Independent midwife, Mrs C

Obstetrician, Dr D

Public Hospital

A Report by the

Health and Disability Commissioner

(Case 03HDC16282)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Parties involved

Ms A	Consumer
Mr B	Consumer's partner
Mrs C	Provider / Independent midwife
Dr D	Provider / Obstetrician

Complaint

On 14 October 2003 the Commissioner received a complaint from a Health and Disability Consumer Advocacy Service on behalf of Ms A about the standard of care provided to her by Mrs C and Dr D at a Public Hospital. The following issues were investigated:

Mrs C
Whether Mrs C, independent midwife, provided services of an appropriate standard to Ms A. In particular:

- *whether Mrs C appropriately managed Ms A's labour and delivery.*

Dr D
Whether Dr D, obstetrician, provided services of an appropriate standard to Ms A. In particular:

- *whether Dr D appropriately managed the delivery of Ms A's baby.*

An investigation was commenced on 23 January 2004.

Information reviewed

- Information received from:
  - Ms A
  - Mr B
  - Mrs C
  - Dr D
  - Clinical Director, Public Hospital
  - Customer Services, Public Hospital
- Ms A's clinical records from Mrs C and the Public Hospital
- Perinatal Case Review – 'Ms A and Baby A'
- Independent expert advice from Dr John Wakeman, obstetrician, and Ms Sue Lennox, independent midwife.

Information gathered during investigation

Background

Antenatal care
Ms A first saw Mrs C, independent midwife, when Ms A was 7.4 weeks pregnant. Ms A had previously had two early miscarriages. Mrs C had agreed to be Ms A's Lead Maternity Carer (LMC)[1]. Mrs C registered as a midwife in 1975. She worked as a hospital-based midwife until 1993 when she became an independent midwife.

Mrs C explained her role as LMC to Ms A, and discussed the examinations that would be necessary throughout the pregnancy to ensure the well-being of her baby and herself.

The antenatal assessments were routine. Ms A's pregnancy appeared to be progressing well. Mrs C informed me:

> "I felt her baby was growing well within her small frame and fundal height appeared to progressively grow according to the gestational age. I did not think at that time that a referral to an obstetrician was needed."

Labour
At 10am Ms A contacted Mrs C and told her that her labour had started. Mrs C arranged for Ms A to be admitted to the Public Hospital Maternity Unit.

Ms A arrived at the Maternity Unit at 1.05pm with her partner, Mr B, when her contractions were three minutes apart. Mrs C performed an initial assessment of the progress of Ms A's labour. Mrs C noted that the baby was lying in the right occipital lateral (ROL) position (baby in the head down position, lying with its spine to the right side). Mrs C estimated that the foetal heart rate was reactive and 135 beats per minute (bpm)[2].

Mrs C noted that during the early stages of her labour Ms A was coping well; she was getting up to walk periodically and did not require pain relief.

At 2.10pm Mrs C recorded that Ms A's contractions were regular and stronger. The foetal heart was reactive and 140 bpm. Ms A started to use Entonox gas for pain relief.

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[1] The term 'Lead Maternity Carer' refers to the general practitioner, midwife or obstetric specialist who has been selected by a woman to provide her with comprehensive maternity care, including the management of her labour and birth.
[2] Foetal heart *reactivity* can be tested by attaching uterine contraction monitors to the mother's abdomen for 10 to 20 minutes, to obtain a rhythm strip of the foetal heart rate, so as to measure the response of the foetal heart to foetal movement. When a foetus moves, its heartbeat should increase (accelerate) about 15 bpm. The test is *reactive* if two accelerations of more than 15 bpm occur after movement during this time, and *non- reactive* if no accelerations occur.

At 3pm Ms A was becoming distressed with her contractions. Mrs C performed a vaginal examination and assessed the cervical dilatation as 3cm. She discussed alternative pain relief with Ms A, who stated that she would prefer to try the pool as her first option. The foetal heart rate was assessed as being reactive and 145 bpm.

Ms A stayed in the pool using Entonox as additional pain relief until 5.30pm. Mrs C intermittently assessed the foetal heart rate, using a special hand-held Doppler, while Ms A was in the pool.

When Ms A got out of the pool at 5.30pm she was experiencing strong contractions every three minutes. Mrs C performed a vaginal examination and estimated that Ms A was 5cm dilated. Ms A requested additional pain relief. Mrs C gave Ms A pethidine 100mg and Stemetil 12.5mg by intramuscular injection at 5.40pm.

At 7.15pm Mrs C noted that Ms A, who had previously been sleeping between contractions, felt like pushing with her contractions.

Foetal distress detected

At 7.50pm Mrs C recorded that she performed a further vaginal examination and found that the cervix was 9cm dilated and there was an anterior cervical lip (portion of the cervix that has not contracted back) in front of the baby's head. Mrs C recalled:

> "I then ruptured the membranes and about 100ml of thick, mucosy cream coloured liquor drained. As the baby's head was now well down and was well applied to the cervix, I wasn't surprised at the amount of liquor in the fore-water sac. I followed this up with listening to the foetal heart and decided to monitor with CTG as [Ms A] continued to bear down with contractions every 3 minutes and the consistency of the liquor was very puzzling. There was no evidence of meconium at this time. … On commencing the monitoring there was a deceleration[3] [to 70bpm] with a contraction."

Mrs C recorded that the foetal heart was reactive and 150 bpm. She asked Ms A to try not to push with the contractions until her cervix was fully dilated. She told the family that she needed to watch the heart trace to see how well the baby was coping. She told them that if the trace continued to indicate that the baby was stressed she would have to call an

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[3] *Early decelerations* are periodic decreases in the foetal heart rate resulting from pressure on the foetal head during contractions. The deceleration follows the pattern of the contraction, beginning when the contraction begins and ending when the contraction ends. The tracing of the deceleration wave shows the lowest point of the deceleration occurring at the peak of the contraction. The rate rarely falls below 100 bpm and returns quickly to between 120 and 160 bpm at the end of the contraction.

Late decelerations are those that are delayed until 30 to 40 seconds after the onset of the contraction and continue beyond the end of the contraction. This is an ominous pattern in labour because it suggests placental insufficiency or decreased blood flow through the uterus during contractions. The lowest point of the deceleration occurs near the end of the contraction, instead of at the peak.

obstetrician. Mrs C informed me that she spoke to the charge midwife, about the first deceleration and progress in the labour she was "now monitoring".

At 8.30pm there was a prolonged severe foetal heart deceleration to 60 bpm. Mrs C asked the charge midwife to contact the obstetric consultant, Dr D.

Handover to obstetrician
Dr D arrived at the maternity annexe at 8.30pm to review Ms A. Dr D informed me that he performed a vaginal examination on Ms A and found that the draining liquor was meconium-stained. The cervical dilatation was 7cm; there was a thick anterior lip of cervix present and the foetus was presenting by the vertex (head) at Station -1[4]. Dr D noted that caput (swelling of the scalp) was present. The CTG showed late decelerations and poor beat-to-beat variation.

Dr D informed me:

> "In view of my findings I decided to deliver the baby by emergency Caesarean section. I discussed this with [Ms A], her partner and LMC, [Mrs C], and all of us were in agreement to this management plan.
>
> I informed the anaesthetist, paediatrician, on call theatre nursing team and the house officer about my plan and proceeded to the operating theatre."

Mrs C stated that she and the charge midwife discussed the preparations that were required for the Caesarean section. Mrs C suggested that she continue to provide the personal care for Ms A and asked the charge midwife to make the arrangements for the surgery and complete the necessary paperwork. Mrs C prepared Ms A for theatre, which included introducing a urinary drainage catheter and an intravenous luer. Mrs C was unable to obtain a blood sample for cross-matching if a transfusion was required. She decided to leave the anaesthetist to take the sample. Mrs C and Mr B assisted Ms A to use the Entonox and avoid pushing with her contractions. Ms A was taken to theatre at about 9pm and prepared for the anaesthetic.

Anterior lip of cervix
There is a discrepancy in the information obtained relating to this matter.

