU "aware of the possibility of being called for resuscitation".

59. Taranaki DHB advised that the two registered nurses on duty in the NNU that evening "both remember the case, however do not recall who took the above phone call from [Ms] A". When asked whether there was any documented record of the phone call, Taranaki DHB advised as follows:

> "Notification of a pending or possible admission to NNU, or if support may be required in the delivery suite, is made via a phone call to the NNU. The patient's details, including name, room number, gestation, gravita/para and a brief overview of the case, are written in a ring binder with loose leaf pages. Once the baby is delivered the notes taken are crossed through to show that the baby is either admitted or not. This occurs as the details are no longer required as they are all documented in either the mother's or the baby's notes following delivery. Once a page is full it is taken from the folder and shredded, again because it is no longer required."

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Contractions and raised FHR

60. Between 1.40am and 2.10am Mrs B was pushing with each contraction; the contractions were recorded as lasting between 20–30 seconds. Over that period, Ms A recorded the increasing FHR as 148bpm, 150bpm, 150–152–148bpm, 150–156–160bpm and 164bpm.

61. A retrospective note was made in the clinical notes, on Wednesday, which states: "[M]ost FH auscultations were listened to before, during and after contract[ions]."

Raised pulse, temperature and FHR

62. At 2.20am Mrs B's blood pressure was 132/72mmHg, her pulse was 164bpm, and her temperature had risen to 39.5°C. The FHR was recorded as 150–160bpm "throughout contractions". At 2.25am the FHR was recorded as 156bpm.

63. At 2.30am the clinical notes record that Ms A undertook a vaginal examination, and recorded that the baby was "moving well" with the contractions. There was presence of caput +1 and the baby's head was at the level of the ischial spines. Mrs B was offered an iced face wash to cool down.

64. Ms A advised HDC that, because of Mrs B's raised temperature, she undertook a "full assessment", so that she could contact Dr C and "give him the full picture of what [was] happening over the phone". Ms A advised that she "contacted [Dr C] as soon as the assessment was done".

Dr C contacted

65. At 2.37am the clinical notes record that Dr C was contacted. Ms A wrote a retrospective note at 4pm on Wednesday, describing what she says she advised Dr C during that phone call:

> "[Dr C] notified of [Mrs B's] B[lood] P[ressure] temperature and pulse plus she was fully dilated and had been pushing 1 hour nil on view. He was also informed of meconium liquor now being fresh but watery."

66. Contrary to what is set out above, Dr C advised HDC that the only information that Ms A gave at that time was that Mrs B was "in labour and pushing". Dr C went on to say:

> "[A]s I say, the only information I was given was that she was fully dilated and pushing. So I was expecting to go in and find a normal healthy woman about to have a baby. I was not aware of all the other things that had been going on prior to my arriving."

67. At 2.40am the FHR increased to 176bpm. Ms A advised HDC that she considered the FHR to be "reassuring" until that point, and similarly advised that "until 02.40 hours when [Baby B] first became tachycardic there had not been an abnormal heart rate detected by the frequent intermitte[nt] auscultation". Further cold face washes and cold drinks were given to Mrs B, who was recorded as "pushing really well". Ms A also noted: "[V]ertex on view in distance with pushing."

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Dr C arrives

68. At 2.50am the clinical notes record that Dr C arrived.[24] Dr C described his arrival at the hospital as follows:

> "I got there probably 10 minutes [after Ms A's phone call] and I was not aware of all the things that were happening and apparently she had been there quite a long time without any, as far as I know, obstetric input into her care. So when I arrived she apparently had a temperature, she was fully dilated and pushing and was making slow-ish progress …"

69. Dr C advised HDC that he "[doesn't] remember being immediately concerned that th[e] baby should be out in the next couple of minutes", but also said that by the time he arrived, his role in the delivery and birth was akin to an "ambulance at the bottom of a cliff". He advised: "I really don't know why … the duty obstetrician [hadn't] been involved sometime during [Mrs B's] labour. Because as far as I know, and as far as I can find out, no obstetrician was involved until my phone call …"

70. Ms A advised: "In hindsight I would have contacted [Dr C] when I first arrived on the shift and given him the full picture of slow progress and old meconium liquor."[25]

71. Dr C advised HDC that he was dissatisfied with the "welcome" he received from Mrs B at 2.50am, and admitted that this affected the standard of care he provided. Dr C's conversation with two HDC investigators in this regard is set out as follows:

> *Dr C:* [W]hen I arrived on the labour ward I wasn't, as I say, welcomed I guess in a way that one normally is.
>
> *HDC investigator one:* What do you mean by that?
>
> *Dr C:* I got the impression that I was pretty much ignored by the woman and her husband. Mind you I guess if you had been in labour as long as she had, she was probably pretty tired anyway.
>
> *HDC investigator one:* Just to expand on that — what welcome would you normally expect when you arrive?
>
> *Dr C:* Patients would recognise the fact that I am there, or say "thank God you have arrived" or whatever or some comment or other when I arrive in the room. On this occasion, nothing was said by the patient.
>
> *HDC investigator one:* Ok, do you think again that may have influenced the care you provided?
>
> *Dr C:* Yes I do.
>
> *HDC investigator one:* Right, ok.
>
> *HDC investigator two:* In what way?

[24] It is noted that Ms A initially advised HDC that Dr C arrived at the labour ward earlier, at 2.37am. That account does not accord with the notes and the other information Ms A provided in the course of the investigation.

[25] As set out above, Ms A's understanding was that Dr C was back on duty from 8pm on Monday.

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Dr C: Well I guess I had in my own mind that she preferred to do it all herself, if she could, and I guess at that time I went along with that.

HDC investigator one: Ok.

HDC investigator two: Did you ask [Mrs B]?

Dr C: No I didn't.

HDC investigator one: Right. Do you recall having any conversations with [Mrs B] after you arrived, while she was still in labour?

Dr C: I don't recall, no.

Labour expedited

72. At 2.55am Ms A recorded the FHR at 170–175bpm, and that the vertex was "slowly advancing". At 3am Mrs B's pulse was recorded at 150bpm, the FHR was recorded as 170–175bpm, and it was noted that "[Dr C] [was] aware of Fetal Tachycardia". At 3.15am Ms A inserted an IV cannula and took bloods for cross matching.[26]

73. Mr B advised HDC that, around this time, Dr C said that they needed to speed up the labour to get the baby out. Dr C's account of that stage is as follows:

> "I felt that we needed to expedite delivery and as the contractions were slowing down, I commenced an intravenous infusion of Syntocinon.[27] I had considered emergency Caesarean section but at the time of the morning, with the emergency staff at home asleep, I thought that vaginal delivery would be quicker."

74. Dr C advised HDC that, having considered a Caesarean section he also considered a forceps delivery, but ruled out that option on the basis of his impression that Mrs B did not want obstetric "interference" and wanted a "perfectly normal delivery without [his] input". When asked to verify whether his impression in this regard impacted the care he provided, Dr C stated:

> "Yes I guess it did. I tend to have a sort of 'no hands on' approach if I know a patient has made that impression that she prefers to do it all herself. I think at the time, none of us realised that the baby was being compromised, I guess."

75. At 3.20am Dr C directed Ms A to commence a Syntocinon infusion at a rate of 6ml. At 3.25am the Syntocinon infusion was increased to 12ml. Between 3.25am and 3.45am Ms A recorded the FHR as 168–170bpm, 170–180bpm, 182bpm, 164bpm and 164–172bpm. During this time Ms A documented that the vertex continued to advance.

No antibiotics administered

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[26] Cross matching occurs prior to a blood transfusion, in order to ensure that compatible blood products are used.

[27] Syntocinon is a synthetic version of the naturally occurring hormone oxytocin used to augment labour. Oxytocin is normally released by the posterior pituitary gland towards the end of pregnancy, causing the smooth muscle of the uterus to contract.

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76. No antibiotics were administered to Mrs B at any time following her raised temperature at 2.20am. In this regard, Ms A advised that "[Mrs B] did not have any of the [Group B Streptococcus (GBS)] risk factors until 0220 hours when it was considered too late to administer antibiotics". Ms A provided the following further detail in this regard:

> "My understanding is [i]ntravenous antibiotics require about 4 hours for full effect. [Dr C] was aware of the temperature and elevated fetal heart rate at 0237hrs and when he arrived at 0250hrs he augmented the labour to hasten the delivery as [Mrs B's] contractions had slowed down. Once [Mrs B's] temperature had become elevated again I had contacted the doctor and at that time delivery was imminent."

77. On this issue, Dr C similarly advised that "there was no way of knowing that the baby had contracted [GBS] infection and giving antibiotics in late labour would not have helped and in fact may well have masked the infection …". Dr C also stated:

> "At the late stage of my attending the delivery I did not think it would help to commence antibiotics as these could be given post delivery and I do not think they would have materially affected the outcome."

Baby B's delivery

78. At 3.50am Baby B was born. At the time, Ms A documented that Baby B was "covered in meconium", pale and floppy. Photos of the birth supplied by Mr and Mrs B show opaque dark green/brown meconium on Baby B and on the bed linen. Dr C advised that he "carried the baby to the resusitaire, sucked the mouth and nostrils and 'bagged' her with 100% oxygen".

Delayed call to NNU

79. Ms A's retrospective notes document that she asked Dr C three times whether she could call the NNU for assistance. Ms A summarised that interaction as follows:

> "I asked [Dr C] if he would like me to buzz the neonatal unit as the bell to push is in the room. [Dr C] was stimulating the baby at the bedside and did not reply to me.
>
> I asked [Dr C] again when he was suctioning and bagging the baby if I could call the NNU. He did not reply to me. I asked him a third time as he continued to bag the baby. At that time he consented."

80. Dr C advised HDC that he recalls Ms A asking whether she should call the NNU, but said that he decided to attempt resuscitation himself first. He stated:

> "My first thought was to attempt resuscitation as I would normally do, and when that failed, to call the paediatric department. In retrospect I should have called the paediatric staff immediately when the baby was born."

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81. Mr B recalls that Baby B was at the rescuscitaire for "quite a while" before NNU arrived, and said that Dr C assured them that everything was fine. Mrs B explained that period as follows:

> "You could see that something was going on. It was tense. They were discussing between each other and [Ms A] looked real stressed, [Dr C] to me looked like he was just cruising around, there was no urgency how he was working with [Baby B]. It was just like he was cruising but you could tell [Ms A] was really distressed and you can tell that they were discussing something quite intensely. And that was when I was thinking, … what is going on."

82. At 3.55am Ms A documented that "[Dr C] consented for NNU team to be called after he attempted to bag baby". Baby B's Apgar Score[28] was recorded as two at one minute and four at five minutes.

83. In terms of whether Ms A should have called the NNU herself following Baby B's birth (rather than waiting for Dr C's permission), she advised as follows:

> "[T]he T[aranaki] DHB protocol, issued May 2010, was to call the NNU to a delivery as stated 'depending on LMC request'. This has since been reviewed. I was waiting for [Dr C's] request when I asked him twice. This was also because of the culture of the delivery room with [Dr C] where I have had a previous distressing situation occur after I took the initiative to call NNU without first waiting for [Dr C's] request that I do so. My past experience of his response to this prompted me to ask him twice after [Baby B] was born rather than making the decision to call NNU without his request. With the changed protocol and with the benefit of hindsight, I will not wait for the LMC's request again."

84. Ms A later provided the following further information in this regard:

> "All the other obstetricians had no problem with us taking the initiative in notifying NNU to attend and I was unaware at that time that the protocol actually said it was to be at the obstetrician's call. That was why [Dr C] became so angry at me at that last incident when I made the call. He asked me at that time who I thought I was and did I think I was the obstetrician and did I not think he was capable of resuscitating a baby. He said this in front of the patient and her partner. This was why in the case of [Baby B's] birth I was waiting for [Dr C] to make the call for the NNU to be notified even though I asked him repeatedly to let me call the NNU."

85. Dr C confirmed that, although he was aware of the relevant protocols at the time (which required him to call the NNU in the circumstances) he decided to attempt resuscitation in the first instance. When that failed, he called the paediatric department. Dr C stated:

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[28] An Apgar Score is given for each sign at one minute and five minutes after the birth. If there are problems with the baby an additional score is given at 10 minutes. A score of 7–10 is considered normal, while 4–7 might require some resuscitative measures, and a baby with Apgars of 3 and below requires immediate resuscitation.

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"At the time I was thinking 'lets get the baby on the resuscitation and suck it out and get oxygen', and I would say that 99 times out of 100, or 999 times out of 1,000, that would be sufficient, but there is always one case, and this is the one, where it fails."

86. Dr C clarified that he was aware that the relevant neonatal staff were at the hospital at the relevant time, but communicated that he was reluctant to call them "at that time of the morning" unless it was really necessary.

NNU staff arrive

87. At 3.57am Ms A documented that the NNU staff arrived. By that stage Baby B was flat[29] with no respiratory effort. Resuscitation continued for around 12 minutes, after which time she was transferred to Continuous Positive Airway Pressure (CPAP) at the NNU. Baby B's Apgar score was recorded as six at ten minutes.

88. In Ms A's retrospective notes she recorded that "copious amounts of old ginger coloured meconium poured out of baby's nose and mouth. Same suctioned. Sats monitor put on baby and Neopuff into room and used by NN Team. Baby transferred to NNU."

Delivery of placenta

89. At 3.58am Ms A recorded that Dr C delivered the placenta, and that the Syntocinon was still running at 12ml. Mrs B said that Dr C did not communicate with her about that process and described the experience as follows:

"[Dr C] came back over to me and he just pushed on my tummy to get all that stuff out and I was like, 'what are you doing?' He didn't even explain what he was doing and he just came over and pushed forcibly to get all that stuff out which hurt more than the labour itself.

… [Y]ou are allowed the choice whether you want to wait and have it naturally come out or whether you get a jab and make it come. That wasn't offered to us. Because that is the way [Dr C] does it, he likes to go and get out. And that was told to us that that is the way he likes to do things."

90. Mrs B advised that, because of the pain she was experiencing, she asked Dr C to stop, at which point he "backed off".

91. Dr C does not have any recollection of delivering the placenta, and advised: "I assumed, until now, that the placenta was delivered by [Ms A]."

No notes by Dr C

92. Dr C advised HDC that he did not make any notes following Mrs B's labour and delivery. In this regard, Dr C stated: "I was wearing surgical gloves during my attendance of the labour and recordings would have been made by the midwife." Dr C

[29] A flat baby has no muscle tone, is not breathing and may not have a heartbeat.

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later advised: "I wouldn't normally take notes, I would always rely on the midwife with me to record the proceedings during the baby's delivery."

Individual providers' communication with Mr and Mrs B following birth

93. At around 8am on Tuesday Mrs B advised HDC that she was in her hospital room alone, distraught and concerned about Baby B. At that time, Mrs B recalls that Dr C walked into her room, looked at her, and then walked out. Mrs B stated that Dr C did not say anything to her or acknowledge her, and advised that she has not seen Dr C since. Dr C advised HDC that he does not remember speaking to Mrs B and, although he remembers going into her room that morning he does not remember what happened. He advised HDC: "[I]t would be unusual if I walked in and walked out again without saying anything." Dr C accepts that he has not seen Mrs B since.

94. Ms A did see Mr and Mrs B that morning (and in the weeks that followed), which Mr and Mrs B appreciated.

Debrief

95. Dr C advised HDC that at around 9.30am a unit debrief meeting occurred, attended by himself, "the maternity staff, neonatal staff and obstetricians". Dr C advised that, during that meeting, "the importance of management protocols and the importance of following them" was discussed, "in an effort to avoid [the circumstances of Mrs B's labour/delivery] happening again". When asked for further information in this regard, Dr C advised as follows:

> "I think the paediatricians were concerned that I hadn't called them either prior, yes prior to delivery, or immediately after the baby was born, because they have protocol suggesting that if there is meconium, the paediatric staff should be called prior to delivery. So the discussion was really around that."

96. Ms A confirmed that she attended a debrief meeting, although could not recall its date or time. Ms A advised that, during the meeting, she was asked to read out her clinical notes of what had occurred. Ms A advised that she became very distressed when it came to reading out her requests that Dr C consent to her calling the NNU after Baby B's birth, and advised that she required another midwife's assistance to finish reading her notes out.

97. HDC asked Taranaki DHB to provide details of the above meeting, including who attended, what was discussed, any actions that followed the meeting, a copy of any relevant notes from the meeting, and a response as to whether it followed up with Mr and Mrs B after the meeting regarding any identified concerns about the standard of care provided. Taranaki DHB responded as follows:

> "Unfortunately T[aranaki] DHB did not record minutes during the debrief of this case. As a result of our initial investigations into this case, we now have minutes taken and kept in all debrief meetings.
>
> Because of the above minutes not being taken, unfortunately we are not able to confirm that [follow up with Mr and Mrs B] occurred."

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98. Mr and Mrs B advised HDC that they heard that a debrief meeting at the hospital had occurred, but this information was not passed on to them by Taranaki DHB. They said that Dr D advised them.

Transfer to another hospital

99. Later on Tuesday, when Baby B was approximately seven hours of age, she was transferred by air ambulance to another hospital. At the time of transfer, Baby B was experiencing respiratory distress (likely secondary to meconium aspiration), hypoxic ischaemic encephalopathy[30] with seizures and suspected sepsis.

100. Mr and Mrs B told HDC that they were not advised of the seriousness of Baby B's condition at that time — they were not told Baby B was having seizures, and were advised that her transfer was "precautionary", and that Baby B "would be fine".

Care provided at the second hospital

101. Following Baby B's admission, she was cooled for 72 hours and was intubated and ventilated for five days, during which time she was fed intravenously. Baby B required morphine, midazalom, anticonvulsants, and the antibiotics amoxicillin and cefotaxime, as blood cultures had confirmed a diagnosis of Group B Streptococcus sepsis (GBS).

Further care provided at the hospital

102. About a week later, Baby B was transferred back to the first hospital. At the time of Baby B's transfer, her seizures had stopped and she was not on any respiratory support, but was presumed to have had GBS meningitis. The Discharge Summary from the second hospital noted: "Family are aware that there may [be] an ongoing impact on [Baby B's] neurodevelopment, which will require ongoing paediatric input." Six days later Baby B was discharged home.

Baby B's on-going health issues

103. Following Baby B's birth she has experienced significant health difficulties and developmental delay.

Relevant guidelines at Taranaki DHB

104. Taranaki DHB provided HDC with copies of the relevant guidelines in place at the time of Baby B's birth. These are set out and/or summarised as follows.

Meconium Liquor in Labour Guidelines

105. The Meconium Liquor in Labour Guidelines (the Meconium Guidelines) state that "when meconium liquor is present, potential problems will be identified and appropriate action initiated to ensure fetal well being". The Meconium Guidelines include the following detail in this regard:

"Criteria

[30] A clinically defined syndrome of disturbed neurological function in the earliest days of life in the term infant, manifested by difficulty with initiating and maintaining respiration, depression of tone and reflexes, sub-normal level of consciousness and often seizures.

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- The presence and consistency of meconium liquor will be recognised and LMC and NNU staff notified.
- Deviations from normal in the fetal heart will be noted and reported to the LMC and NNU staff.
- Resuscitation equipment will be operative and available for use.
- Explanations will be provided to the mother and her support person/s.

Procedure

1. Fetal monitoring:
   - When meconium stained liquor is observed, monitor fetal heart by continuous electronic monitoring for a minimum of 30 minutes every 90 minutes.
   - Any abnormality of the fetal heart pattern is an indication for continuous monitoring — this should be documented and reported to LMC.
   - If old, thin meconium is present in liquor and CTG tracing is normal **continuous electronic monitoring** may be stopped, and **intermittent electronic monitoring commenced** — intermittent monitoring will be for 20–30 minute period every 90 minute period. The fetal heart must be auscultated at least every 15 minutes.
   - If thick meconium is present in liquor, continuous electronic monitoring is required throughout labour.

   …

   - If meconium stained liquor is accompanied by fetal distress notify NNU immediately and call for delivery using intercom system.
   - Document in labour notes and on the partogram the consistency, colour, amount and freshness of meconium staining, any abnormalities in FH, consultations with LMC/obstetrician, NNU and any changes in condition.

   …

5. At birth:
   - Suction baby's airways — mouth then nasal passages, on the perineum. …"

Electronic Fetal Monitoring

106. The Electronic Fetal Monitoring (EFM) Guidelines (the EFM Guidelines) itemise the intrapartum risk factors that should give rise to continuous EFM. Those risk factors include abnormal auscultation, maternal pyrexia of 38°C and meconium stained liquor.

Group B Streptococcus

107. The Group B Streptococcus Guidelines (GBS Guidelines) list the early risk factors for GBS, which include an intrapartum fever equal to or above 38°C. The GBS Guidelines state that, in the presence of risk factors, "antibiotics are administered in labour to prevent amnionitis and transfer of Strep B to the baby". The GBS Guidelines set out that "antibiotics for GBS will be administered intravenously and, where possible, at least four hours prior to delivery. There may be some benefit after two hours."

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Guidelines for Calling Neonatal Unit Staff

108. The Guidelines for Calling Neonatal Unit (NNU) Staff (the NNU Guidelines) state that "all babies requiring resuscitation at birth will be identified promptly. Appropriate personnel called to assist, to ensure optimum wellbeing of baby." The NNU Guidelines include the following detail in this regard:

> "Procedure
>
> - NNU staff are informed … when a birth is likely to require paediatric assistance at birth. Midwives will contact the neonatal nursing staff. Where appropriate, obstetric staff should speak with the paediatrician on call.
> - The [NNU] is provided with regular progress reports.
>
> ...
>
> Guidelines
>
> ...
>
> 5. When delivery is imminent a single call to the [NNU], via the intercom system, will alert the whole paediatric team.
> 6. Indicators of 'At Risk' categories:
>
>   …
>
>   - Any baby about whom staff/family have concern.
>
>   …
>
> 7. Indications for calling paediatric staff to births (depending on LMC request):
>
>   …
>
>   - Fetal distress (as assessed by obstetric team)
>   - Meconium stained liquor if other evidence of fetal distress.
>
>   ..."

Changes made at Taranaki DHB

109. Taranaki DHB advised HDC that the following changes were implemented in light of the care provided to Mrs B and Baby B:

> "Following the event, the process around staff debriefing has been reviewed and the post event debrief/case review process has been re-examined and improved as part of the Maternity Quality and Safety programme. The Midwifery Early Warning System (MEWS) has been implemented so midwives are more aware of when to call and report a deviation from normal, this was implemented in 2012.
>
> T[aranaki] DHB is also reassessing the T[aranaki] DHB core midwifery labour and birth services provided to private Obstetric clients. The current system does not support continuity of midwifery care throughout labour and creates unpredictable workloads for core midwives."

Taranaki DHB's consideration of standard of care provided

110. Following the debrief meeting that occurred at the hospital relating to the birth of Baby B (and prior to Mr and Mrs B's complaint to HDC) Taranaki DHB did not

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initiate any internal process regarding the standard of care provided to Mrs B and Baby B.

111. Following Mr and Mrs B's complaint to HDC, Taranaki DHB advised that it had "undertaken a full and thorough investigation into the concerns raised by [Mr and Mrs B]", and provided a copy of a letter to Mr and Mrs B, dated 27 June 2012, setting out the findings of that investigation. Taranaki DHB was asked to provide HDC with further supporting documentation regarding the investigation they advised had occurred, but it was unable to do so.[31]

112. In Taranaki DHB's letter to Mr and Mrs B, dated 27 June 2012, it accepted that there had been instances during Mrs B's labour and delivery where staff did not adhere to Taranaki DHB protocol, or did not do so in a timely manner. The letter stated that this was when meconium was present, when Mrs B had an elevated temperature, and when she was tachycardic. The letter went on to comment on the care provided by Ms A and Dr C, summarised as follows.

Care provided by Ms A

113. Taranaki DHB advised that CTG monitoring should have been initiated in light of Mrs B's raised temperature at 2.20am on Tuesday, as it "would have given [Ms A] and the team an auditable record of [Baby B's] foetal heart rate". However, the letter went on to state that any information that may have been gained from a CTG "would have been the same as [Ms A] gained from auscultation". The letter states that the benefits of CTG monitoring had been discussed "at length" with Ms A, and concluded by advising Mr and Mrs B:

> "[W]hilst [Ms A] will not hesitate to use the CTG machine when the situation arises in the future, she is very comfortable with auscultation and the foetal information it enables a midwife to gain. [Ms A] is also very aware of our protocol around maternal vital signs, the indication for CTG and the need for continuous CTG should maternal signs be deviated from normal for a sustained period of time."

114. In terms of whether Ms A had followed the Meconium Guidelines, the letter advised that "a paediatrician most likely should have been called earlier given the additional symptoms of an increased foetal heart rate and [Mrs B] having a temperature" (whether the Meconium Guidelines were adhered to was not expressly addressed). Regarding Ms A's retrospective notes, Taranaki DHB explained that these were reasonable in the circumstances, and were appropriately dated and timed. Taranaki DHB did not address the retrospective notes that were not dated or timed.

Care provided by Dr C

115. In terms of the care provided by Dr C, the letter briefly set out his involvement in the labour and delivery and advised that "[Dr C] does not believe that he delayed calling

[31] In response to HDC's request, Taranaki DHB provided HDC with a written statement by Ms A (which had already been provided to HDC in response to the complaint) and an information sheet on GBS downloaded from www.netmums.com.

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the paediatrician, [and that] many babies in his years of experience as an obstetrician require assistance to start breathing".

Taranaki DHB's conclusions regarding standard of care provided

116. The letter advised that Baby B's outcome was due to the presence of GBS infection, which was "unknown prior to birth" and "required [Baby B] to be transferred to our tertiary centre for further treatment". The letter went on to provide Mr and Mrs B with general information about GBS and its management, both in New Zealand and overseas (in respect of pre-birth screening).

117. Taranaki DHB's letter concluded by acknowledging that "[Mrs B] and [Baby B] could have received better care during labour and delivery of [Baby B]". The letter apologised for Mr and Mrs B's hospital experience "not being as [they] hoped for or as T[aranaki] DHB expected", and Mr and Mrs B were thanked for taking the time to write and provide feedback.

Expert obstetrics advice provided to ACC

118. Obstetrician and gynaecologist Dr F advised ACC that there were serious deficiencies in Mrs B's intrapartum care, which did not meet obstetric standards. Dr F's advice to ACC is summarised as follows:

- "There was a failure to carry out appropriate fetal monitoring." In particular, the failure to carry out appropriate CTG monitoring was a "major departure from reasonable care". This was especially in light of the passage of "fresh meconium", which [Dr F] described as "highly significant and suggests that the fetus has undergone hypoxic stress", and fetal tachycardia on auscultation.

- Mrs B's raised temperature and heart rate at 2.20am was "highly suggestive of a severe amnionitis".[32] Steps should have been taken to assess the fetal condition, including CTG, and antibiotics should have been administered. Further, "serious consideration should also have been given to expediting delivery".