[4] When the presenting part is at the level of the ischial spines (the outlet of the mother's pelvis), it is at an O station (synonymous with engagement). If the presenting part is above the spines, the distance is measured and described as minus stations, which range from -1cm to -4cm. If the presenting part is below the ischial spines, the distance is stated as plus stations (+1cm to +4cm). At a +3 or +4 station, the presenting part is at the perineum (synonymous with crowning).

Dr D stated that when he was scrubbing for the surgery at 9.10pm the charge midwife advised him that Ms A was pushing with her contractions. She asked him to review Ms A to assess whether her desire to push was caused by the baby's rapid descent into the pelvis.

The charge midwife recorded in the notes at 9.12pm:

> "VE by [Dr D]. [Ms A] urged to push while [Dr D] attempted to push cervix behind baby's head – unsuccessful. Decision made by [Dr D] to proceed to Caesarean."

Dr D informed me that when he examined Ms A (which took an estimated two minutes), he did not attempt to push back the anterior lip. He noted that there was no descent of the baby's head when Ms A pushed with a contraction. While Dr D was examining Ms A, the charge midwife listened to the foetal heart with a sonicaid. The foetal heartbeat was assessed as 110 bpm.

Dr D advised the anaesthetist that he intended to proceed to Caesarean section. The anaesthetic was started at 9.14pm.

Delivery – Caesarean section
Dr D commenced the Caesarean section at 9.20pm. He stated:

> "I started the Caesarean section and delivered [at 9.29pm] an asphyxiated baby girl by the vertex. There was no respiratory effort. The liquor around the baby was thickly meconium stained and the umbilical cord was round the neck twice. Baby was handed over to the paediatrician. He could not revive the baby. Baby weighed 2.48 kgms [5lb 8oz].
>
> I met up with [Ms A] and her partner the following morning and explained to them what had happened and asked their consent for post mortem examination of the baby, which they declined."

Follow-up
Dr D informed me:

> "I saw [Ms A], her partner and her mother … in the Outpatient Department. I had a long discussion with them about the care given to her during her labour and answered their questions. I also explained to them in detail about my role in her labour management. [Ms A] also asked me about management of her future pregnancies.
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> Her case was reviewed in our Perinatal Mortality meeting. An internal review of her delivery was held …. The Review Team consisted of:
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> [...] – Director of Nursing Practice
> [...] – Consultant Obstetrician and Clinical Director
> [...] – Midwifery Manager [another region]
> [...] – Customer Services

It was an informal discussion about the events."

Perinatal Case Review report
A Perinatal Case Review was held … to examine the circumstances of Ms A's labour and delivery. The report from that review concluded that at some undetermined period the baby's umbilical cord became wrapped around her neck and tightened during labour, increasing hypoxia and potential strangulation as the baby descended into the birth canal.

The report of the Perinatal Case Review included the following conclusions and recommendations:

"6.1 Foetal Distress: At some period, unable to determine clearly when, [baby A's] umbilical cord became wrapped around her neck and during labour this tightened increasing hypoxia and potential strangulation on descent into birth canal during contractions in labour.

6.2 Obstetric Referral: Given the previous history, gravida 3, para 0, a referral to the obstetrician should have been considered. LMC felt this was not needed as progress appeared normal through antenatal period in this case. LMC was advised to reflect on this decision and to consider on using referral option as a precaution and safeguard in future practice.

6.3 Documentation: Lack of information between LMC and secondary facility is not uncommon, and poses a risk to the safety of both mother and child should emergency situations arise in the absence of the LMC. No action considered necessary specific to this case, but further work required locally with all midwives and section 88 requirements to ensure all notes are shared and available to the secondary facility throughout client admissions.

6.4 CTG use in labour: It is recommended practice in the secondary unit setting to monitor women routinely in early labour to establish a base line reading, and provide additional clinical information to assist decision making. Whilst LMCs under section 88 are not bound to adhere to secondary maternity facility practices, it is recommended further work is done to encourage compliance with this 'best practice'.

6.5 Delay notifying Obstetrician of foetal heart dips/decelerations on CTG: There is difference in opinion as to the interpretation and significance of the decelerations on the trace at 19.50 between members of the review group, but an agreed view held, that all decelerations should be discussed immediately with a professional colleague, and referral to Obstetrician be considered at initial stage as a principle of safety and to reduce risk of adverse events.

6.6 Delay between decision to perform LSCS and commencement of procedure: The accepted time frame for decision to incision for emergency LSCS is 30 minutes. In this case the time frame recorded in the notes is 40 minutes. It appears from the

notes that the patient arrived in theatre within the 30 minute time frame, and that some of the delay (about 10-15 minutes) related to the obstetrician's attempt to pull a small anterior lip of the cervix 'out of the way' which was unsuccessful."

The report summary stated:

"The loss of a baby during childbirth is traumatic and tragic for all concerned, especially when antenatal progress and early labour has appeared normal. Whilst we cannot undo this event, it is a valuable and critical learning opportunity for all professional staff engaged in maternity and obstetric practice.

We have not been able to establish absolutely a relationship between the management of the labour and the stillbirth of [baby A], but we can identify some opportunities to change practice and reduce the potential for a similar adverse event in the future.

The successful implementation of changes in practice will be determined locally, by co-operation and collaboration from all parties, including Lead Maternity Carers (LMC), [midwifery services] and obstetric staff. It is our view that there should also be national consideration and review of the clauses of section 88, conditions of Access Agreements to ensure that compliance by all LMCs to current and evidence based, best practice is mandatory and not by choice."

Further information

Dr D
Dr D informed me:

"I wish to comment on aspects of [the Perinatal Mortality meeting] report as follows:

The foetal heart has been frequently noted to have been 'reactive'. The use of this term is misleading however. The term 'reactive' denotes variability and accelerations on a foetal heart rate tracing. At the times referred to, no such tracing was heard. The usual reassurance that one can take from a reactive foetal heart cannot be attributed to the term in the context in which it has been used in the midwife's record.

There has been some concern expressed in the drafting of this report about my decision to perform a vaginal examination in theatre. I have answered this issue above. I do agree that a decision to delivery time of 30 minutes or less is desirable. However, I believe that in the circumstances as they occurred, it was not within my control to effect birth in a significantly more expeditious time-frame.

I believe that the root cause of this baby's outcome lies in the management prior to my being asked to 'rescue' this baby, and that its tragic fate was largely determined prior to my involvement. There was undiagnosed intrauterine growth retardation, intrapartum cardiotocography was performed only late in labour, and I believe I should have been involved in the care earlier in the patient's labour."

Independent advice to Commissioner

Midwifery advice
The following independent advice was obtained from Ms Sue Lennox, independent midwife:

"**Purpose**
To provide independent expert advice about whether [Ms A] received an appropriate standard of care from [Mrs C], independent midwife.

Background
[Mrs C] first saw [Ms A] … when [Ms A] was 7.4 weeks' gestation and agreed to be her LMC. The antenatal visits were regular, and [Mrs C] assessed that the pregnancy was progressing well, despite [Ms A] having two possible early miscarriages. There was no need for a referral to an obstetrician. A scan estimated the EDD ….

At 10am … [Ms A] contacted [Mrs C] and informed her that her labour had started. [Mrs C] arranged for [Ms A] to go to the [Public Hospital] Maternity Unit. [Mrs C] assessed [Ms A] on her arrival at the unit at 1.05pm and found that her contractions were three minutes apart, and moderate to strong in strength. The foetal heart was assessed by Doppler and [Ms A] elected to use Entonox for pain relief. Abdominal palpation assessed the foetal size to be 38.4 weeks. Membranes were intact and the cervical os could not be tipped.

At 3pm a further vaginal examination found that [Ms A's] cervix was effaced and 3cm. At 3.40pm [Ms A] asked to use the pool for relaxation. The foetal heart rate was assessed at 145 bpm.

At 5.30pm [Ms A] got out of the pool. A vaginal examination found that she was 5cm dilated. [Ms A] was given Pethidine 100mg and Stemetil 12.5mg at 5.40pm. [Mrs C] recorded that the foetal heart rate was reactive and 150 bpm.