- Administration of Syntocinon could have caused increased hypoxic stress on the fetus, and should not have occurred without first ensuring that the fetus was in good condition. Dr F stated:

  > "Once the infusion was commenced it is considered mandatory by most authorities to carry out continuous CTG monitoring of the fetus. This was not done, and further deterioration in the fetal condition may have been missed. The RANZCOG fetal monitoring guidelines state that if risk factors develop in labour, fetal monitoring should be commenced. In this case there were numerous indications to commence this monitoring, and if done so, fetal compromise may have been detected before birth."

[32] Amnionitis is an infection of the uterus, the amniotic sac (bag of waters) and, in some cases, of the fetus.

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- Dr C's attempted resuscitation, in the presence of fresh meconium liquor, was not appropriate. Dr F stated:

  "[Dr C] attempted resuscitation with fetal stimulation and positive pressure ventilation with an ambu bag. In the presence of fresh meconium liquor, this was not appropriate. Suction of the airways under direct vision and before positive pressure ventilation should have been carried out. Failure to do so may have aggravated the meconium aspiration syndrome."

- Hospital guidelines and protocols were not followed.

Response to provisional opinion

119. In the course of my investigation, the parties were provided with relevant sections of my provisional opinion for comment. Those comments have been incorporated into the "information gathered" section of this report, where relevant. In addition, the parties made the following general comments in response to my provisional opinion:

- Ms A advised: "I deeply regret my actions and inactions in this case and acknowledge my shortcomings." She stated: "I have learnt from this episode and have changed my practice accordingly."

- Dr C advised that he "deeply regrets" what occurred.

- Taranaki DHB stated that it "did not provide services to [Mrs B] and [Baby B] with reasonable care and skill and did not ensure quality and continuity of services".

Relevant standards

120. The New Zealand College of Midwives' Code of Ethics (2008) provides:

"*Responsibilities to the woman*

…

h) Midwives are accountable to women for their midwifery practice.

…

j) Midwives have a responsibility to ensure that no action or omission on their part places the woman at risk.

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k) Midwives have a professional responsibility to refer to others when they have reached the limit of their expertise.

…

Responsibilities to colleagues and the profession

…

d) Midwives are autonomous practitioners regardless of the setting and are accountable to the woman and the midwifery profession for their midwifery practice.

e) Midwives have a responsibility to uphold their professional standards and avoid compromise just for reasons of personal or institutional expedience.

f) Midwives acknowledge the role and expertise of other health professionals providing care and support for childbearing women.

g) Midwives take appropriate action if an act by colleagues infringes accepted standards of care.

…"

121. The New Zealand College of Midwives' Standards of Midwifery Practice (2008) provides:

"Standard Three: The midwife collates and documents comprehensive assessments of the woman and/or baby's health and wellbeing.

Standard Four: The midwife maintains purposeful, on-going, updated records and makes them available to the woman and other relevant persons.

…

Standard Six: Midwifery actions are prioritised and implemented appropriately with no midwifery action or omission placing the woman at risk.

Standard Seven: The midwife is accountable to the woman, to herself, to the midwifery profession and to the wider community for her practice. …"

122. The Medical Council of New Zealand publication "Disclosure of harm following an adverse event" (December 2010) provides:

"20. It is important that you make a disclosure in a timely manner. Therefore it is appropriate to make the initial disclosure as soon as practical, with a more detailed discussion with the patient to follow once the team has had an opportunity to meet and assess the circumstances that led to the patient being harmed. This will also give time for the patient to think about the situation and provide an opportunity to ask for more information.

…

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23. The senior doctor responsible for the patient's care should disclose the harm to the patient …

…

25. You should document in the patient record details about the nature of the harm, and any subsequent action, including disclosure to the patient. The Council recommends that the patient notes include who was present, what was disclosed, the patient's reaction and any issues regarding continuity of care. If the harm occurred in secondary or tertiary care you must inform the patient's general practitioner."

123. The Medical Council of New Zealand publication *Good Medical Practice* (April 2013) provides:

"***Caring for patients***

…

Providing good clinical care

2. When you assess, diagnose or treat patients you must provide a good standard of clinical care. This includes:
   - adequately assessing the patient's condition, taking account of the patient's history and his or her views, reading the patient's notes and examining the patient as appropriate
   - providing or arranging investigations or treatment when needed
   - taking suitable and prompt action when needed, and referring the patient to another practitioner or service when this is in the patient's best interests.

3. In providing care you are expected to:
   - provide effective treatments based on the best available evidence
   - consult and take advice from colleagues when appropriate

   …

Keeping records

5. You must keep clear and accurate patient records that report:
   - relevant clinical information
   - options discussed
   - decisions made and reasons for them
   - information given to patients
   - the proposed management plan

   …

Respecting patients

…

Establishing and maintaining trust

Names have been removed (except Taranaki DHB and the experts who advised on this case) to protect privacy. Identifying letters are assigned in alphabetical order and bear no relationship to the person's actual name.

14. You should aim to establish and maintain trust with your patients. Relationships based on openness, trust and good communication will enable you to work in partnership with them to address their individual needs.
15. Make sure you treat patients as individuals and respect their dignity and privacy.
16. Be courteous, respectful and reasonable.

…

Working in partnership with patients and colleagues

…

Maintain the trust of colleagues, and treat them politely and considerately.
Work with colleagues in ways that best serve patients' interests.

…

Going off duty

45. When you are going off duty, make suitable arrangements for your patients' medical care. Use effective handover procedures and communicate clearly with colleagues.

…

Continuity of care

50. Work collaboratively with colleagues to improve care, or maintain good care for patients, and to ensure continuity of care wherever possible.
51. Make sure that your patients and colleagues understand your responsibilities in the team and who is responsible for each aspect of patient care.
52. If you are the patient's principal health provider, you are responsible for maintaining continuity of care.

…

Acting honestly and ethically

…

Be honest and open when working with patients; act ethically and with integrity by:

- acting without delay to prevent risk to patients

…"

The Primary Maternity Service Notice Pursuant to Section 88 of the New Zealand Public Health and Disability Act 2000 (April 2007) sets out the legal requirements for LMCs practising in New Zealand.

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Opinion: Breach — Dr C

124. Overall I am of the view that Dr C provided poor care to both Mrs B and Baby B. Dr C did not provide services to Mrs B and Baby B with reasonable care and skill, failed to adhere to professional standards, did not provide Mrs B with information that a reasonable consumer in her circumstances would have expected to receive, and failed to obtain informed consent. I accept the advice of my obstetric expert, Dr Jennifer Westgate, that, overall, the departures from expected obstetric standards were severe. My specific comments regarding the care provided by Dr C are as follows.

Failure to meet legal requirements as LMC — Breach

125. The Primary Maternity Services Notice pursuant to section 88 of the New Zealand Public Health and Disability Act 2000 (April 2007) (Section 88 Notice) sets out the legal requirements of an LMC in New Zealand.[33] The LMC is responsible for the care provided to the woman throughout her pregnancy and postpartum period (including the management of labour and birth), for assessing the woman's and baby's needs, and for planning the woman's care with her (and the care of the baby).[34]

126. An LMC is also responsible for ensuring continuity of care.[35] An LMC can delegate parts of the LMC antenatal services, labour and birth services, and/or postnatal services to another provider (such as a general practitioner), but may not delegate those services in their entirety,[36] and retains the overall responsibility for the provision of those services.[37] Where an LMC delegates part of a module[38] to another provider, that delegation must be clearly documented in the care plan,[39] which the LMC must update throughout all modules and provide a copy to the woman.[40]

127. Dr C was Mrs B's LMC in the context of a shared care arrangement with Dr D. In my opinion, the care provided by Dr C in the context of that arrangement did not comply with the legal requirements summarised above. My concerns in this regard are as follows.

Shared care arrangement/antenatal care

128. Dr C advised that, in the context of a shared care arrangement, his usual practice was to see a woman for her initial consultation and then take over her care at 28 weeks. Dr D confirmed that, in the context of a shared care arrangement with Dr C, he would see a patient for an initial "booking" visit. However, although Dr D did advise that patients would often see Dr C again in the third trimester "for at least one visit", she advised that some preferred to continue seeing her throughout the antenatal period.

[33] Part D, Subpart DA.
[34] DA 6(1).
[35] DA7.
[36] DA 7(3).
[37] DA7(4).
[38] There are four modules pursuant to the Section 88 Notice: "First trimester and second trimester", "Third trimester", "Labour and birth" and "Services following birth".
[39] DA7(5).
[40] DA 19(2)(b)(ii) and (iii).

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129. Irrespective of what may have been Dr C's usual practice when acting as LMC in the context of a shared care arrangement (and without commenting on the appropriateness of any such practices), Dr C saw Mrs B only three times during her pregnancy, and was unable to provide any documentation or information regarding Mrs B's care plan or the shared care arrangement he had with Dr D regarding Mrs B. Dr C in fact advised that there was "very little communication" between himself and Dr D regarding Mrs B.

130. Overall, Dr C did not manage the shared care arrangement he had with Dr D in accordance with the requirements set out in the Section 88 Notice. In my opinion, this seriously compromised the standard of care that Mrs B received. In particular, Dr C's lack of contact with Mrs B, and the absence of any care plan (written or otherwise), resulted in him forming unsubstantiated impressions of Mrs B's expectations for the birth (that she did not want obstetric input), which he accepts influenced the care he provided. In addition, Mrs B was unclear about Dr C's role as her LMC and did not necessarily expect him to attend the labour and delivery, despite Dr C's intention to do so.

Labour and birth

131. The Section 88 Notice provides that, where an LMC is unable to attend a birth because he or she on leave, that LMC must make appropriate arrangements with a back-up LMC.[41] In the context of an LMC using hospital midwifery services in order to provide the full service required during labour and birth, the LMC must, amongst other things, "ensure that the respective responsibilities of the LMC and the hospital midwifery services are clearly documented in the care plan, and that a copy of the care plan is given to the hospital midwifery services and to the woman".[42]

132. Despite the shared care arrangement between Dr C and Dr D, it is unclear whether Dr D was Mrs B's back-up LMC; as already set out, there was no documented care plan, and it is unclear whether there was an expectation that Dr D would attend Mrs B's labour. Further, in the context of Dr C using hospital midwifery services, and in the absence of a care plan, the "respective responsibilities of the LMC and the hospital midwifery services" were not clear between the parties. On that basis, I do not consider that Dr C fulfilled his responsibilities as LMC in terms of Mrs B's labour and birth, as set out in the Section 88 Notice.

Services following birth

133. The Section 88 Notice states that, following birth, the LMC is responsible for ensuring a number of specific services are provided, including reviewing and updating the care plan, postnatal visits and, where an LMC uses hospital midwifery services, the LMC must, amongst other things, "ensure that the respective responsibilities of the LMC and the hospital midwifery services are clearly documented in the care plan and that a copy of the care plan is given to the hospital midwifery services and to the woman".[43] In the absence of a care plan, and given that Mrs B saw Dr C only once

[41] DA23(1)(e).
[42] DA23(4)(a).
[43] DA29(3)(b).

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following the birth of Baby B (I comment on that encounter in further detail below), I do not consider Dr C to have fulfilled those requirements.

Conclusion

134. By not adhering to the requirements of the Section 88 Notice, Dr C failed to comply with legal standards and, accordingly, breached Right 4(2) of the Code.

Failure to make records/make sufficient records — Breach

135. As set out above, Dr C did not document his shared care arrangement with Dr D, nor did he document a care plan for Mrs B. In addition, the notes from Dr C's three antenatal consultations with Mrs B were brief, recording little more than Mrs B's weight, blood pressure and gestation at each appointment. Finally, Dr C did not make any notes regarding the care he provided in the course of Mrs B's labour and delivery. Dr C explained that this was because he was wearing surgical gloves and, in any event, he relies on a midwife in this regard.

136. The Medical Council of New Zealand's publication entitled *Good Medical Practice* requires doctors to keep clear and accurate patient records that record relevant clinical information, options discussed, decisions made and reasons for them, information given to patients, and the proposed management plan.

137. Where Dr C did make clinical records, I do not consider the above standards to have been met. Where Dr C did not make any notes or records, and did not take any reasonable steps to ensure that was done, I am very concerned, particularly in the circumstances of Mrs B's labour and delivery, and in light of his explanation for not having done so, which reveals a lack of awareness of his obligations in this regard.

138. I consider that Dr C's failure to document appropriately the care he provided to Mrs B and Baby B was a breach of Right 4(2) of the Code.

Failure to assess and deliver baby promptly upon arrival — Breach

139. At 2.37am Dr C received a telephone call from Ms A, advising him that Mrs B was in labour. The extent to which Dr C was advised of Mrs B's condition during that telephone conversation is unclear; Dr C recalls being told only that Mrs B was "in labour and pushing", whereas Ms A says she informed Dr C that Mrs B had been pushing for an hour with nil on view, had a raised temperature and pulse, and there was a raised FHR and fresh watery meconium.

140. Irrespective of what was communicated during the above telephone conversation, Dr C arrived at 2.50am and was able to assess Mrs B's condition for himself; in my view, her condition should have been of immediate concern.

141. As noted by Dr Westgate, by 3am Mrs B had been pushing for one hour and 20 minutes, the fetal head was on view, and there was a marked fetal tachycardia. Those factors were in the context of a raised maternal temperature, an earlier raised temperature and the presence of meconium, all of which were documented in the notes. In the circumstances, Dr Westgate advised as follows:

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"[T]he appropriate response would have been to deliver the baby. There is no record of [Dr C] examining [Mrs B] himself to ascertain if she was suitable for an instrumental delivery and no comment as to why he did not choose this option."

142. Dr C advised that, at the above stage, he was not "immediately concerned" that delivery needed to be expedited, and advised that he did not realise that "the baby was being compromised". However, in light of Mrs B's clinical presentation at the time, and with reference to Dr Westgate's expert advice, I do not consider that impression to have been reasonable.

143. Overall, I am of the view that, in not assessing Mrs B for an assisted delivery and proceeding to deliver the baby, Dr C failed to provide services with reasonable care and skill and breached Right 4(1) of the Code.

Syntocinon infusion without monitoring — Breach

144. At 3.20am Dr C directed Ms A to commence a Syntocinon infusion, which continued for 30 minutes until Baby B's delivery at 3.50am. During that period the FHR reached as high as 182bpm, but no CTG monitoring occurred. Dr Westgate made the following comments regarding this aspect of the clinical care provided:

"[Dr C] commenced a Syntocinon infusion at 3.20am. By this time [Mrs B] had been pushing for one hour 40 minutes and auscultated FHR was still over 170/minute and more of the baby's head was on view … The presence of a maternal fever of 39.5°C and a fetal tachycardia in excess of 170/minute is a concerning combination and failure to check a CTG, use of Syntocinon without a CTG in the presence of fetal tachycardia and apparently failure to even consider expediting delivery by a vaginal instrumental delivery are very concerning."

145. I agree with the expert advice set out above and I consider that Dr C's decision to commence the Syntocinon infusion at 3.20am, in the circumstances and without CTG monitoring, was inappropriate and a breach of Right 4(1) of the Code.

Failure to obtain informed consent — Breach

146. Dr C advised that he did consider a forceps delivery and an emergency Caesarean section, but discounted those options (and commenced a Syntocinon infusion — addressed above) for reasons including his impression that Mrs B did not want obstetric "interference" and wanted a "perfectly normal delivery without [his] input".

147. Dr C advised that his impression in this regard (gained during the antenatal period) was reinforced following his arrival at the delivery suite. Dr C advised that, accordingly, he had a "no hands on approach" towards Mrs B's labour. Dr C did not discuss that approach with Mrs B, nor did he seek to verify his assumption of her preferences at any stage.

148. In my view, there was no objective, reasonable and/or sound basis for Dr C's assumption that Mrs B did not want obstetric intervention in her labour or delivery. To the contrary, I find his impression in this regard somewhat disturbing and unjustified. In any event, had Dr C had reasonable grounds to believe that Mrs B did

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not want obstetric intervention, he would have needed to verify that assumption with Mrs B and nonetheless inform her of the delivery options that were clinically appropriate in the circumstances, before not pursuing those options.

149. In addition, and having accepted it more likely than not that Dr C did deliver the placenta (with reference to both Ms A's clinical notes and Mrs B's recollection), I am concerned that the delivery of the placenta occurred without the process being explained to Mrs B, or delivery options being given.

150. In my view, the option of an assisted delivery and options regarding the delivery of the placenta was information that a reasonable consumer in Mrs B's circumstances would have expected to receive. As Dr C did not discuss those options with Mrs B, he breached Right 6(1)(b) of the Code. It follows that Mrs B was not in a position to give informed consent to her treatment and, accordingly, Dr C breached Right 7(1) of the Code.

No prophylactic antibiotics — Breach

151. Dr C advised that "there was no way of knowing that the baby had contracted [GBS] infection and giving antibiotics in late labour would not have helped and in fact may well have masked the infection …".

152. In light of Mrs B's clear symptoms, I disagree with Dr C's view that there was "no way of knowing" that Baby B had possibly contracted GBS prior to her birth. Dr F advised that Mrs B's raised temperature and heart rate at 2.20am was "highly suggestive of a severe amnionitis", and antibiotics should have been administered. Similarly, Dr Westgate was critical of Dr C not administering antibiotics in this instance, and disagreed that giving antibiotics at that stage would not have helped. She advised as follows:

> "[G]iven a maternal pyrexia of 39.5 and marked fetal tachycardia, I believe it would have been appropriate to administer antibiotics at 2.40am. [Dr C] has expressed an opinion that maternal administration of antibiotics would not have helped and could have masked infection. I think current views on use of intrapartum antibiotics are significantly different nowadays. However, whether exposure to maternal IV antibiotics for 90 minutes before delivery would have significantly affected the outcome for this baby is unclear, especially as intrapartum hypoxia played a significant role in the morbidity she experienced."

153. In my view, Dr C should have commenced prophylactic antibiotics immediately after he arrived at the delivery suite, and not doing so was a breach of Right 4(1) of the Code.

Care provided to Baby B — Breach

154. At 3.50am Baby B was born pale, floppy and covered in meconium. Dr C carried Baby B to the resuscitaire, sucked her mouth and nostrils and bagged her with 100% oxygen. At 3.55am Dr C consented to Ms A calling the NNU, having been asked three times. At 3.57am the NNU staff arrived and took over Baby B's care.

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155. Dr Westgate advised that "the [NNU] should have been called to the delivery of this baby due to the presence of meconium, maternal fever and fetal tachycardia". Similarly, Dr F advised that it would have been wise to inform the neonatal paediatricians so they could have been present at the delivery. I agree, and refer to the NNU Guidelines, which clearly indicate that this should have occurred. While I am concerned that Ms A did not take the initiative to call the NNU herself, Dr C's independent failure in this regard, and his failure to respond to Ms A appropriately when she requested his permission to call the NNU, was seriously suboptimal.

156. Further, Dr F advised that Dr C's technique in attempting to resuscitate Baby B, in the presence of fresh meconium liquor, was inappropriate. Dr F said that "[s]uction of the airways under direct vision and before positive pressure ventilation should have been carried out. Failure to do so may have aggravated the meconium aspiration syndrome."

157. In my view, Dr C's delay in consenting to the NNU being called, and his poor resuscitation of Baby B, was unacceptable and, accordingly, Dr C breached Right 4(1) of the Code.

Communication with Mrs B following delivery — Breach

158. Mrs B recalls that, later on Tuesday, Dr C came into her room, stood, looked at her and turned around and left without speaking. Dr C does not recall whether he spoke to Mrs B but does recall entering her room following Baby B's delivery. I find it more likely than not that Mrs B's account is correct.

159. In addition to Dr C's responsibilities as LMC (set out above), he was the senior clinician present at Baby B's birth. Accordingly, and with reference to the Medical Council of New Zealand publication "Disclosure of harm following an adverse event", Dr C had a professional responsibility to make a disclosure of what had occurred in a timely manner, with a more detailed discussion with Mrs B to follow once the team had had an opportunity to meet and assess the circumstances that led to Baby B being harmed.

160. It is very concerning that the above communication never occurred. As a result, I find that Dr C failed to comply with professional standards and, accordingly, breached Right 4(2) of the Code.

Opinion: Ms A

161. In my view, Ms A did not provide services to Mrs B with reasonable care and skill and failed to adhere to professional standards. I accept expert midwifery advisor Ms Jacqueline Anderson's view that, overall, the departures from expected midwifery standards were moderate to severe. My specific comments regarding the care provided by Ms A are as follows.

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Care provided on Monday — Adverse comment

162. At 11.00pm on Monday, Ms A took over Mrs B's care. Ms A recorded that Mrs B had a raised pulse of 135bpm, a raised temperature of 37.9°C, and a blood pressure of 123/65mmHg, and the FHR was recorded as 146bpm. Mrs B was in the bath, which had recently been topped up with hot water. In light of Mrs B's raised temperature, Ms A gave her a cold drink, provided a cool facecloth, and encouraged her to rise out of the water.

163. Ms Anderson informed me that the above cooling measures were reasonable in the circumstances, "to ascertain whether the bath was the cause of the raised temperature and pulse as there were no other apparent concerns at this time". I accept that advice.

164. At 11.30pm Ms A rechecked Mrs B's temperature, which had reduced to 36.9°C. Ms Anderson advised that this would have reassured Ms A, but commented that Mrs B's increased pulse of 149bpm was significantly above normal limits. Ms Anderson also commented that, while the FHR of 145–153bpm was normal at this time, it was very similar to Mrs B's recorded pulse. At 11.45pm Ms A undertook a vaginal examination, which indicated that Mrs B was 9cm dilated. Ms Anderson advised that the undertaking of a vaginal examination at this time was "an appropriate response and indicates Ms A's recognition that even though the temperature was once more in normal limits the maternal pulse was significantly raised". However, Ms Anderson again commented that the recorded FHR of 145bpm was within the same range as Mrs B's pulse, and advised that it would have been reasonable to measure both heart rates in order to ensure that one was not being mistaken for the other.

165. Regarding the similarity of Mrs B's pulse and the FHR, Ms A advised that she "felt confident" that she was hearing the different heartbeats, on the basis that they sound quite different (ie, the fetal heart rate is variable, speeding up and slowing down, but the maternal heartbeat is steady). Ms A also advised that "it is [her] usual practice to check maternal pulse and the FHR at the same time, particularly if maternal pulse is raised". However, Ms A did not advise whether she listened to both heart rates simultaneously in this case, and did not document doing so.

166. Overall Ms Anderson advised that, in light of Mrs B's raised pulse, it would have been appropriate to reassess it more regularly, and not doing so was a mild departure from expected standards. I agree with that advice.

Care provided on Tuesday — Breach

Failure to monitor — meconium and raised FHR

167. Between 12am and 1am on Tuesday Ms A twice noted the presence of meconium and recorded the FHR as 145–150bpm (at 12am), 156–162bpm (at 12.45am), and 170–172–160bpm (at 1am). No CTG monitoring was instituted during that period.

168. The parties provided different descriptions of the meconium referred to above. At 12am Ms A recorded that there was "fresh watery thin meconium on the pad" and at 1am similarly recorded that "fresh" and "watery" meconium was draining. However, Mr and Mrs B advised that the meconium was "thick", "definitely not watery", and advised that it was pouring down Mrs B's legs. Ms A accepted that there was a

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"copious" amount of meconium stained liquor, but said it was "mostly liquor with some meconium in it" and was not thick "at any stage".

169. Irrespective of the consistency of the meconium, Ms Anderson advised me that it would have been reasonable to institute a period of CTG monitoring between 12am and 1am, to assess whether the FHR was normal or required ongoing continuous monitoring to rule out fetal distress. Ms Anderson also noted that "a fetal heart rate of 160 and above is considered mildly tachycardic …".

170. Consistent with the above advice, Taranaki DHB's Meconium Guidelines set out a number of steps to be undertaken in the presence of meconium (again, irrespective of its consistency). In particular, the Meconium Guidelines obliged Ms A to institute continuous CTG monitoring for a minimum of 30 minutes every 90 minutes and, in the event of thick meconium, for the remainder of the labour. In addition, the Meconium Guidelines obliged Ms A to advise Dr C (as LMC) and the NNU of the presence and consistency of the meconium, explain to Mr and Mrs B what was occurring, and advise Dr C and the NNU of any deviations from a normal FHR. The EFM Guidelines also provided for CTG Monitoring at this time. None of those steps occurred during that time period.

171. Regarding the raised FHR between 12am and 1am, I am not persuaded by Ms A's view that there were accelerations rather than tachycardia on the basis that it "was only over a short time and would pick up on a CTG as an acceleration". In the absence of Ms A having undertaken a CTG, and in all of the circumstances, there is a lack of evidence to support that submission. I am also concerned by Ms A's statement that, had she "been more aware of the slowness of progress on the previous shift [she] may have noticed the increasing foetal heart rate baseline over time …". The care provided to Mrs B prior to Ms A coming on shift had been appropriately documented in the clinical notes, which were available to Ms A at that time.

172. Overall, Ms A accepts that "upon reflection and with hindsight … it would have been reasonable for her to have instituted CTG monitoring" between 12am and 1am, but advised that it would be "unduly harsh" to find that she had not provided an appropriate standard of care by not doing so.

173. I disagree with the above submission. In my view, between 12am and 1am there were a number of factors that clearly indicated that Mrs B required closer monitoring via CTG. In the context of Mrs B having had a raised temperature the previous hour and a pulse that was significantly above normal limits (and within the same range as the FHR), there was a raised FHR and copious amounts of meconium stained liquor was draining (as described by Ms A). In light of the relevant policies at Taranaki DHB, professional midwifery standards, and my expert advice, I am of the view that each of those factors on their own, and particularly in combination, indicated the need for CTG monitoring.

174. As the above factors persisted and/or worsened in the hours that followed, the necessity for CTG monitoring became more and more apparent. I refer to the following extract from Ms Anderson's advice, which supports that view:

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> "On its own the increasing fetal heart baseline would generally be seen as an indication for closer monitoring by way of continuous monitoring. The development of fresh meconium stained liquor would reinforce this view. This, combined with a slowly progressing labour and persistent maternal tachycardia, would all be indicators for closer fetal heart rate monitoring and possible intervention to effect the birth of the baby. The maternal tachycardia was at a significantly high rate to cause concern."

Continued failure to monitor — more meconium, raised FHR, raised maternal temperature

175. At 1.10am Ms A recorded the FHR as 156–160bpm and that there was "more meconium draining". A further vaginal examination identified that there was still a "small rim" of cervix present and a "large caput" on the left side of the baby's head. At that time Ms A appropriately contacted the NNU, but did not contact Dr C or commence CTG monitoring. Ms Anderson advised that Ms A's failure to commence CTG monitoring by this stage was a moderate departure from expected midwifery practice. I agree with that advice, and note the following comments made by Ms Anderson in this regard:

> "[I]t is difficult to understand why, in the presence of fresh meconium (no matter how small an amount), a fetal heart rate occasionally at the upper end of the normal range, a [vaginal examination] at 01.10 identifying that [Mrs B's] cervix was not quite fully dilated and [Ms A] informing the neonatal unit staff because of fresh meconium and an earlier raised fetal heart rate, a CTG was not commenced shortly after 01.00."