At 7.30pm [Mrs C] assessed the cervix to be 9cm dilated with an anterior lip. She ruptured the uterine membrane which released 'thick mucosy cream coloured' liquor. [Mrs C] recorded that the foetal heart rate was reactive at 135-140 bpm. CTG tracing was commenced and almost immediately detected a deceleration to 70bpm with a contraction. A further CTG assessment of the foetal heart rate at 8.15pm showed no further decelerations.

At 8.30pm there was a prolonged severe deceleration to 60bpm. [Mrs C] asked [the] Charge Midwife to contact the obstetric consultant, [Dr D].

[Dr D] arrived to review [Ms A] at 8.40pm. He noted the late decelerations and meconium stained liquor, and informed [Ms A] that she required an emergency Caesarean section.

[Mrs C] handed [Ms A] over to secondary care, and assisted in preparing [Ms A] for theatre. [The charge midwife] and [Ms A's] partner, [Mr B], accompanied her to theatre. [Mrs C] remained in the waiting room with other members of the family.

At 9.29pm [Mrs C] was called to theatre to be informed that the baby had died.

Complaint

[Mrs C]

Whether [Mrs C], independent midwife, provided services of an appropriate standard to [Ms A], in particular:

- *Whether [Mrs C] appropriately managed [Ms A's] labour and delivery …*

Supporting Information

- Letter of complaint from [Ms A] with accompanying clinical records, forwarded by [a Health and Disability Consumer Advocacy Service] to the Commissioner on 14 October 2003, marked with an 'A'. (Pages 1-47)

- Typed record of telephone interview with [Ms A] on 12 January 2004, marked with a 'B'. (Page 48)

- Response from [the Public Hospital] to the Commissioner (which includes a record of the Perinatal Case Review Report about [Ms A] and her clinical records), dated 24 February 2004, marked with a 'C'. (Pages 49-103)

- Letter of response from [Mrs C] to the Commissioner (with supporting documentation of clinical records and the Perinatal Case Review Report), received on 3 March 2004, marked with a 'D'. (Pages 104-127)

- Letter of response from [Dr D] (with supporting clinical records), received on 24 March 2004, marked with an 'E'. (Pages 128-132)

- Letter from Dr W J Ridley for the Public Hospital amending the Perinatal Case Review Report, dated 29 March 2004, marked with an 'F'. (Page 133)

Expert Advice Required

To advise the Commissioner whether in your opinion:

[Mrs C] provided [Ms A] with services of an appropriate standard. In particular:

- *Should [Mrs C] have referred [Ms A] for obstetric consultant review in the antenatal period?*

No. Once pregnant, whether she had had two 'possible miscarriages' or not, there was no good reason to seek an obstetrical opinion – there was no identifiable problem. Her antenatal record shows a normal pregnancy.

- *Did [Mrs C] monitor the foetal well-being appropriately during the labour?*

No, the monitoring was too infrequent, poorly described and unrelated to the contraction. She listened to the foetal heart every three quarters of an hour to an hour. She describes the heart rate as 'reactive' when I believe she means the long-term variability. She gives only one measure of beat-to-beat variation, which is the range of the foetal heart rate over a minute such as 130-145 bpm, which improves our knowledge about the baby's condition.

Reactive is a term used, to describe how many foetal heart accelerations that are appearing in a 10-minute CTG tracing which give an indication of foetal well-being and is not a term generally used when monitoring with a hand-held Doppler.

- *If not, what should she have done?*

Hourly foetal heart recording is adequate earlier in labour but after 4-5 cms (1730 hrs) best guidelines suggest every 15 minutes (Enkin et al., 2000) but in practice every 15-30 minutes is more usual and done by listening for a full minute during and after contractions and noting the range of the heart rate; e.g. 130-145 beats per minute.

'As evaluated in the randomised controlled trials, auscultation is performed every 15 min during the first stage of labour, and more often during the second stage. The criteria for "foetal distress" are a foetal heart rate above 160 or below 100-120, or an irregular heart beat. (Enkin et al., 2000)'

- *Were [Mrs C's] actions appropriate when she ruptured the membranes and discovered abnormal liquor?*

No. I think there are concerns about the consistency of liquor, which make her actions inappropriate. She wrote 'Thick "old" (crossed out) liquor' at 1950 hours which means nothing in midwifery unless it describes meconium. Meconium would be commonly described as 'old' or 'thick' or both but not liquor.

In her notes to the Assistant Commissioner she wrote that this was 'thick mucousy cream coloured' liquor which is unusual and should have set off alarm bells, 'old' or not. She also writes 'There was no evidence of meconium at this time' which is confusing to me because it is unusual and inexplicable unless it is old meconium. The fact the liquor was not green, black or brown but instead creamy and thick should not have been reassuring.

However, her decision and action putting on the CTG monitor is understandable and appropriate in a limited way if there had been no signs of foetal distress prior to this. Often when membranes are ruptured a deceleration occurs but usually it mirrors the contraction. She believed the deceleration was an early one, within the contraction and with the peak of the contraction matching the peak of the foetal deceleration. It is

possible that she was entirely accurate with her description and findings. The tracing neither confirms nor denies her understanding, as it is a poor tracing.

The other worrying sign was the 'thick mucousy cream coloured liquid' to which she responded by taking a CTG tracing but as the consistency was thick she did need to understand that this was a concern.

- *If not, what else should she have done?*

Had [Mrs C] monitored the whole labour more rigorously she may have picked up more reliable signs of foetal distress (if they were present), and contacted the obstetrician earlier. The tracing but particularly, the liquor, would alert a vigilant midwife to contact an obstetrician because this labour was beginning to have problems.

[Mrs C] needed to put these two signs together as a potential risk and act; by talking it over with the staff at the very least, describing her concerns and management plan in the clinical notes and by phoning the obstetrician to let him know. She did none of these things. Even imagining this deceleration was an early one then the presence of thick mucousy cream coloured liquid, needed a response, which was more active than merely monitoring for a few minutes with a CTG.

- *Was [Mrs C's] assessment of the labour at 7.50pm when the first deceleration was detected, appropriate?*

It clearly was not appropriate and yet within a limited view of events it is understandable.

If we accept her observations of the baby, then this labour does not have those signs that would alert a midwife to foetal distress until the deceleration at 1950 hours and her evaluation of that event is explicable yet inaccurate. [Mrs C] marked the range of the foetal heart beat-to-beat variation at 1950 hours as 135-140 bpm, which is an accepted range. Her assessment is one made regularly at the end of first stage when everything is quite hectic, the woman is in a good deal of pain and the midwife is trying to come to terms with what management is appropriate when attending to numerous physical details. [Mrs C] followed a pattern of behaviours consistent with beliefs about normal labour but lacked those critical assessment skills necessary to judge when a labour ceases to be completely normal. This interface is a difficult one to refine without a good deal of experience and the management of this labour suggests an inexperienced practitioner. I have no idea whether this is true.

If we imagine [Mrs C's] evaluation of the deceleration following the rupturing of the membranes when the head descended rapidly then it is an understandable assessment but this fails when she also had to explain the abnormal sighting of thick mucusy cream coloured liquor. She responded to that sign by putting on the cardiotocograph transducers. She reassured herself that she was checking that the baby was all right and

having decided that the deceleration was normal she managed to convince herself that everything was normal.

My view of the CTG tracing is mixed and as you are aware it is a very poor tracing and it is easy to misread a poor tracing. If the deceleration on the print out with a black scratch mark over the time is the first deceleration it seems uncharacteristically long for an early deceleration. In fact the deceleration is so long it appears to start before or with the commencement of the contraction and lasts a good one and a half minutes. This seems a worrying deceleration but it may be that it in fact did mirror the contraction but because the abdominal transducer was not well applied it did not pick up the contraction appropriately. It is also quite difficult at this stage of a labour to comfortably wear a transducer strap. [Ms A] would have been contracting consistently and strongly at this stage but the tracing shows a pattern typical of someone not yet established with niggles rather than a full-blown labour. It is difficult to judge the deceleration because of the poor quality of the tracing.