176. Ms A advised HDC of her impression that, following the above vaginal examination, birth was imminent, and that this formed part of her reason for not instituting a CTG. However, Ms Anderson advised that, in fact, "[t]he findings on VE would indicate that [Mrs B], as a primigravid (first time) labourer, may still have had a few hours ahead".

177. Between 1.40 and 2.10am Ms A recorded the FHR as increasing from 148 to 164bpm. By 2.20am the FHR was recorded as 150–160bpm "throughout contractions"; Mrs B's pulse had risen to 164bpm and her temperature had risen to 39.5°C (the last temperature reading had been at 11.30pm). Ms Anderson advised that, by this stage there was "strong evidence for concern" and, "even though not previously commenced … another opportunity to institute continuous monitoring of the fetal heart rate".

178. Overall, I agree with Ms Anderson's advice that Ms A "not instituting closer monitoring measures of both mother and baby when there were indications to do so would be seen as a serious departure from reasonable standards of care by her peers".

179. For completeness I refer to Ms Anderson's advice that, in the latter part of Mrs B's labour, her risk factors for GBS infection became evident. In my view, had Mrs B been appropriately monitored, her GBS risk factors, and consequent need for prophylactic antibiotic treatment, may have been apparent earlier. However, by this

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time and in the context of having called Dr C, I accept it was appropriate for Ms A to wait for his arrival as the LMC and obstetrician (set out below) in respect of managing this particular issue.

Delayed call to Dr C

180. At 2.30am Ms A undertook a third vaginal examination and, at 2.37am, called Dr C.

181. In all of the circumstances, including Ms A's understanding that Dr C liked to be contacted when one of his patients went into labour and again when she was fully dilated, it is unclear why Ms A did not contact Dr C until 2.37am. Ms A accepts that she should have called Dr C earlier than she did, and advised as follows:

> "I acknowledge that I should have informed the LMC of [Mrs B's] admission once I learned it had not yet been done, and with regard to the temperature even though it resolved at first, and again with fresh meconium."

182. I agree with Ms A, and am very concerned by the delay that occurred in her contacting Dr C.

Continued failure to monitor — raised FHR

183. Ms A advised HDC that she considered the FHR to be "reassuring" until 2.40am, when she recorded it as 176bpm. Up until that point she advised that there had been "no abnormal heart rate detected". I am concerned that Ms A did not become concerned about the FHR until 2.40am, given that it had risen to 160bpm and above on a number of occasions prior to 2.40am, and in light of Mrs B's earlier raised temperature, increased heart rate, and the presence of "copious" amounts of meconium stained liquor (as described by Ms A).

184. At 2.50am Dr C arrived, by which stage the FHR was recorded as 170bpm. From 2.50am until 3.50am the FHR was recorded as being between 164 and 182bpm. While I consider Dr C to have held primary responsibility for the care provided to Mrs B following his arrival, I am concerned that Ms A did not institute CTG monitoring during that period, particularly given her concern about the FHR by that stage. As stated by Ms Anderson, during this period "[t]he baby's heart rate was listened to frequently but no action was taken in relation to the persistent and increasing tachycardia".

Delayed call to NNU

185. Baby B was born at 3.50am in poor condition (as previously described). At 3.55am Ms A obtained Dr C's consent to call the NNU, after her third request.

186. Ms A explained that her decision to wait for Dr C's consent to call the NNU was consistent with the Neonatal Guidelines, which she advised set out that calling the NNU was dependent on LMC request. Ms A also advised that "the culture of the delivery room with [Dr C]" dissuaded her from calling the NNU without Dr C's permission. Ms A advised that, with the benefit of hindsight and the implementation of new Neonatal Guidelines, she would not wait for an LMC's consent to call the NNU again.

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187. Irrespective of the above circumstances, Ms Anderson advised me that "a midwife is quite capable of recognising when a baby needs full resuscitation and should have been able to make the call". Ms Anderson also advised that "regardless of the unit culture it is expected that if midwives have concerns they seek consultation".

188. I agree with the above advice and, while I am concerned that Ms A felt unable to call the NNU without Dr C's consent, do not consider that her feelings in that regard justified her inaction. I refer to the Midwives' Code of Ethics, which provides that "[m]idwives are autonomous practitioners regardless of the setting and are accountable to the woman and the midwifery profession for their midwifery practice". The Code of Ethics also provides that "[m]idwives have a responsibility to ensure that no action or omission on their part places the woman at risk".[44] As I have previously stated in respect of this issue, "I do not consider … fearing a reprimand justifies inaction in such a circumstance."[45] I also note that, contrary to Ms A's submissions, the relevant Neonatal Guidelines provided that a call to the NNU was appropriate, irrespective of LMC consent, where staff and/or family had concerns.

Conclusion

189. By failing to take appropriate steps to monitor Mrs B in light of her presentation, and by failing to contact Dr C and the NNU in a timely manner, Ms A did not provide services to Mrs B with reasonable care and skill, and breached Right 4(1) of the Code.

Record-keeping — Breach

190. Ms Anderson advised that Ms A has written reasonable documentation, with some additions to the notes clearly identified as retrospective. However, Ms A accepted that she made three undated and untimed retrospective notes for 12am,1am, and 1.10am, describing Mrs B's meconium as "watery thin", "watery" and "liquor". Ms A advised as follows:

> "There are two occasions where I have added 'watery thin' meconium to qualify that it was not thick meconium … This was under no circumstance added as a falsification to the notes but was added to clarify the kind of meconium it was. I should have documented however, that it was written in retrospect at the time the other additions to the notes were."

191. Ms Anderson advised that "there are some areas of [Ms A's] documentation that appear to have been added but it is not entirely clear when this happened. This is discouraged as it can lead to a sense of the documentation being altered after the fact." I agree with Ms Anderson's comment in this regard. In response to my provisional opinion, Ms A accepted that she "should have written 'In retrospect with time and date' for every entry [she] added after the fact".

192. I am concerned that Ms A documented some, but not all, of her later additions to the notes as retrospective, and did not advise this Office that some of her notes were retrospective until this was directly put to her for comment.

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[44] See also Standards Six and Seven of the Standards of Midwifery Practice.
[45] 09HDC01592, 31 January 2012, available at www.hdc.org.nz.

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193. Overall, I am of the view that Ms A failed to comply with Standard Four of the Standards of Midwifery Practice and, as such, breached Right 4(2) of the Code.

Opinion: Taranaki District Health Board

194. Taranaki DHB had a duty to Mrs B to provide maternity services that complied with the Code. In this case, the multiple individual failures of Taranaki DHB staff suggest that there were inadequate systems in place at Taranaki DHB to ensure that women such as Mrs B received safe care. I am not convinced that Taranaki DHB took sufficient steps to ensure that Mrs B was provided with appropriate services.

195. In my view, some of the guidelines in place at Taranaki DHB's labour ward at the time of Mrs B's labour and delivery were suboptimal and/or not routinely complied with. I am also of the view that a culture existed within the ward that compromised the standard of care provided in this instance.

196. Overall, I am of the view that Taranaki DHB did not provide services to Mrs B and Baby B with reasonable care and skill, and did not ensure quality and continuity of services. My specific comments are as follows.

Leave notification process — Adverse comment

197. Taranaki DHB confirmed that when Dr C went on leave on Friday he followed the established and accepted process of writing his name on the notice board in the labour ward office. Taranaki DHB advised that this process was known by staff and meant that the person whom staff should contact was "clear 24/7".

198. Despite the above submission, the facts gathered in the course of this investigation suggest confusion and/or a lack of awareness amongst staff regarding the leave notification process. This is demonstrated by the fact that, having recorded his name on the notice board prior to going on leave, Dr C himself was unclear as to when he would be considered back on duty by staff (whether he would be considered back on the evening of Monday or the following day). Ms A advised of her understanding that Dr C was contactable from 8pm on the evening of Monday, which she said accorded with normal process. Further, while Dr C was recorded as being on leave on the notice board, the duty midwife attempted to contact him in respect of Mrs B on the morning of Saturday, apparently unaware that he was away and that she should contact the duty obstetrician.

199. Accordingly, it is evident that the above leave notification process was not consistently understood by staff, nor did it make clear whom to contact. In my view, the leave notification process for obstetricians in the labour ward did not facilitate effective handover of patients and, in turn, did not support continuity of care.

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Compliance with Meconium Guidelines and EFM Guidelines — Breach

200. The Meconium Guidelines and the EFM Guidelines were not followed by a number of clinical staff involved in Mrs B's care. I find this concerning and consider it to reflect a pattern of non-compliance amongst staff at the hospital in respect of those guidelines.

201. At 5.30pm on Monday Duty Midwife Ms E performed an ARM, after which she recorded the presence of meconium stained liquor. At 12am, 1am and 1.10am Ms A also recorded the presence of meconium. Neither midwife adhered to the Meconium Guidelines and the EFM Guidelines, which clearly provided for CTG monitoring and/or contact with the LMC in those circumstances. Further, upon Dr C's arrival at 2.50am, no CTG monitoring was initiated, despite the prior presence of meconium.

202. In addition to what is set out above, I am very concerned that Taranaki DHB addressed the lack of CTG monitoring, required by the above guidelines, by endorsing Ms A's view that any information that she would have gained by CTG monitoring would have been the same as the information she gained by using a Doppler (with reference to Taranaki DHB's letter to Mr and Mrs B dated 27 June 2012). In my view, that explanation in response to a clear breach of the Meconium Guidelines and EFM Guidelines, particularly in the circumstances of this case, was seriously inadequate and demonstrates a lack of importance placed on adherence to guidelines at Taranaki DHB.

203. Overall, I am of the view that Taranaki DHB failed to ensure staff compliance with the above Meconium Guidelines and the EFM Guidelines, and demonstrated a lack of concern when Ms A's failures in this regard were brought to its attention. Accordingly, I am of the view that Taranaki DHB breached Right 4(1) of the Code.

Quality of GBS Guidelines — Breach

204. Taranaki DHB's GBS Guidelines state that, where there are GBS risk factors, "[a]ntibiotics … will be administered intravenously and, where possible, at least four hours prior to delivery. There may be some benefit after two hours."

205. I have concerns regarding the above wording in the GBS Guidelines, which appears to suggest that, four hours prior to delivery antibiotics will be of benefit and two hours prior to delivery antibiotics may be of benefit. The inference is that, within two hours of delivery, antibiotics will not be of any benefit. That interpretation appears to be the understanding of both Ms A and Dr C, who both advised that, once Mrs B developed GBS risk factors, prophylactic antibiotics would not have been of any benefit on the basis of the imminence of Mrs B's delivery.

206. I accept that the effectiveness of antibiotics for treating GBS during labour diminishes as delivery becomes more imminent. However, I do not consider it appropriate for a DHB to have a policy that may be read as dismissing the effectiveness, and consequently the use, of antibiotics altogether from a certain point onwards, where their use may be clinically appropriate.

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207. In this case (and as I have already set out), I am of the view that prophylactic antibiotics should have been administered to Mrs B upon Dr C's arrival on the delivery suite (or earlier, had GBS risk factors been identified in the context of the closer monitoring that should have occurred). I hold that view irrespective of the imminence of Mrs B's delivery by that stage. This view is supported by the expert advice from Dr Westgate and Dr F.

208. Overall, I am of the view that aspects of Taranaki DHB's GBS Guidelines contributed to the standard of care provided to Mrs B being compromised. On that basis I find Taranaki DHB in breach of Right 4(1) of the Code.

NNU documentation processes — Breach

209. Taranaki DHB was unable to provide HDC with the NNU notes documenting Ms A's call regarding Mrs B at 1.10am, on the basis that those notes were destroyed. Taranaki DHB explained that such notes are shredded on the basis that "they are all documented in either the mother's or the baby's notes following delivery".

210. In my view, the above process undermines professional standards in relation to documentation that Taranaki DHB's staff are required to adhere to. Accordingly, in having a process that resulted in a failure to retain the notes from Ms A's telephone call to the NNU at 1.10am on Tuesday, Taranaki DHB breached Right 4(5) of the Code.

Culture — Breach

211. Ms A advised that part of her reason for not immediately calling the NNU following Baby B's birth was because of the "culture in the delivery room with [Dr C]". Ms A explained that she had had a "previous distressing situation" with Dr C, where she had called the NNU without his permission; Ms A advised that this had resulted in Dr C becoming very angry, asking her who she thought she was, and questioning her understanding of his capabilities.

212. Having found Ms A personally responsible for her failure to call the NNU directly following Baby B's birth, I am also of the view that, as recognised by Ms Anderson, the reason "why [Ms A] didn't feel able to [call the NNU] may be a reflection of the culture or policies within the unit".

213. In my view, it is the responsibility of a DHB to ensure that there is a culture within each delivery room that encourages staff at any level to seek assistance without fear of recrimination. I refer to my previous comment in respect of this matter:

> "DHBs and senior practitioners need to encourage a culture where it is acceptable and even commonplace for questions to be asked, to and from any point in the hierarchy, at any time." [46]

214. It is very disappointing that Ms A felt unable to pursue her concerns further, and to advocate more actively for Mrs B and Baby B. Again, as I have previously stated:

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[46] 09HDC01146, 28 April 2011, available at www.hdc.org.nz.

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"It appears the professional hierarchy may have got in the way of good team work and the best interests of the parents and baby."[47]

215. In this case, it is clear and undisputed amongst the parties that Ms A did not call the NNU earlier on the basis that Dr C had not consented to her doing so. Ms A expressly advised that her reluctance in this regard was due to the established culture in the delivery room with Dr C. In my view, Taranaki DHB failed to ensure that it had a culture that meant safe care was provided in the maternity unit and, as a consequence, breached Right 4(1) of the Code.

Communication with Mr and Mrs B following birth — Adverse comment

216. During the debrief meeting at around 9.30am on Tuesday, serious concerns were raised regarding the standard of care provided to Mrs B and Baby B. Despite those concerns having been identified, they were not communicated to Mr and Mrs B. In the circumstances, I do not consider this to have been acceptable. While I am of the view that Dr C must take individual responsibility for this, I am also of the view that Taranaki DHB should have ensured that appropriate communication took place. By not doing so, Mr and Mrs B were left without a clear picture of what happened during Mrs B's labour and Baby B's delivery.

Recommendations

217. I recommend that Dr C provide a written apology to Mr and Mrs B and Baby B for the care he provided. That apology should be sent to HDC, for forwarding to Mr and Mrs B, within **three weeks** of the date of this report.

218. I recommend that midwife Ms A provide a written apology to Mr and Mrs B for the care she provided. That apology should be sent to HDC, for forwarding to Mr and Mrs B, within **three weeks** of the date of this report.

219. I recommend that the Midwifery Council of New Zealand undertake a review of Ms A's competence, and ask that it report back to me on the outcome of that review.

220. I recommend that Taranaki DHB undertake the following:

- Provide a written apology to Mr and Mrs B for its breaches of the Code. That apology should be sent to HDC, for forwarding to Mr and Mrs B, within **three weeks** of the date of this report.
- Liaise with Mr and Mrs B to ascertain whether they would like to meet with the staff involved in Mrs B's and Baby B's care (whether or not they are currently employed by Taranaki DHB) and representatives from Taranaki DHB, in order to

[47] 09HDC01592, 31 January 2012, available at www.hdc.org.nz.

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address the content of this report and verbally apologise for the breaches of the Code, within **three weeks** of the date of this report.

- If Mr and Mrs B do wish to meet with Taranaki DHB/its staff, arrange for that meeting to occur, and report to HDC on the outcome of that meeting, within **two months** of the date of this report.
- Review and update its leave notification process, provide training to staff on that process, and provide evidence to HDC that this has occurred, within **three months** of the date of this report.
- Undertake an audit regarding staff compliance with the Meconium Guidelines and the EFM Guidelines, and provide HDC with the results of that audit within **three months** of the date of this report.
- Review and update its GBS Guidelines in light of the comments made in this report, and provide evidence to HDC that this has occurred, within **three months** of the date of this report.
- Review documentation processes on the labour ward, provide training to relevant clinical staff on those reviewed processes (focused on the need to retain all notes created regarding a patient's care and treatment, and the need to indicate clearly where notes are made in retrospect) and provide evidence to HDC that this has occurred, within **three months** of the date of this report.
- Update its induction and training material for clinical staff on the labour ward to include the message that asking questions and reporting concerns is expected and accepted from all members of the multidisciplinary team, and provide evidence to HDC that this has occurred, within **three months** of the date of this report.

Follow-up actions

221.
- Dr C will be referred to the Director of Proceedings in accordance with section 45(2)(f) of the Health and Disability Commissioner Act 1994 for the purpose of deciding whether any proceedings should be taken.
- Ms A will be referred to the Director of Proceedings in accordance with section 45(2)(f) of the Health and Disability Commissioner Act 1994 for the purpose of deciding whether any proceedings should be taken.
- A copy of this report with details identifying the parties removed, except Taranaki DHB and the experts who advised on this case, will be sent to the Medical Council of New Zealand and the Royal Australian and New Zealand College of Obstetricians and Gynaecologists, who will be advised of Dr C's name.

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- A copy of this report with details identifying the parties removed, except Taranaki DHB and the experts who advised on this case, will be sent to the Midwifery Council of New Zealand, and it will be notified of Ms A's name.
- A copy of this report with details identifying the parties removed, except Taranaki DHB and the experts who advised on this case, will be placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

Addendum

222. The Director of Proceedings decided to institute proceedings against Dr C and Ms A. Both are pending.

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Appendix A — Independent expert advice from Jacqueline Anderson

"My name is Jacqueline (Jacqui) Alison Anderson. I have been asked by the Health and Disability Commissioner to provide further midwifery advice regarding the midwifery care provided in case number C12HDC00481.

My qualifications are Registered Midwife, 1984, Registered General and Obstetric Nurse, 1981 and Master of Midwifery (Otago Polytechnic 2006). I have been practicing midwifery since 1984. I have been employed in tertiary obstetric hospitals from 1984–1991 and as the midwifery leader of a stand alone sole charge primary birthing unit from 1991–1995. Since 1995 I have been a self-employed midwife and Lead Maternity Carer (LMC) and I am also a midwifery lecturer and co-Head of Midwifery in the Bachelor of Midwifery programme at Christchurch Polytechnic Institute of Technology (CPIT).

I am a member of the New Zealand College of Midwives (NZCOM). I have been a Midwifery Standards reviewer and was the midwife representative on the NZ College of Midwives Resolutions committee from 1996–2002. I am nominated as an expert midwifery advisor by the NZCOM. In this capacity I have participated in expert advisor education on a regular basis. I have provided expert opinions to the Health and Disability Commissioner, ACC and the Coroner. I have also been appointed to the Midwifery Council of New Zealand Competence Review Panels.

I was a Ministerial appointment to the Ministry of Health Perinatal and Maternal Mortality Review Committee (PMMRC) from 2005–2010 and was a member of the Maternal Mortality Review Working Group of the PMMRC from 2006–2012.

I have been requested to provide further advice in relation to whether there are concerns about the midwifery care provided by Midwife [Ms A] to [Mrs B] and her baby [Baby B] [in] 2012.

I have read and agreed to follow the Commissioner's Guidelines for Independent Advisors.

The following information was initially received and reviewed by me. I have reread this information.

- Copy of [Mr and Mrs B's] complaint dated […] and additional correspondence dated 16/5/12 (this does not appear to be complete as page 2 is an incomplete sentence).
- Copy of response from [Taranaki DHB] dated 5 July 2012 with copy of letter to [Mr and Mrs B] dated 27 June 2012.
- Letter to HDC from [Taranaki DHB] with response from Midwife [Ms A]. Dated 16/7/12.
- Copy of response from [Dr C] (Lead maternity carer) dated 27 July 2012.

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- Copies of [Mrs B] and [Baby B's] clinical records (of pages labelled 3 and 4 there are 2 copies of clinical notes labelled sheets 6 and 8 and no copies relating to [Mrs B's] admission from [Monday]).

My preliminary advice was completed in February 2013. I have subsequently been provided with the following additional information on which to review this case.

- The Commissioner's letters to Taranaki DHB and [Ms A] dated 22 March 2013, notifying the commencement of an investigation;
- [Ms A's] response to the notification of investigation dated 12 April 2013 including the NZNO Lawyer's covering letter
- Taranaki DHB's response to the notification of investigation (including enclosures and copy of the previously omitted pages 3 and 4 of the clinical notes) dated 12 April 2013
- Copy of HDC's Guidelines for Expert Advisors.

Advice Requested

I have been asked to advise whether the additional information provided causes me to confirm, change, amend, add to, qualify or depart from my preliminary advice regarding [Ms A's] midwifery care. I have also been asked that where there is more than one version of events then to comment on each version.

If there are any additions to my opinion in the preliminary advice in response to the new information provided I have highlighted this in ***bold italics***.

Summary and My Response to the Advice Requested

According to the documentation I have received [Mrs B] was expecting her first baby with an estimated date of birth as [2012]. She was booked to labour and birth at the hospital maternity unit under the care of her Lead Maternity Carer (LMC) [Dr C].

The Birth Booking Form identifies NIL obstetric risk factors. I have not received any other antenatal documentation.

[Mrs B] arrived in the labour ward on [Saturday] at 07.44 at 40 weeks and 3 days gestation. She was experiencing irregular tightenings/contractions which had been occurring for a few days. [Mrs B] was seen and assessed by a midwife. This assessment included a history, abdominal palpation including fetal heart rate, temperature, pulse and blood pressure. All these findings were within normal limits. A cardiotocographic tracing (CTG) of the baby's heart rate was commenced at 07.44. There is a copy of this in the documentation sent to me. This tracing had reassuring features and was discontinued at 08.35. There is also evidence of irregular uterine activity. A vaginal examination (VE) was performed and the findings indicated that [Mrs B] was not yet in established labour.

The midwife attempted to contact [Dr C] (LMC) without success. [Dr C's] response identifies he had a long weekend off and expected that the obstetric team on duty were his back up. It is not clear that the midwife knew this. [Mrs B] was discharged home soon afterwards to await the establishment of labour. It is quite common for women to

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take a few days for labour to become fully established and this period is often referred to as the latent phase of labour (Enkin et al 2000). As [Mrs B's] pregnancy was considered low risk this was a reasonable plan.

On [Monday] [Mrs B] was admitted to [the hospital] at 12.00 at 40 weeks and 5 days gestation. Admission had apparently been arranged to assess whether labour had established as [Mrs B] had been having on-going uterine activity.

Admission observations of temperature, pulse and blood pressure were within normal limits. The diastolic blood pressure was slightly raised but this was not concerning as all other observations were normal. Abdominal palpation was normal for a term pregnancy. A CTG was commenced at 12.00. There are 2 copies of the same time frame on the CTG (commencing 12.00–12.10), with approximately 20 minutes of tracing. There are no further copies of CTG tracings in the documentation I have received. The tracing identifies a normal fetal heart rate baseline of 130 beats per minute with evidence of accelerations, no evidence of decelerations and normal beat to beat variability of at least 5–15 beats. There is evidence of uterine activity. This piece of CTG tracing appears reassuring.

The documentation from here (labelled sheet 2) is followed by sheet 5 commencing [Monday] 23.00 with care taken over by Midwife [Ms A]. There is no documentation available to me from the 12.00 entry until sheet 5. There is however, documentation on the partogram commenced at 12.00 and continued throughout [Mrs B's] labour and a form labelled Maternity Labour Record which records vaginal examination findings.

Pages 3 and 4 of the clinical notes (appendix 5b) have been provided for this additional advice.

The timeframe covered by Pages 3 and 4 of the clinical record does not relate to [Ms A's] midwifery care but to that of other midwifery staff but I cannot read the signature from the 15.15entry until [Ms A] assumed care at 23.00. Pages 3 and 4 relate to the time from 12.22 and end at the final entry at 22.25 on [Monday]. There is an entry at 13.00 with a blood pressure of 124/88 and a pulse of 106. There is no record of a temperature assessment. There are entries at 18.30 and 21.00 with maternal pulse recordings of 96 and 100 respectively. There are no other maternal temperature, pulse or blood pressure records during this shift.

There is no record of the LMC (or back up) being notified of [Mrs B's] admission and progress to date. This may be because the LMC has specifically identified when he is to be called however this is not in line with the specifications for LMC care in Section 88 of the Primary Maternity Services Notice.

The partogram and VE pages identify that a vaginal examination was performed at the admission time of 12.00 and the findings were that the cervix was 5 cms dilated, with the baby's head well applied to the cervix and the membranes intact. With a cervical dilation of 5 cms the labour was clearly established although the record of contractions indicates that they were still mild to moderate on palpation with 2 every 10 minutes.

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Page 3 of the clinical notes identify the vaginal exam as 12.45 and confirms the partogram record of the cervix being 5cms dilated. [Mrs B] was establishing in labour. The fetal heart rate is recorded as 137–142 bpm. This is a normal rate.

The baby's position was left occipito posterior. This position is a common cause of a slow start to labour with contractions taking some time to intensify and increase in frequency. This can contribute to a longer labour especially in women having their first baby. In most cases the baby's head will undergo rotation to an occipito anterior position during the labour. This can result in a longer first and second stage of labour and is not unusual but the midwife will be alert to the possibility that full rotation may not occur and that labour progress can be delayed.

There is a second VE recorded on the Maternity Labour Record but there is no date or time. This VE identifies that there has been positive change in the character of the cervix and that it is dilated to 6–7 cms. An artificial rupture of the membranes (ARM) was performed and the amniotic fluid (liquor) was noted to have old meconium present. The position of the head has not been identified. The partogram records this VE as 17.30.

Page 3 of the clinical record confirms that this VE was undertaken at 17.30. 'Quite a lot of liquor, mec stained (old) — postdates.'

The 'Meconium Liquor in Labour' protocol recommends a period of 'continuous electronic monitoring for a minimum of 30 minutes' and 'if, old thin meconium … and CTG tracing is normal continuous electronic monitoring may be stopped …' (bullet point 1.3). The duty midwife did not instigate CTG recording following this finding. I am aware that not all protocols would make this recommendation in the presence of thin, old meconium.

There is no record that a CTG tracing was undertaken at this time.

The partogram and clinical notes record a maternal pulse of 96 at 18.30 and fetal heart rate 152. Contractions have increased in length, strength and frequency (pg 4).

[Mrs B] entered the bath at 19.15.

The presence of old meconium is not necessarily concerning and indicates the baby has passed meconium at some time during the antenatal period. The presence of old meconium in a post dates pregnancy is not uncommon. The reasons for this are not entirely clear however as [Mrs B] was only 5 days post dates it would be reasonable to assume that the passage of meconium occurred at some earlier time in the pregnancy.