- *If not, what should she have done?*

She needed to recognise that this deceleration was unusually prolonged because generally when there is a dip the tracing shows the heart rate dip straight down and return to the baseline within 20 or 30 seconds. Having recognised this deceleration as unusual because of its length, even if she thought it mirrored the contraction, it would have been appropriate to write it down as a genuine concern, talk with the midwifery staff on duty or a colleague and contact the obstetrician even if only to express concern and discuss her management from then on. She did talk to [...] the midwife in charge of the shift at 2015 hrs and this was an appropriate action.

- *Was [Mrs C's] timing of hand over to secondary services appropriate?*

Yes, if one accepts [Mrs C's] recordings and understandings then it is entirely appropriate that she contact the obstetrician when she has what she understood was an appropriate sign of distress such as a late deceleration. It would have been unusual to hand over immediately there are signs of any concern but an appropriate consultation with the first deceleration and the thick liquor would have been good practice.

There is a difference between handing over and appropriate consulting.

- *If not when should she have handed over?*

In addition:

- *Are there any other professional, ethical or other relevant standards that apply and, in your opinion, were they complied with?*

Yes. Ms A's admission to hospital was thorough and well recorded.

The management of this labour entailed almost as many vaginal examinations as foetal heart recordings (nine foetal heart recordings and six vaginal examinations in eight hours), which is poor and must have been very distressing for the mother. It appears this midwife was trying to get more information by doing such regular internal examinations and I believe she must be quite inexperienced and one wonders how well supported she was as an inexperienced practitioner if this is the case. I am concerned about the lack of foetal heart recordings after giving pethidine 100 mgs at 1740 hours. The care seems to be unreflective and routine without awareness of the significance of the labour process or its documentation. There are too many abbreviations and little in the notes to gain a sense of the woman's beliefs or consent to interventions such as vaginal examinations, offers of analgesia such as nitrous oxide and pethidine and her response to the first deceleration. Was she even told?

- *Any other comments you consider relevant that may be of assistance?*

The review by the perinatal case review of the [Public Hospital] has some concerning comments in its conclusions and recommendations: particularly 6.2 and 6.4. 6.2 states that given a history of two miscarriages 'a referral to the Obstetrician should have been considered'. This is not indicated by the *Guidelines for consultation with obstetric and related specialist medical services* in the Notice pursuant to section 88 of the New Zealand Public Health and Disability Act 2000. In this document three miscarriages warrant the advice that the Lead Maternity Carer must recommend that a consultation with a specialist is warranted, not two (Ministry of Health, 2002).

6.4 Monitoring women routinely in early labour 'to establish a base line reading, and provide additional clinical information to assist decision making' and later 'it is recommended further work is done to encourage compliance with this 'best practice' (Clinical Executive: Case Review: [Ms A]). Admission CTGs have not been proven to be best practice as evidenced by Impey, L., Reynolds, M., MacQuillan, K., Gates, S., Murphy, J. & Sheil, O. at the National Maternity Hospital in Dublin, Ireland (2003) and published in Lancet, Vol 361, 465-470. This RCT compared the effects on neonatal and maternal outcomes of admission cardiotocography on 8,580 low-risk women in labour versus intermittent auscultation and found an admission CTG did not improve neonatal outcome (Impey et al., 2003).

Enkin, M., Keirse, M., Neilson, J., Crowther, C., Duley, L., Hodnet, E., & Hofmeyr, J. (2000). *A guide to effective care in pregnancy and childbirth*: Oxford University Press.

Impey, L., Reynolds, M., MacQuillan, K., Gates, S., Murphy, J., & Sheil, O. (2003). Admission cardiotocography: a randomised controlled trial. *The Lancet, 361*, 465-470.

Ministry of Health. (2002). *Maternity Services Notice pursuant to section 88 of the New Zealand Public Health and Disability Act 2000*. Wellington: New Zealand Government."

Obstetric advice
The following expert advice was obtained from Dr John Wakeman, an independent obstetrician:

"Re: Medical/Professional Expert Advice No. 03/16282/WS

I have been asked to provide independent expert advice upon whether [Ms A] received an appropriate standard of care from [Dr D], Obstetric Consultant.

I am a Fellow from the Royal College of Obstetricians and Gynaecologists and a Fellow of the Royal Australian and New Zealand College of Obstetricians and Gynaecologists. I was first registered as an Obstetric and Gynaecological Specialist by the New Zealand Medical Council in 1975. I am in active practice in Obstetrics and Gynaecology in a provincial New Zealand Centre.

I have reviewed all the documentation listed under supporting information Pages 1 to 133.

Having reviewed the notes, I have accepted as a summary the account as related under the title 'Background' in the enclosed document.

My advice to the Commissioner would be that [Dr D] provided [Ms A] with an entirely appropriate service and the actions that he took to deliver [Ms A's] baby were appropriate and timely in the circumstances. I have been asked to specifically comment about [Dr D's] attempt to push the anterior lip of the cervix back. I would believe this to be entirely appropriate. [Dr D's] assessment when he first met [Ms A] was that her baby was in extreme distress and that it was desirable to deliver the baby as soon as practicable. His initial assessment of her on vaginal examination was that she was 7cms and the only practical way of delivering her was by Caesarean section. After she had come to the Caesarean section theatre, she was thought to be fully dilated. His assessment showed that there was only an anterior lip present. Had he been able to push the anterior lip to one side, it could have been practical to perform a forceps delivery and thus get a much earlier delivery of the baby, which as previously said, was desirable. This proved not to be the case and he proceeded to Caesarean section. The time involved in this second decision-making assessment was at the most a couple of minutes and in no way affected the final outcome.

I have additionally been asked to comment if there are any other professional, ethical or other relevant standards that apply which in my opinion have not been met.

1. On the bottom of Page 52, my copies of the [Public Hospital's] report, Section 5.8, reference is made to the fact that there is a lack of CTG prior to the ARM.

I would agree that with this risk a CTG would be desirable. The important point that I wish to make, however, is that it would appear that this is the recommended practice for the [Public Hospital's] Maternity Unit. However, the point is made that an LMC may

operate as they like and do not have to follow the best practice as recommended by the Institution. I suggest it is a fault in the system where LMCs are allowed to have free access to a maternity unit with no obligation to follow the maternity unit's best practice standards. These points are further outlined in the same report on the next page, 6.3 and 6.4, both of which I believe are important and would agree with.

2. The time delay between decision-making process and delivery of the baby. Page 53 Item 6.6 refers to 30 minutes being the accepted time between decision-making and incision. I would believe more correctly the common acceptance is referred to by [Dr D] on Page 123 when he says 'it is decision to delivery time which is 30 minutes'.

I further believe the New Zealand Medical Council at times has made comment that it should only be 20 minutes. In this case it was considerably longer than 30 minutes depending on which standard one used. I do not believe, however that this delay in any way can be placed upon [Dr D's] shoulders. It is a systems problem which I believe to be common, certainly in most provincial hospitals. There is not immediate availability of theatre, the theatre staff, anaesthetists, anaesthetic technicians to start operation, they may either not be resident in the hospital or already involved in another case. It is certainly desirable, it probably is not practical, and it is certainly not the fault of the obstetrician.

3. [Dr D] on Page 123, at the bottom under Section 1, makes comment 'that the foetal heart has been reported as being reactive'. I would agree with the rest of his comments that on intermittent auscultation it is not possible to determine whether or not a foetal heart has got good variability or reactivity. With the possible exception of the very tight criteria used in the Rotunda Hospital, Dublin, intermittent auscultation in no way replaces a CTG trace. I believe it would be fair to surmise that had a continuous foetal heart trace been used in this case, there would have been the ability to detect early signs of foetal distress and therefore promulgated an earlier delivery with hopefully a more favourable outcome. Since there is no record of this having been recorded, this of course lies purely as a surmise.

In summary, I believe that [Dr D], Obstetrician, did provide services of an appropriate standard to [Ms A], and in particular [Dr D] appropriately managed the delivery of [Ms A's] baby… Some aspects of the case totally outside [Dr D's] control, do not meet best practice standards."