21.00 Page 4 of the clinical notes identifies the maternal pulse 100 and fetal heart rate 152 bpm.

On the partogram at around 22.30 there is a cross indicating dilation of the cervix at 8 cms but this does not appear to be recorded anywhere else. The assessments during the 12.00 to 23.00 time frame identify a slow but progressing labour with the

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frequency and intensity of contractions increasing, the cervix gradually dilating and the baby's head descending further through the pelvis. It would be reasonable to assume that a slower dilation of the cervix is related to the position of the baby's head in the pelvis although there is no further identification of the position in the records relating to VE. Over this time the partogram records the baby's baseline heart rate increasing from 130–140 beats per minute (bpm) before 18.30 to mid 140–160 bpm. These rates are within the normal range of 110–160 bpm. There is no record on the partogram related to the meconium liquor from any of the midwives providing care over the time of [Mrs B's] labour.

22.25 page 4 of clinical notes confirm VE findings of cervical dilation 8cms.

There are no comments in the notes relating to the meconium liquor from the artificial rupture of the membranes at 17.30 until 24.00. This may be because the old meconium was flushed out of the uterus or because [Mrs B] was in the bath and the meconium was so minor that it was not visible. If the meconium was visible then it would be expected that this would be acknowledged in the clinical notes.

The maternal pulse has been recorded on 3 occasions over this time as approximately 100bpm. The normal pulse rate for an adult is generally between 60 and 100 bpm. Activity such as labour or exercise will usually mean a pulse rate is in the higher range (Baston, Hall and Henley-Einion, 2009). It is generally recommended where a maternal pulse is higher than normal that it is assessed at the same time as listening to the fetal heart rate to ensure that one is not mistaken for the other. From the documentation it does not appear that this was necessary at this time.

There is no record of maternal temperature during the time period from 12.22 (pg3) until [Ms A] assumed midwifery care at 23.00 and carried out a full assessment at 23.30. This was appropriate midwifery care by [Ms A] to initiate this assessment at commencement of her care.

Midwifery care was taken over by [Ms A] at 23.00. [Mrs B] was in the bath at this time. Warm water is well recognised as assisting women to cope with labour. [Ms A] has assessed [Mrs B's] Temperature — 37.9, pulse — 135bpm and Blood Pressure — 123/65. Baby's heart rate was 146 bpm. This is within the normal range. It was appropriate for [Ms A] to make this assessment to gather information at the start of her care and assess [Mrs B's] and her baby's well being. [Mrs B] was in the bath which had been recently topped up with hot water.

In response to the raised temperature [Ms A] has instituted cooling measures by giving a cold drink, cooling face cloth and encouraging [Mrs B] out of the water. This was a reasonable action to take to ascertain whether the bath was the cause of the raised temperature and pulse as there were no other apparent concerns at this time.

On rechecking the temperature at 23.30 it was 36.9 and within normal limits. This would have reassured [Ms A]. However [Mrs B's] pulse rate was significantly raised above normal limits (tachycardic) at 149 bpm and had increased over the previous 30

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minutes. The fetal heart rate was at a normal rate but very similar to [Mrs B's] at 145–163 bpm. [Ms A] has recorded 'no mec' (no meconium liquor) at this time.

At 23.45 [Ms A] has performed a VE on [Mrs B]. The notes identify a retrospective addition in the margin dated 1600 [Tuesday] 'at my advice … to increased P &T'. I interpret this to mean that [Ms A] was concerned about the raised maternal temperature and pulse and recommended assessment of labour progress. This was an appropriate response and indicates [Ms A's] recognition that even though the temperature was once more in normal limits the maternal pulse was significantly raised. The findings of the VE identified that [Mrs B's] labour was continuing to progress and the cervix was dilated to 9cms. The fetal heart rate is identified as 145 bpm which is within the normal range. This entry appears to have been added at a later time.

In her response [Ms A] has identified that she encouraged [Mrs B] to drink to keep hydrated. This is because dehydration can affect the progress of labour and can contribute to a raised maternal and fetal pulse rate. [Ms A's] response suggests she felt dehydration was not a particular issue as she states [Mrs B] was drinking well. The partogram identifies that [Mrs B] passed urine (TT ? means to toilet) on at least 3 occasions when [Ms A] was providing care.

The fetal heart rate is in the same range as the maternal pulse. There is no comment on whether there were any attempts to identify whether both heart rates were being heard or the same one mistaken for both. The NZ College of Midwives Consensus Statement on fetal monitoring in labour (2005) recommends that:

Prior to any form of fetal monitoring, the maternal pulse should be palpated simultaneously with fetal heart rate auscultation in order to differentiate between maternal and fetal heart rates.

The maternal pulse rate of 149 is significantly increased and similar to the fetal heart rate and I reiterate that it would have been reasonable to try to ascertain whether the same rate was being identified for the mother and the baby. This would have only required the maternal pulse to be taken at the same time as the fetal heart rate for confirmation. [Ms A's] response (pt 9) identifies her usual practice is to check the maternal pulse and fetal heart rate at the same time if the maternal pulse is raised. As identified above this would be good practice and I would expect this would be documented as having been assessed concurrently.

There is no comment on the presence or otherwise of meconium stained amniotic fluid.

[Ms A's] response (pt 9) identifies that she recorded the presence of meconium and where there are no comments there was no evidence of meconium. She indicates that she would clarify this in future on the partogram and in the clinical notes. This indicates [Ms A's] willingness to review her practice and is in line with the NZCOM (2008) Standards for Practice;

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Standard Seven — the midwife is accountable to the woman, to herself, to the midwifery community and to the wider community for her practice.

Standard eight — the midwife evaluates her practice.

At 24.00 [Mrs B] was kneeling on the bed and the fetal heart rate was 145–150 bpm. [Ms A] has documented 'fresh meconium on pad' and it appears the words 'watery thin' have been added but there is no documentation of whether this was retrospective or not. The amount of meconium and its consistency is influenced by the amount of amniotic fluid draining throughout the labour. The amount of fluid draining is affected by the amount available, the position of the baby's head and the degree of descent into the pelvis. When a baby changes position in the pelvis often there will be some heavier gushes of fluid especially if the baby has been in a posterior position.

There is no record of [Mrs B's] pulse rate either in the clinical record or on the partogram from 23.30 when it was identified at 149 bpm until 02.20 on [Tuesday] when it was identified as 164 bpm.

In [Ms A's] response of 12.4.13 (pt 4) [Ms A] explains that she attributed the maternal pulse increase to be due to the stress of the transition period of labour and possible dehydration. She encouraged [Mrs B] to increase her fluid intake. This was appropriate.

In the presence of such a raised maternal pulse, no matter what the assumption of the cause, I believe it would have been appropriate to reassess the maternal pulse more regularly. This would be viewed as a mild departure from accepted standards.

By 00.30 on [Tuesday] [Mrs B] was feeling like pushing and displaying some signs of coming to full dilation. The fetal heart rate was 160–165. At 00.45 the fetal heart rate is as 156–162 'a fresh bright pv loss' is noted. A blood stained discharge is normal when the cervix is near or at full dilation. There is no comment on whether the meconium was still evident or not.

At 01.00 the fetal heart rate is 170–172 bpm, fresh meconium draining documented. In this entry there are 2 other entries '160' after the fetal heart rate and 'watery' added between 'fresh' and 'meconium'. Again it is not clear when these were entered. It would have been reasonable to institute a period of continuous fetal heart rate monitoring at some time between 24.00 and 01.00 to assess whether the heart rate was normal or required ongoing continuous monitoring to rule out fetal distress. A fetal heart rate of 160 and above is considered mildly tachycardic (Gibb and Arulkumaran, 2008). It is suggested by these authors that this rate requires closer monitoring by CTG to assess baseline variability and the presence of accelerations or decelerations.

Whilst I believe, with the benefit of hindsight, that a CTG between 24.00 and 01.00 would have been reasonable [Ms A's] explanation of her actions at that time are understandable. However it is difficult to understand why, in the presence of fresh meconium (no matter how small an amount), a fetal heart rate occasionally at the upper end of the normal range, a VE at 01.10 identifying that [Mrs B's] cervix was

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not quite fully dilated and [Ms A] informing the neonatal unit staff because of fresh meconium and an earlier raised fetal heart rate, a CTG was not commenced shortly after 01.00. I believe this to be a moderate departure from accepted midwifery practice.

[Ms A] did listen to the fetal heart rate at very regular intervals. She has acknowledged that with the benefit of hindsight it would have been reasonable to commence a CTG around this time.

At 01.10 [Ms A] performed a VE and identified a small rim of cervix present, large caput on baby's head and more meconium liquor draining. The fetal heart rate was 156–160 bpm. [Ms A] was sufficiently concerned about the meconium and the earlier raised fetal heart rate to inform the neonatal unit staff.

The findings on VE would indicate that [Mrs B], as a primigravid (first time) labourer, may still have a few hours of labour ahead. This would be a reasonable conclusion given the slower than average progress to this point. Women at this stage of labour do require a lot of focus to support them through this very challenging phase of labour and I agree with [Ms A] that she would have been very busy providing this support. This leaves me to question where the support from the staff on duty was for [Ms A] at what must have been a stressful time.

The notification to the neonatal team appears to be in line with the 'Meconium Liquor in Labour' protocol dated August 2008 version 2.

At pt 12 in her response [Ms A] suggests that her assessment of the fetal rate of 170–172 was due to an acceleration however this rise was identified in the clinical record as one of the reasons [Ms A] notified the neonatal unit staff.

From this time until 02.10 the fetal heart rate is recorded as between 148 and 160 bpm. [Mrs B] was actively pushing during this time. There is no record of her temperature or pulse being assessed.

It appears from the documentation that there has been no attempt made to inform the LMC of [Mrs B's] admission or progress in labour.

At 02.10 the fetal heart rate is 164 bpm and [Mrs B] is 'pushing well'.

At 02.20 [Mrs B's] temperature is 39.5 and her pulse is 164 bpm, blood pressure is normal. The fetal heart rate is 150–160 bpm. [Ms A] advises a vaginal examination. At 02.30 the exam is performed. It is not stated but would seem that the cervix was fully dilated but still no presenting part on view. At 02.37 the LMC was notified and he arrived at 02.50. The fetal heart rate at this time was 170 bpm. Given the time it takes to prepare for and perform a VE, see to the woman's needs and document the findings I don't feel that there was any undue delay at this time in informing the LMC.

I am not sure why the LMC was not aware sooner that [Mrs B] was in labour. According to the Primary Maternity Services Notice 2007, section 88 the LMC (or

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their nominated back up) is expected to attend when clients are in labour as soon as is practicable. Where the LMC is an obstetrician or General Practitioner they are obliged to sub contract midwifery care either to a self-employed midwife or, as in many cases, through the core midwifery staff at the DHB. [Dr C] may have a long standing agreement with the DHB staff as to when he wishes to be informed. Each maternity unit develops their own culture to respond to local needs. However [Ms A] had informed the neonatal unit that [Mrs B] was in labour because of the maternal tachycardia and the meconium liquor so I assume she had some concern so it is not clear why she did not inform [Dr C] or at least consult with her colleagues. As the LMC [Dr C] has a responsibility to ensure he has arranged backup.

From 02.40 the fetal heart continues to be monitored intermittently and recorded as being between 164 and 182 bpm. The baseline fetal tachycardia was increasing and this would be concerning.

The LMC was present from 02.50 and did not request continuous monitoring of the fetal heart rate once the rate became consistently tachycardic. [Ms A] acknowledges that it would have been appropriate to commence a CTG at this time however my impression is that it was assumed the birth was imminent. I have commented on this later in my preliminary report.

There is no further comment on the presence of meconium until the birth. IV syntocinon was commenced at 03.20 to increase the contractions until the birth of the baby at 03.50.

The period from 23.30 until 03.50 was 4 hours and 20 minutes. Whilst [Ms A] appears to have recognised that a raised maternal pulse and temperature were concerning but once the temperature returned to normal parameters no further assessments were made until 02.20. On its own the increasing fetal heart baseline would generally be seen as an indication for closer monitoring by way of continuous monitoring. The development of fresh meconium stained liquor would reinforce this view. This, combined with a slowly progressing labour and persistent maternal tachycardia, would all be indicators for closer fetal heart rate monitoring and possible intervention to effect the birth of the baby. The maternal tachycardia was at a significantly high rate to cause concern. Whilst [Mrs B] had no apparent risk factors for infection the development of the tachycardia and at least one episode of raised temperature would be indicators of the potential for the development of chorioamnionitis (infection of the maternal membranes and amniotic fluid) and the potential for fetal distress.

Recommendations on fetal heart assessment and reasons for transfer to continuous monitoring identify that changing from intermittent auscultation to continuous monitoring in low risk women should be advised if there is, for example significant meconium stained liquor, abnormal fetal heart rate detected by intermittent auscultation, maternal pyrexia (defined as 38.0C or above once or 37.5C on two occasions 2 hours apart), fresh bleeding in labour or oxytocin use for augmentation of labour (NICE 2008, NZCOM 2005, Tracy 2010). It is also recommended that continuous monitoring should be offered if any intrapartum risk factors develop which

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in this case they did. [Ms A] undertook regular assessments of the fetal heart rate but appears not to have taken into account the fresh meconium liquor or the maternal or ***intermittent*** fetal tachycardia ***episodes***.

I agree with [Ms A] (pt 17) that the fetal tachycardia did not become overt or consistent until the second stage of labour but in the earlier presence of a raised maternal pulse, fresh meconium liquor and the possibility that [Mrs B] was potentially dehydrated it would have been reasonable to institute further assessment by ascertaining more clearly the baby's response by CTG monitoring.

In point 18 [Ms A] says the first abnormal heart rate was detected at 02.40 and that she had been carrying out frequent intermittent auscultation and describes how she did this. This would be entirely reasonable if the maternal pulse at 23.30 and 02.25 had been normal and [Mrs B's] temperature was not raised. By 02.20 there was strong evidence for concern and [Ms A] undertook a full assessment and notified the LMC. Even though not previously commenced this was another opportunity to institute continuous monitoring of the fetal heart rate. The LMC's lack of recognition of this situation once he arrived is also concerning.

Whilst [Mrs B] had no obvious risk factors for GBS infection the development of signs of potential chorioamnionitis did become evident later ***in the later part of the labour***. Chorioamnionitis (which may be caused by any number of causative organisms) is generally defined by the presence of maternal fever and two or more additional signs including a raised maternal and/or fetal heart rate. Whilst the condition cannot always be prevented the recognition in labour of risk factors can alert carers to the potential of problems for the mother and baby. It is associated with an increased risk of sepsis in the new born. GBS colonisation of the mother in itself does not necessarily mean that the baby will develop sepsis. It is a transient bacteria which is thought to be present for between 10–30% of pregnant women. The majority of babies born to women with GBS colonisation will not become unwell. However with the presence of other factors the risks increase. These factors include the development of signs of chorioamnionitis — maternal fever and/or fetal tachycardia. There is a range of temperatures from 37.5C to 38.0C identified as fever and each maternity unit generally has its own levels at which they recommend intervention. The use of IV antibiotics in labour is not guaranteed to prevent or treat the infection. It is generally recognised that antibiotics should be commenced at least four hours prior to birth to ensure adequate tissue penetration (Three Centres Guidelines, 2001).

Even though [Ms A] appears to have monitored the baby's heart rate at reasonable intervals of between 15–30 minutes during the labour not instituting closer monitoring measures of both mother and baby when there were indications to do so would be seen as a serious departure from reasonable standards of care by her peers. It would appear that the unit has a policy on monitoring of babies with fresh meconium in labour but this was not followed in this case. Whilst policies are not rules they are there to give guidance and if women and care givers choose to differ from that guidance then it is expected that this is identified in the documentation with an explanation of the alternative plans. By not informing the LMC or seeking consultation earlier than she did means that [Ms A] does not meet reasonable

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professional standards. It is difficult to assess the degree of this departure without knowing the systems in place in this particular unit. However, regardless of the unit culture it is expected that if midwives have concerns they seek consultation. It appears that [Ms A] did not recognise the increasing signs of potential infection.

Once the LMC was present there appears to have been no change to the assessments and no discussion or plan implemented to respond to the indicators of concern or to ascertain if the rapid fetal heart rate was a sign of fetal distress. The baby's heart rate was listened to frequently but no action was taken in relation to the persistent and increasing tachycardia. The LMC was present for an hour before the birth. There is no record of any discussions relating to expediting the birth e.g forceps or ventouse assistance. An opinion on the LMC's actions at this time would be more appropriately commented on by his peers.

The commencing of IV syntocinon augmentation was reasonable given the short and infrequent contractions but it is generally accepted that it is prudent to commence continuous fetal heart monitoring with the use of oxytocic augmentation (NICE,2008). [Dr C's] response to [Mr and Mrs B's] complaint makes no mention of his assessment. There do not appear to be any clinical records written by [Dr C] once he was present. I will comment on this later. Once the midwife has informed the obstetrician or other medical team of concerns any treatment or plan of care decisions are part of the consultation or referral process.

Once [Baby B] was born it was evident that she required immediate resuscitative measures. All have commented on the presence of meconium at birth, and more importantly, her lack of respiratory effort and poor tone. [Dr C] commenced active resuscitation immediately but there is some question as to whether oral/pharyngeal suctioning should have occurred in the first instance. The first APGAR score at one minute was 2. This is indicative of a baby in need of significant assistance. Whether or not the practitioner feels confident in their skills it is always recommended to call for assistance especially when it is available on site. [Ms A] had already alerted the neonatal unit earlier. The APGAR score at 5 minutes was 4. Clearly the resuscitation was not having a significant effect. It would have been reasonable to have called for assistance as soon as baby was born (or sooner if the potential for baby to have problems was recognised).

Mucous extraction (suction) for babies has been recognised for a number of years now as only recommended for babies with fresh, thick and/or particulate meconium. However where a baby is not vigorous at birth and there is any type of meconium present then suction would be expected before any attempts at ventilation. There was at least a 4 minute delay in calling for assistance. The midwife has commented that she knew [Dr C] preferred to make the decision on whether to call for assistance however a midwife is quite capable of recognising when a baby needs full resuscitation and should have felt able to make the call. Why [Ms A] didn't feel able to do this may be a reflection of the culture or policies within the unit. Midwives are required to undergo neonatal resuscitation education on a yearly basis to maintain competence.

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I have been provided with the policy on requesting neonatal team attendance at births in place at the time [Mrs B] birthed. There are guidelines for indicators of 'At Risk' categories including maternal fever. The policy identifies a number of situations where paediatric staff would anticipate being present. Two of these indicators were present for [Mrs B's] birth — meconium stained liquor and fetal distress (in this case tachycardia). The fetal distress indicator is qualified 'as assessed by the obstetric team'. In this situation the LMC was an obstetrician and would be expected to make that assessment. It is clear that it would be expected that the neonatal team would be called to be present at this birth. Whilst the sepsis may not have been preventable the resuscitation would likely have been more effective more quickly if the neonatal staff were present for the birth.

[Ms A] has identified the usual practice that has developed when working with this particular LMC. I agree it can be extremely difficult to make suggestions when someone has previously responded negatively to this. This is a reflection of the culture and socialisation of an organisation. Managers within the organisation have a responsibility to support staff to be able to work collegially and set up systems to support this. [Ms A] did not seek support from any of the midwifery team on duty (in particular the shift co-ordinator) once the LMC was present. This may also be a reflection of the expectations within the unit. It is not my experience that this is an issue when the LMC is a midwife. It is extremely difficult (if not impossible) for one person to seek to address these issues and it would not generally be possible in a stressful birth situation without support and follow up review.

Documentation
[Ms A] has written reasonable documentation. It is clear what assessments she undertook and the progress of [Mrs B's] labour. Entries have been made at regular intervals. [Ms A] has written notes identified as 'written retrospectively'. Health professionals are required to do this where they have not had time e.g during an emergency or where they wish to clarify points missed earlier. It is expected that this is undertaken as soon as possible after the event or completion of care. If changes or additions are made to the documentation it is important to date, time and sign the changes. There are some areas of [Ms A's] documentation that appear to have been added to but it is not entirely clear when this happened. This is discouraged as it can lead to a sense of the documentation being altered after the fact.

The lack of documentation by the LMC is concerning. All LMCs whether midwives, general practitioners or obstetricians have requirements for documentation as a professional standard as well as to meet the Primary Maternity Services Notice section 88 specifications. There are expectations relating to care plans, assessments and decision points as well as actions taken by the LMC. This is not evident in the documentation once the LMC was present. As the lead practitioner for the resuscitation of [Baby B] I believe the LMC had an obligation to comprehensively document the resuscitation provided. The only documentation is by [Ms A] but this was not her responsibility in this case.

In summary the midwife [Ms A] did not provide care to a reasonable standard in that whilst she identified and recorded her assessments they were not as complete as

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needed when there were identifiable risk factors emerging i.e raised maternal pulse, rising fetal heart rate and development of fresh meconium. It appears that [Ms A] recognised a potential for problems in that she instituted cooling measures and informed the neonatal unit of a potential for a compromised baby. However many of the ensuing signs were not acted upon or followed up. This would be considered a moderate to severe departure from accepted standards. Whilst intrapartum infection cannot necessarily be diagnosed or prevented there were enough indicators to warrant an increase in monitoring of both mother and baby and discussion with colleagues.

There is no evidence of a plan of care or decision points by either the midwife or the LMC. The LMC was present for an hour before the birth of the baby and peer review would identify whether care during that time was appropriate or whether intervention to expedite birth would have been reasonable. It is not known if an earlier intervention to birth the baby may have made any difference to a baby who had already developed sepsis however it is most likely that the period before being able to institute treatment would have been reduced. It would seem that neither practitioner recognised the possible implications from the signs that were evident.

On reviewing the additional information provided including [Ms A's] response I continue to hold the view that the midwifery care was not to a reasonable standard however I feel that on the whole the departure from accepted standards would still be seen as a moderate–severe departure by peers. Therefore I confirm my original opinion with some minor additions, amendments and clarifications.

[Ms A's] response to the preliminary advice identifies her recognition of areas of practice that she has reviewed and the practice changes she will implement. This reflects the intention of the NZCOM Standards for Practice expectations in Standard Eight.

[Ms A] makes some comments in relation to her usual practice and her acknowledgement that in this case she didn't always maintain her usual practice. She gives no explanation as to why this was so. This may be a reflection of the reality of shift work, staffing levels and work loads or other less overt pressures within an institution.

The NZ College of Midwives Standards for Practice (2008) of relevance are:

Standard Three

The midwife collates and documents comprehensive assessments of the woman and/or baby's health and well-being —

There is a lack of maternal well-being assessments once maternal tachycardia was identified. This was not reviewed again for some hours.

There was no attempt to identify the two separate heart rates.

Standard Six

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Midwifery actions are prioritised and implemented appropriately with no midwifery action or omission placing the woman or baby at risk —

Identifies deviations from the normal and consults and refers as appropriate — did not recognise that there were a number of signs of potential problems ***and consult or seek further support.***

Ensures assessment is on-going and modifies the midwifery plan accordingly — did not increase assessments of the baby and mother's well-being.

Standard Seven — the midwife is accountable to the woman, to herself, to the midwifery community and to the wider community for her practice — [Ms A's] response provides some evidence of this.

Standard eight — the midwife evaluates her practice — [Ms A's] response provides some evidence of this.

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Appendix B — Independent expert advice from Dr Jenny Westgate

"Thank you for asking me to provide provisional advice to the Commissioner on the care provided by [Dr C] and midwife [Ms A] in the management of [Mrs B's] labour and delivery and care of [Baby B] in the first few minutes of her life. I have read the clinical notes, the letter of complaint and the responses from Taranaki DHB, [Dr C] and [Ms A] as provided by you. I will briefly summarise the clinical events and then comment on aspects of the care given.

[Clinical Summary redacted for brevity.]

Comments on Clinical Care in Labour.

RANZCOG Guidelines on intrapartum fetal surveillance recommend continuous CTG in the presence of meconium, abnormalities of the auscultated FHR and if syntocinon is to be used. Despite all three of these circumstances occurring in [Mrs B's] labour, a continuous CTG was not recorded. Between 0030 and 0100 hours on [Tuesday], there was a fetal tachycardia and again from 0237 a FHR of >170 was noted and that rate increased until delivery at 0350. Furthermore, a syntocinon infusion was commenced at 0320 and continued for 30 minutes prior to delivery without a CTG being recorded, despite a marked fetal tachycardia. In my view these are significant departures from the Guidelines. [Dr C] states that there was a fetal tachycardia without decelerations. I am not sure how he could be confident on this point without a CTG. In their response to [Mr and Mrs B's] complaint, Taranaki DHB acknowledge that a CTG should have been recorded due to fetal tachycardia.

I am concerned at [Dr C's] decision to use syntocinon at 0320. By 0300, [Dr C] had been present for 10 minutes, the fetal head was on view, [Mrs B] had been pushing for 1 hour and 20 minutes and there was a marked fetal tachycardia. I believe that the appropriate response would have been to deliver the baby. There is no record of [Dr C] examining [Mrs B] himself to ascertain if she was suitable for an instrumental delivery and no comment as to why he did not choose this option. [Dr C] commenced a syntocinon infusion at 0320. By this time [Mrs B] had been pushing for 1 hour and 40 minutes and the auscultated FHR was still over 170/minute and more of the baby's head was on view. Intrapartum fever has been recognised as a risk factor for neonatal encephalopathy since the late 1990s. The presence of maternal fever of 39.5 degrees C and a fetal tachycardia in excess of 170/minute is a concerning combination and failure to check a CTG, use of syntocinon without a CTG in the presence of fetal tachycardia and apparently failure to even consider expediting delivery by a vaginal instrumental delivery are very concerning. In his response, [Dr C] fails to mention at all his use of syntocinon at 0320 to manage slow progress in second stage after 100 minutes of pushing with a fetal tachycardia of >170/minute and the head on view. He does mention the baby's Groups B Strep infection and seems to me to attribute all the neonatal morbidity to this but does not mention the fact that the baby was severely acidotic at birth. Her arterial pH at one hour of age was only 7.05, and her lactate close to 20 mmol/L. Infected fetuses have a significantly increased oxygen requirement and the evidence in this case is that infection and severe hypoxia occurred in tandem here.

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The Neonatal Team should have been called to the delivery of this baby due to the presence of meconium, maternal fever and fetal tachycardia. Taranaki DHB have accepted this point as well.

Finally, I have a comment on the issue of whether antibiotics should have been given or not. Adequate antibiotic prophylaxis is defined as antibiotics given 4 or more hours before birth. However, given a maternal pyrexia of 39.5 and a marked fetal tachycardia, I believe it would have been appropriate to administer antibiotics at 0240. [Dr C] has expressed an opinion that maternal administration of antibiotics would not have helped and could have masked infection. I think current views on use of intrapartum antibiotics are significantly different nowadays. However, whether exposure to maternal iv antibiotics for 90 minutes before delivery would have significantly affected the outcome for this baby is unclear, especially as intrapartum hypoxia played a significant role in the morbidity she experienced.

In summary, I have significant concerns about the care given to [Mrs B] and her baby in labour by [Dr C] and [Ms A]. These concerns centre around choice of fetal monitoring, management of maternal pyrexia with fetal tachycardia, failure to expedite delivery promptly and ensuring appropriately trained neonatal personnel were present at delivery. I view these departures from an acceptable standard of practice as severe.

Jenny Westgate DM, FRANZCOG”

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