Responses to Provisional Opinion

Ms A

In response to the 'Information gathered' section of my provisional opinion, Ms A disputed Dr D's statement that he had offered a post-mortem to the family following the delivery of her baby. Ms A recalled that when Dr D came into the room to see her and her partner, the

room was "packed with family hammering at him, 'What happened?'". She said that Dr D told them that he did not know but that they might be able to find out with a post-mortem, which was different from offering them the option of a post-mortem.

Ms A also disputed Dr D's statement that he had a "long discussion" with her and the family to answer their questions. She recalled that all he said was that the baby was very small and did not have enough fight. He told them that other babies are born with the cord around their necks and survive. Ms A said, "He made us feel it was our fault that we made her small and without enough fight".

Ms A stated that she is not satisfied with the answers that were given about her baby's delivery. Ms A said that when Mrs C ruptured the membranes there was meconium in the liquor.

Dr D
In response to my provisional opinion, Dr D commented that he thought that the provisional opinion was "balanced and fair". He said that the Public Hospital is presently reviewing its procedures in relation to "decision and delivery", and that one of the things under review is moving the on-call anaesthetist's accommodation nearer to the hospital to ensure that the anaesthetist is more readily available in the event of an emergency.

Public Hospital
In response to my provisional opinion, the CEO of the Public Hospital noted that the Maternity Services Notice pursuant to section 88 of the New Zealand Health and Disability Act 2000, effective 1 July 2002, requires "any clinical policies and procedures to be developed and agreed by the Maternity Facility and Practitioner". The CEO of the Public Hospital stated, "This does not place any obligation on the Practitioner to abide by, or even take into account, facility policies or procedures."

The CEO of the Public Hospital further commented:

> "[The Public Hospital] lobbied strongly to retain the right to require access holders to abide by its Facilities best practice policies and procedures. The [Public Hospital] also wished to retain the ability to require practitioners to have mentors in certain circumstances.
>
> The purpose of the mentor was to coach, support and advise the Practitioner.
>
> The [Public Hospital] viewed these matters as important and necessary for staff and client safety.
>
> The current legislation prevents any NZ Maternity Facility from requiring Access Holders to comply with the Facility best practice policies, procedures, or inquiring into matters relating to the operation of the Practitioner's practice."

Mrs C
Mrs C's solicitor responded to my provisional opinion on behalf of Mrs C. Mrs C's solicitor stated:

"**Foetal heart**

4. The independent midwifery expert advised that as labour progresses and dilation of 4cm to 5cm is achieved the monitoring should be conducted every 15 to 30 minutes. The independent midwife concluded that [Mrs C] had monitored the foetal heart rate every 45 to 60 minutes and that her monitoring was 'too infrequent, poorly described and unrelated to the contraction'.

5. The response on behalf of [Mrs C] to these conclusions is as follows:

   5.1. [Mrs C] concedes that her documentation of the foetal monitoring was not complete in that she did not record every time she monitored the foetal heart. [Mrs C] documented the foetal heart recordings hourly as she did not have the opportunity to stop and write up notes more frequently.

   Although [Ms A's] partner and mother were present during the labour neither provided ongoing support and [Mrs C] was busy with the care of a frightened mother giving birth for the first time. … As a result [Ms A] needed reassurance and [Mrs C] found she was her only support and need to be in constant attendance and could not record the monitoring as often as it took place.

   5.2. As the CTG monitor was next to the bed [Mrs C] was able to check the readings at approximately 15 to 20 minute intervals. [Mrs C] confirms the checks were of one to two minutes duration and readings were observed during, between and post contractions. Therefore she was providing the required standard of care and monitoring the foetal heart to observe any signs of stress but accepts she did not record all monitoring. She has since discussed the requirement to monitor and document the foetal heart recordings every 15 to 20 minutes with other midwives who concur with [Mrs C] that there are times that they are too busy to document that regularly but document any significant change.

   5.3. An entry in the clinical notes by [Mrs C] … at 1950 hours confirms that the foetal heart was monitored more than it was documented. There is a foetal heart reading at 19.50 and a reference to a reading and 'no further deceleration' at 20.15 hours and the next record is at 20.30 when the obstetrician was notified. This is evidence that there was ongoing monitoring of the foetal heart at 15 to 20 minutes even though the clinical notes do not fully record all monitoring but all significant changes were recorded.

5.4 Further evidence that [Mrs C] was vigilant about monitoring the foetal heart is in the discussions she had with [Ms A], the family members present and the Charge Midwife on shift. [Mrs C] explained that she needed to watch the heart trace during, between and after contractions to determine whether the baby was getting stressed due to any bearing down when the cervix was not fully dilated. [Mrs C] discussed the first deceleration with the Charge Midwife on shift, [...] and explained and coached [Ms A] through contractions to resist any pushing. She explained that the obstetrician would need to be called if the baby was showing signs of stress.

6. Therefore it is submitted that an opinion based solely on the clinical notes might result in conclusion that the foetal heart was not monitored frequently enough. However, [Mrs C] can confirm that there was ongoing monitoring and the implications of any stress on the baby during contractions was discussed with all present and the mother's labour managed to prevent pushing to reduce any stress.

7. There appears to be an assumption that the baby was showing signs of stress far earlier than at the time the lengthy decelerations were noted. The independent midwife's advice was that more frequent monitoring 'may have picked up more reliable signs of foetal distress (if they were present) and contacted the obstetrician earlier'. There were no earlier signs of foetal distress and therefore the assumption that the baby was in distress earlier than when the obstetrician was notified is not based on fact.

Liquor

8. [Mrs C] is concerned that her observation of the initial discharge when the membrane was ruptured at 7.50pm is not being accurately recorded. The word 'old' which appears crossed out in the entry of the clinical notes was never intended to be written. The word 'old' was a mistake and at no time was that her observation of the discharge. [Mrs C] believes the most accurate description would be 'a thick mucousy creamy plug' followed by 'normal wet discharge'. There was no meconium present. The plug was 'puzzling' and had the thick creamy discharge continued [Mrs C] would have investigated further as it may have been an indication of infection. However as it was only a plug and normal discharge followed [Mrs C] did not believe there was need for further investigation other than the continued monitoring of the foetal heart and vigilance for any signs of stress.

9. As there were no other signs of foetal distress, [Mrs C's] actions in attaching the CTG monitor was appropriate. Again the criticism from the independent expert was an assumption that the labour was not being rigorously monitored and further monitoring would have shown any other signs of stress. As the labour

was being appropriately monitored and there were no other signs of foetal distress then [Mrs C] acted appropriately.

Response to the situation

10. The report finds on an interim basis that [Mrs C's] management of [Ms A's] labour was unreflective and routine without awareness of the significance of the labour process or its documentation. It is submitted that this conclusion is based on the assumptions that [Mrs C] was not actively monitoring the foetal heart appropriately and that as a result may have missed earlier signs of distress.

11. As previously explained [Mrs C] was monitoring the labour as required but was not recording all observations. There were no other signs of foetal distress and therefore it is wrong to assume the baby was in distress any earlier than when the consultant was called.

12. The expert stated that the presence of 'thick mucousy cream-coloured liquor' needed a response 'which was more active that merely monitoring for a few minutes with a CTG'. Again the submissions regarding the monitoring of the foetal heart as stated above are repeated. Secondly the description of the liquor is not accurate. It was a plug of mucous as opposed to thick cream colour liquor and therefore unusual, but was not consistent as a symptom of infection as it was followed by normal discharge. Therefore it is submitted that the response to actively [monitor] the foetal heart for distress was appropriate in the circumstances.

13. [Mrs C] is confident she contacted the obstetrician at an appropriate time when there were signs the baby was in distress. There is no evidence to show that the baby was in distress earlier or that the obstetrician should have been contacted earlier.

14. Further, the draining liquor was recorded by the obstetrician as stained with 'fresh' meconium. As no meconium was present when the membrane was ruptured and there had been evidence of foetal distress immediately before the obstetrician was called, the fresh meconium at this time supports [Mrs C's] opinion that the baby had only recently been in distress.

Other considerations

15. It is submitted that there are other factors which have not been given due consideration regarding the outcome:

    a) The baby was born with a 'very long and thin' cord which was tightly wrapped around the baby's neck three times. Therefore any bearing down or attempt to vaginally birth the baby may have placed pressure and tightened the cord which was wrapped around the baby's neck and it is feasible that it

was only during this phase, when the mother was bearing down in contractions, and in particular when the mother was permitted to bear down immediately prior to the emergency caesarean that the baby was in significant distress. During the labour [Mrs C] had actively encouraged the mother not to bear down during contractions, explaining to her that as the cervix had not fully dilated any bearing down would result in the baby's head pushing on the rim of the cervix and that this would distress the baby. At 1950 the midwife noted there was a deceleration during contraction and then no further deceleration and at 2015 she noted 'using entonox to avoid pushing'. This records her strategy to prevent stress on the baby and that the baby was not exhibiting stress until there was a severe deceleration when contracting and the obstetrician was notified. It is submitted this was appropriate action given the circumstances.

b) The notes show that at 2112 [the] Charge Midwife, [...] recorded that the obstetrician urged the mother to push while he attempted to push the cervix behind the baby's head but this was unsuccessful. The Obstetrician denied he was attempting to push the cervix behind the baby's head but was examining the mother to note any descent of the baby's head when the mother pushed with a contraction. Regardless of which version is correct, the mother was bearing down at this point which may have tightened the cord around the baby's neck. In addition this course of action delayed the emergency caesarean and that delay may have [been] a significant factor in the outcome.

c) There does not appear to be any assessment of the baby's health as a factor in the outcome. The baby was born at 2.5kg [and] was considered to be growth retarded but there is no record or documentation of the examination of the placenta or the condition of the placenta."

Further midwifery advice
Additional independent advice was obtained from Ms Sue Lennox, midwife. Ms Lennox advised:

"Thank you for an opportunity to read the Commissioner's provisional opinion and [Ms C's] solicitor's letter dated 20th September 2004, responding on behalf of [Mrs C], to the provisional opinion. I have been asked whether there are any aspects of the additional information that cause me to review my earlier advice and to give reasons for amending my opinion. I have read these closely and with interest, but I have not in essence read anything that would change the substance of my advice.

There are some comments in [Mrs C's solicitor's] response to which I would like to respond.

5.1 [Mrs C] it says, '**did not have the opportunity to stop and write up notes more frequently'**.

In our Code of Ethics, section e) 'Midwives have a responsibility to uphold their professional standards and avoid compromise for reasons of personal or institutional expedience. (NZCOM, 2002. p.5)' Taking and recording observations are critical to offering a reasonable standard of care.

This inability to write down observations because of the amount of support the woman needs is complex, because although it does happen it begs further questions about antenatal engagement and education of the woman by the midwife and asking for collegial support at the labour time if it is necessary to ensure comprehensive and professional care is offered. If [Mrs C] did not have time to write down her observations she needed to call in help either to support the mother or to record the unwritten observations.

Standard six of 'The standards for midwifery practice' says 'Midwifery actions are prioritised and implemented appropriately with no midwifery action or omission placing the woman at risk. (NZCOM, 2002.p.13)'

As [Mrs C] is so experienced I imagine she would have worked with two or three people in labour pre 1990 when we did not give the support we are able to offer now but the recordings would have been prioritised. We are not now in position to give one on one support and provide regular professional assessment and both are appropriate and reasonable to a minimum standard of care.

5.2 I am reassured that the recordings were made '**… at approximately 15-20 minute intervals. [Mrs C] confirms the checks were of one to two minutes duration and readings were observed during, between and post contractions**.' It is disappointing that she did not write this as a retrospective comment after the birth by way of an explanation showing at the same time she appreciated the significance of the frequency, timing and normal range of the labour recordings. Clinical records are our means of assessing professional care and professional care requires as a minimum appropriately written records.

5.3 I acknowledge that at 2015 hours the comment 'no further decelerations' could mean that another recording(s) might have been taken but this is again without any proof and could have been continuous or a one off reading.

5.4 Yes [Mrs C's] discussions with her colleague, the mother and her relatives show she did understand that at this point that the heart rate was of concern.

6. An opinion based on the notes would most certainly 'result in the conclusion that the foetal heart was not monitored frequently enough.' I am reassured as I said in 5.2 that recordings were taken more frequently but not writing them down is equivalent to not taking the observations, as clinical records are clearly the basis of any investigation.

7. There was not an assumption in my clear statement, merely an observation, that as there were so few fetal heart recordings taken, any signs of foetal distress, **if they were present,** may have been picked up by more frequent observations had there been earlier signs of distress. Saying there were recordings taken therefore the assumption was not based on facts merely ignores the fact that there were no recordings noted in the clinical record. My observation remains the same. If in fact she did take those recordings and there was no evidence of fetal distress prior to 1950 hours the care remains unsatisfactory on the basis of omission of those recordings. I am not judging the cause of death merely the standard of care evidenced by the clinical records and these are of a poor standard.

Liquor

8. I am interested in the description of a 'thick mucousy creamy plug' followed by normal discharge. I have once seen a discharge matching that description in my thirty years of practice and unrelated to distress. However this baby was covered with meconium at 8.30pm according to [Dr D], and though this meconium may well have happened after this 'thick mucousy creamy plug' had been passed it is an unusual discharge, and needs to be treated along with the deceleration as clinically suspicious. Clinical judgement is a complex task and draws on the ability to recognise an unusual clinical picture is emerging.

9. Certainly there was every reason to attach the CTG monitor when [Mrs C] did so but to take from this that; as there is heresay that therefore 'the labour was appropriately monitored and [Mrs C] acted appropriately', is taking a giant leap.

Response to the situation

No the assumption that [Mrs C's] management was 'unreflective and routine without awareness of the significance of the labour process or its documentation' was not only based on the lack of foetal heart recordings or any assumption about whether there were signs of foetal distress earlier. Instead these gaps in the records merely confirmed that description.

Admitting a woman when her cervix is undilated, means she was admitted before she was in established labour as the usual definition of established labour is 4cms dilated.

There were other examples such as far too many internal examinations made and without giving or seemingly having any reason. If as she says, the woman was very distressed, then these interventions would merely have created further distress. This time could have been used making appropriate clinical notes. Vaginal examinations are helpful as a baseline particularly with a first labour and to determine progress but generally no more often than four hourly.

Rupturing the membranes at either 7cms (according to the doctor) or 9cms (according to the midwife) again merely creates more distress and did not seem warranted, as the

labour was progressing appropriately and efficiently as evidenced and monitored overly frequently by doing so many internal vaginal examinations. The argument for rupturing membranes is that this makes the labour faster but with a woman who is extremely distressed it also creates more and unnecessary distress. However rupturing membranes at this stage is common practice among many midwives but again if one were reflective one might try to minimise distress rather than practising in a routine way. In this case, of course unbeknown to the midwife, it created tension on a 'long and thin' cord, which was wrapped around the baby's neck and may well have been the cause of the decelerations but the cause of the outcome is outside the scope of my advice.

For another example of routine and unreflective care is the size of the baby (2.48kg or 5lb.8oz) suggesting interuterine growth retardation, which though possible to miss antenatally adds credence to my description of care being routine and unreflective. [Mrs C] says the size of the uterus was 38.5 weeks on admission in labour which either means there was a lot of fluid, the baby was not yet in the pelvis or the measure was inaccurate. Interuterine growth retardation is one sign in pregnancy about which we do need to be vigilant because these babies do respond poorly to labour. This condition of interuterine growth retardation is often associated with maternal smoking but as I no longer have the records I am not sure whether this was the case. Had this smaller size been picked up then monitoring and referral at an earlier time would have been good practice.

As I mentioned in my report there are too many abbreviations and little in the notes to gain a sense of [Ms A's] beliefs or consent; to interventions such as vaginal examinations, offers of analgesia such as nitrous oxide and pethidine or her response to the first deceleration.

Therefore my comments about routine and unreflective care meant more than the absence of foetal heart recordings or appropriate referral.

14. I don't think the term 'fresh' meconium means anything more than that it is not days old and offers no proof of whether it was one hour or six hours old.

Other considerations

15. I am not advising about the cause of the outcome but instead advising the commissioner about the evidence of the appropriate standard of care given to [Ms A] from the written clinical record of [Mrs C].

Admission CTGs have not been proven to be best practice as evidenced by Impey, L., Reynolds, M., MacQuillan, K., Gates, S., Murphy, J. & Sheil, O. at the National Maternity Hospital in Dublin, Ireland (2003) and published in Lancet, Vol 361, 465-470. This RCT compared the effects on neonatal and maternal outcomes of admission cardiotocography on 8,580 low-risk women in labour versus intermittent auscultation and found an admission CTG did not improve neonatal outcome (Impey et al., 2003)."

In a follow-up telephone conversation on 23 November 2004, Ms Lennox explained that she was surprised that the inter-uterine growth retardation had not been identified earlier. However, she mentioned that there are factors that could make this difficult, for example where the mother has a small frame. Ms Lennox also said that there were two schools of thought as to when the membranes should be ruptured. In relation to the comment that Ms A was admitted before she was in established labour, Ms Lennox suggested that one possible explanation for this early admission is that Ms A was distressed.

Code of Health and Disability Services Consumers' Rights

The following Rights in the Code of Health and Disability Services Consumers' Rights are applicable to this complaint:

RIGHT 4
Right to Services of an Appropriate Standard

1) *Every consumer has the right to have services provided with reasonable care and skill.*

2) *Every consumer has the right to have services provided that comply with legal, professional, ethical, and other relevant standards.*

Other standards

New Zealand College of Midwives, Handbook for Practice (1993)

THE STANDARDS FOR MIDWIFERY PRACTICE

"Standard Four

The midwife maintains purposeful, on-going, updated records …

Standard Six

- ensures assessment is ongoing and modifies the Midwifery plan accordingly;

…

- identifies deviations from the normal, and after discussion with the woman, consults and refers as appropriate;"

Opinion: Breach – Mrs C

Management of labour
Ms A stated that her baby would have been born alive if Mrs C had contacted the obstetrician immediately she saw that the baby was in distress.

Rights 4(1) and 4(2) of the Health and Disability Services Consumers' Rights (the Code) state that every consumer has the right to have services provided with reasonable care and skill, in compliance with professional standards.

The New Zealand College of Midwives states in its 'Handbook for Practice – The Standards for Midwifery Practice' that the midwife must ensure and document ongoing assessments of her patient, identify any deviations from the normal and refer as appropriate.

Foetal heart
At 1.05pm Mrs C admitted Ms A to the Public Hospital Maternity Unit, in early labour. Mrs C performed an initial assessment of the status of the labour, and recorded her findings, noting that the foetal heart rate was 135bpm and reactive.

The labour progressed normally and at 5.40pm, when Mrs C had assessed Ms A as being 5cm dilated, she administered pethidine 100mg and Stemetil 12.5mg for pain relief. Mrs C monitored and recorded the foetal heart rate intermittently, and noted the progress of the labour.

My independent midwifery expert, Ms Lennox, advised that Mrs C's recorded monitoring of the foetal heart rate every 45 to 60 minutes was "too infrequent, poorly described and unrelated to the contraction".

In response to my provisional opinion, Mrs C's solicitor advised that Mrs C's documentation of the foetal heart monitoring was incomplete because she did not record every time she monitored the foetal heart. She stated that Mrs C was too busy supporting Ms A to write up the notes more frequently. Mrs C explained that as the CTG monitor was beside the bed she was able to check the readings at approximately 15 to 20 minute intervals and that the checks were of one to two minutes' duration during, between and after contractions. Mrs C further stated, as evidence that she regularly monitored the foetal heart, that when she explained to Ms A and the family the need to watch the foetal heart after the first deceleration was detected at 7.50pm, she coached Ms A not to push with her contractions and told her that there might be a need to consult an obstetrician. She also spoke to the charge midwife at about 8.15pm about the first deceleration and progress of the labour that she was "now monitoring".

Ms Lennox commented that when Mrs C described the foetal heart rate as "reactive", it appears that she intended to describe the long-term variability, because reactivity (which gives an indication of foetal well-being by conducting a 10-minute CTG tracing) is not generally a term used when monitoring with a hand-held Doppler. Hourly foetal heart recording is adequate early in labour, but as the labour progresses and dilatation of 4cm to

5cm is achieved, the monitoring should be conducted every 15 to 30 minutes. The foetal heart should be listened to for a full minute during and after contractions, noting the range of the heart rate. Ms Lennox stated her concern that there was a lack of foetal heart recordings after the pethidine was given. Additionally, Mrs C used too many abbreviations when recording her observations, and (despite her statement to the contrary) there is little indication in the notes whether her interventions and management plans were discussed with Ms A.

Ms Lennox stated that Mrs C's inability to write down observations raised further questions. Ms Lennox noted that retrospective comments could have been recorded after the birth to show that Mrs C appreciated the significance of the frequency, timing and normal range of the labour readings. Professional care requires, as a minimum, appropriately written records and taking and recording observations is critical to providing a reasonable standard of care.

Liquor

At 7.50pm Mrs C performed a third vaginal examination on Ms A, and found the cervix was 9cm dilated, and that there was an anterior cervical lip in front of the baby's head. Mrs C ruptured the uterine membrane and was surprised to see a quantity of thick, creamy mucous-like liquor draining, which did not have the appearance of meconium. Mrs C could not account for the appearance of the liquor and commenced continuous foetal heart monitoring.

My expert stated:

> "[T]here are concerns about the consistency of the liquor, which make [Mrs C's] actions inappropriate. She wrote 'Thick "old" (crossed out) liquor', at 1950 hours which means nothing in midwifery unless it describes meconium. Meconium would be commonly described as 'old' or 'thick' or both, but not liquor."

Mrs C's solicitor stated:

> "The word 'old' was a mistake and at no time was that her observation of the discharge. [Mrs C] believed the most accurate description would be a 'thick mucousy creamy plug' followed by 'normal wet discharge'. … The plug was 'puzzling' and had the thick creamy discharge continued [Mrs C] would have investigated further as it may have been an indication of infection. However, as it was only a plug and normal discharge followed [Mrs C] did not believe there was need for further investigation other than the continued monitoring of the foetal heart and vigilance for any signs of stress."

Ms Lennox advised that, however the liquor was described, it was unusual and should have been a warning that all was not well with the labour. Even if the meconium was not present until after the mucous plug had been passed, the mucous was an unusual discharge, and needed to be treated along with the deceleration as "clinically suspicious". Mrs C's decision

to attach the CTG monitor as a response to this situation was "understandable and appropriate in a limited way" if there was no other indication that the baby was stressed.

Response to situation
As soon as she started monitoring the foetal heart there was a deceleration to 70bpm. Mrs C performed a further vaginal examination and found that there was no progress in the dilatation of the cervix. She recorded that the foetal heart rate was 150bpm and reactive. Mrs C encouraged to Ms A to use Entonox gas for pain relief and, as noted above, instructed her not to push again until the cervix was fully dilated. She informed Ms A and her family that the foetal heart required careful assessment and if there were any further abnormalities indicating that the baby was stressed she would call an obstetrician.

At 8.30pm there was a prolonged severe foetal heart deceleration to 60bpm. Mrs C asked the charge midwife to contact Dr D.

Ms Lennox advised that if Mrs C had monitored the labour more rigorously she might have picked up more reliable signs of foetal distress, and the obstetric consultant would have been called earlier. Mrs C's solicitor stated that there was no meconium present in the liquor until immediately before the obstetrician was called, which supports her assertion that the baby had only "recently been in distress".

Mrs C's solicitor stated that Ms Lennox's advice that more frequent monitoring might have identified more reliable signs of foetal distress and earlier contact with the obstetrician, is based on the assumption that the baby was showing signs of stress "far earlier that at the time when the lengthy decelerations were noted". She stated that as the labour was being monitored and there were no other signs of foetal distress, she acted appropriately.

Ms Lennox reviewed her advice in light of Mrs C's response and confirmed her view. Her comments about Mrs C's management of the labour were not only based on the lack of foetal heart recordings or any assumption about whether there were earlier signs of foetal distress. The gaps in the records confirmed Ms Lennox's earlier comments. Mrs C believed that the foetal heart deceleration was an early one, and because of the poor quality of the CTG trace it is not possible to determine whether her assessment was accurate. However, my advisor remained of the view that the tracing together with the appearance of the liquor (or discharge of a mucous plug as it is now described) would alert a vigilant midwife to the need to contact an obstetrician. Ms Lennox stated:

> "[Mrs C] needed to put these two signs together as a potential risk and act; by talking it over with the staff at the very least, describing her concerns and management plan in the clinical notes and by phoning the obstetrician to let him know. She did none of these things. Even imagining that this deceleration was an early one then the presence of thick mucousy cream coloured liquor, needed a response, which was more active than merely monitoring for a few minutes with a CTG."

Dr D arrived within minutes of being called. When he examined Ms A, there were signs that the baby was in distress. The CTG showed later deceleration of the foetal heart rate

with poor beat-to-beat variation and the draining liquor was meconium stained. He assessed that Ms A was only 7cm dilated and not close to delivering her baby. Dr D took over responsibility for Ms A and advised her and Mrs C that an urgent Caesarean section was required.

Ms Lennox advised that Mrs C's assessment of Ms A's labour from 7.50pm when the first foetal heart irregularity was detected "followed a pattern of behaviours consistent with beliefs about normal labour, but lacked those critical assessment skills necessary to judge when a labour ceases to be completely normal". My expert commented that such skills require a good deal of experience. However, Mrs C was very experienced; she had been practising as a midwife, almost continuously, for 29 years and was working as an LMC. As a sole practitioner, it was imperative that Mrs C responded appropriately to signs of foetal distress.

I agree with my expert's advice that Mrs C's management of Ms A's labour was "unreflective and routine without awareness of the significance of the labour process or its documentation". In my opinion, Mrs C did not provide midwifery services to Ms A with reasonable care and skill, or in compliance with professional standards, and therefore breached Rights 4(1) and 4(2) of the Code.

Opinion: No breach – Dr D

Management of labour and delivery
Ms A complained that Dr D spent time trying to get her baby out with forceps when she had been prepared for a Caesarean section, and that this contributed to her baby being stillborn.

Dr D arrived at the Public Hospital maternity annexe at 8.30pm, in response to Mrs C's request that he review Ms A. He examined Ms A, found that the baby was showing signs of extreme distress and that Ms A was not ready to deliver. Dr D decided, after discussion with Ms A, her partner and Mrs C, to deliver the baby by Caesarean section. The anaesthetist, paediatrician and theatre nursing team were all notified and Ms A was taken to theatre.

While Dr D was scrubbing for the surgery, the assisting midwife asked him to examine Ms A, who was pushing with her contractions, to assess whether there had been a rapid descent of the baby, in which case an assisted vaginal delivery might have been possible.

There is discrepancy in the information provided about Dr D's examination of Ms A in theatre.

The charge midwife recorded that during the examination Dr D unsuccessfully attempted to slip the cervical anterior lip over the baby's head. Dr D informed me that he did not attempt this procedure. It appears that the charge midwife may have mistaken Dr D's intention.

However, even if she was correct, my independent obstetric expert advised that it would have been a practical decision, because if he had been able to push the anterior lip to one side a much earlier forceps delivery of the baby would have been possible.

Dr D stated that he performed the vaginal examination to assess whether the baby was descending when Ms A pushed with a contraction. If there had been any downward progress he would have attempted a forceps delivery, which would have been quicker than proceeding to a Caesarean section. However, he found that the baby was not making any progress, and instructed the anaesthetist to proceed to prepare Ms A for surgery.

The anaesthetic was commenced at 9.14pm and Dr D delivered Ms A's baby by Caesarean section at 9.29pm. The baby girl was asphyxiated with her umbilical cord wrapped twice round her neck. She was unable to be revived.

My obstetric expert, Dr John Wakeman, advised that the Medical Council recommends that the time delay between decision-making (to proceed to an assisted delivery) and delivery of the baby should be only 20 minutes. In Ms A's case it was considerably longer than 30 minutes. This highlights a systems problem in most provincial hospitals, where there is not an immediate availability of theatre, theatre staff, and anaesthetists.

My obstetric advisor commented that intermittent auscultation of the foetal heart rate (undertaken by Mrs C) does not determine whether the foetal heart has good variability or reactivity and does not replace a CTG trace. If a continuous foetal heart trace had been used in this case, signs of foetal distress may have been detected earlier, which may have promulgated an earlier delivery and possibly a more favourable outcome.

Dr Wakeman stated:

> "[Dr D's] assessment when he first met [Ms A] was that the baby was in extreme distress and that it was desirable to deliver the baby as soon as practicable. His initial assessment of her, on vaginal examination, was that she was 7cms and the only practical way of delivering her was by Caesarean section. After she had come to the Caesarean section theatre, she was thought to be fully dilated. His assessment showed that there was only an anterior lip present. Had he been able to push the anterior lip to one side, it would have been practical to perform a forceps delivery and thus get a much earlier delivery of the baby, which as previously said was desirable. The time involved in this decision making assessment was at the most a couple of minutes and in no way affected the final outcome.
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> …
>
> My advice … [is] that [Dr D] provided [Ms A] with an entirely appropriate service and the actions he took to deliver [Ms A's] baby were appropriate and timely in the circumstances."

Accordingly, in my opinion, Dr D provided Ms A with services with reasonable care and skill and did not breach Right 4(1) of the Code.

Opinion: No breach – Public Hospital

Vicarious liability
In addition to any direct liability for a breach of the Code, employers are responsible under section 72(2) of the Health and Disability Commissioner Act 1994 (the Act) for ensuring that employees comply with the Code. Under section 72(5) it is a defence for an employing authority to prove that it took such steps as were reasonably practicable to prevent the employee breaching the Code.

Mrs C was a midwife practising independently and was not employed by the Public Hospital. The issue of vicarious liability on the part of the Public Hospital therefore does not arise in this case.

Dr D was employed as an obstetrician by the Public Hospital. Since Dr D did not breach the Code, there is no issue of vicarious liability on the part of the Public Hospital.

Other comments

Perinatal Case Review
My independent experts expressed some concern with aspects of the Perinatal Case Review report (the report).

My obstetric advisor, Dr Wakeman, commented that although a CTG prior to artificial rupture of membranes was recommended practice in the Public Hospital's Maternity Unit, "an LMC may operate as they like and do not have to follow the best practice as recommended by the institution". Dr Wakeman endorsed the statement in the report that further work was needed by the Board to encourage "best practice" by local midwives.

The Public Hospital, in response to my provisional opinion, noted that the Public Hospital has lobbied to retain the right to require access holders such as independent midwives to comply with the Public Hospital's best practice policies and procedures, but is prevented by current legislation from requiring such compliance.

My midwifery advisor, Ms Lennox, disagreed with the report recommendation about the need for further work to encourage compliance with "best practice" in establishing baseline foetal heart readings "to assist decision making". Ms Lennox referred to published studies suggesting that "admission CTGs have not been proven to be best practice".

Recommendation

I recommend that Mrs C:

- Apologise in writing to Ms A for her breaches of the Code. The apology is to be sent to the Commissioner's Office and will be forwarded to Ms A.
- Review her practice in light of this report.

Follow-up actions

- A copy of this report will be sent to the Midwifery Council with a recommendation that the Council consider whether a review of Mrs C's competence is warranted.
- A copy of this report will be sent to the Medical Council of New Zealand and the Royal Australian and New Zealand College of Obstetricians and Gynaecologists, and the New Zealand College of Midwives.
- A further copy of this report, with identifying features removed, will be sent to the Maternity Services Consumer Council, and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

Names have been removed to protect privacy. Identifying letters are assigned in alphabetical order and bear no relationship to the person's actual name.