Midwife, Ms B

Obstetric Registrar, Dr D

A District Health Board

A Report by the

Health and Disability Commissioner

(Case 06HDC02099)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Parties involved

Mrs A	Consumer/Complainant
Mr A	Complainant/Consumer's husband
Baby A	Consumer
Ms B	Provider/Midwife/Lead Maternity Carer (LMC)
Dr C	Consultant Obstetrician
Dr D	Provider/Senior obstetric registrar
Ms E	Midwife
Ms F	Midwife
Ms G	Midwife
Maternity unit	Maternity unit, local hospital
District Health Board	Provider

Complaint

On 21 February 2006, the Commissioner received a complaint from Mr and Mrs A about the services provided by LMC (lead maternity carer) midwife Ms B, obstetric registrar Dr D, and a District Health Board (DHB). The following issues were identified for investigation:

Ms B

- *The adequacy and appropriateness of the antenatal care Ms B provided to Mrs A from September 2004 to 26 March 2005*
- *The adequacy and appropriateness of the intrapartum care Ms B provided to Mrs A on 26 March 2005*
- *The adequacy of the information Ms B provided to Mrs A (during her pregnancy and labour) regarding epidural anaesthesia, including information as to the available options for pain relief and the risks, side effects and benefits of each option.*

Dr D

- *The adequacy and appropriateness of the intrapartum care Dr D provided to Mrs A on 26 March 2005*
- *The adequacy of the information Dr D provided to Mrs A during her labour about the options for management of her labour and delivery.*

The District Health Board

- *The adequacy and appropriateness of the intrapartum care the DHB provided to Mrs A on 26 March 2005.*

An investigation was commenced on 7 April 2006.

This investigation has taken longer than 12 months because of the number of expert advisors involved and the complexity of the issues raised.

Information reviewed

Information from:

- Mr and Mrs A (including advice from midwife Robyn Maude and obstetrician Professor Jenny Westgate)
- Ms B
- Midwife, the maternity unit
- Dr D
- Dr C
- Midwives Ms E, Ms F and Ms G
- The DHB (including a review report by midwife Norma Campbell and obstetrician Dr Alastair Haslam)
- Dr Lindsay Mildenhall, neonatal paediatrician
- ACC

Independent expert advice was obtained from midwife Ms Liz Brunton and obstetrician Dr Gary Fentiman.

The following responses to the provisional opinion were received:

- Letter dated 15 June 2007 from Mr and Mrs A enclosing a report from paediatric scientist Professor Peter Gluckman, dated 12 April 2007, and Mrs A's birth plan.
- Letter dated 25 July 2007 from Dr D.
- Letter dated 8 August 2007 from a Legal Advisor, New Zealand College of Midwives, enclosing Ms B's diary notes for 25 February, 11, 18 and March 2005 and advice from midwife Marion Hunter.

Information gathered during investigation

Overview
In mid-2004 Mrs A was pregnant with her first child after an earlier miscarriage. This pregnancy had been uneventful. Her labour commenced at 4.30am on 26 March 2005 and she went into a maternity unit at a local hospital. When Mrs A's labour failed to progress, her LMC midwife Ms B arranged her transfer to a larger hospital.

Mrs A was examined by Hospital obstetric registrar Dr D. Mrs A was fully dilated at 7.10pm and she commenced effective pushing at 7.25pm. At 9.15pm, with the baby's head fully in the pelvis, Dr D performed a Ventouse extraction (birth assisted by suction apparatus attached to the baby's head). He easily delivered the baby's head and lifted the cord, which was twisted twice around the baby's neck, before he realised the shoulder was impacted (shoulder dystocia). Baby A was born at 9.31pm with severe hypoxia.[1]

Chronology of events

Antenatal care
Mrs A, a 33-year-old woman, engaged Ms B (a midwife) as her LMC. Mrs A was seen by Ms B (or her midwifery partner) 14 times during her pregnancy. She had monthly antenatal visits until 28 weeks' gestation, fortnightly visits until 36 weeks' gestation, then weekly visits until labour commenced. Mrs A's expected delivery date was 23 March 2005.

On 3 November 2004 (at 20 weeks) Mrs A had a scan that revealed "choroid plexus cysts".[2] A follow-up scan was taken at 33 weeks' gestation at the request of Mr and Mrs A to ensure that the cysts were no longer present. The report indicated "above average internal growth" (estimated fetal weight 2,756gms +/- 413gms) and that the cysts were no longer apparent.

At each antenatal visit Ms B measured Mrs A's blood pressure, checked her urine, and assessed the fundal height by palpation and tape measurement. At 27 weeks' gestation Ms B recorded that the fundal height was 0.5cm greater than gestation. This meant that the fetus was slightly larger than average at that stage. On the other visits Ms B recorded the fundal height in the antenatal records as equalling the calculated gestation but did not record the actual measurement. When the fundal height was equal to the gestation date she documented the equal (=) sign correspondingly; she recorded a greater measurement (for example, + 0.5cm) in comparison with the gestation date. She advised that she now documents the measurement in centimetres.

[1] Lack of oxygen.

[2] Benign cysts found in the uterus.

At 29 weeks' gestation, Mrs A had a polycose test (to test for gestational diabetes, which would increase the risk of having a large baby). The result was normal at 6.8mmol/L. At 31 weeks' gestation, Mrs A began to experience swelling in her feet and ankles. This became more pronounced as her pregnancy progressed.

Mrs A stated that Ms B told her she would have four one-hour appointments from 36 weeks' gestation until the birth, to fully discuss the birth plan. However, the actual appointments she attended were significantly briefer than one hour. Ms B denies that she ever told the couple that they would have four one-hour appointments.

On 25 February 2005, at 36 weeks' gestation, Ms B discussed the labour and birth plan with Mr and Mrs A during an antenatal visit at the maternity unit. Ms B normally allocated one hour for these appointments, but her diary notes show 45-minute appointments.

Ms B stated that when they were halfway through the appointment, Mr A had to leave to return to work, and Mrs A went with him. According to Mrs A, they had to wait 15 minutes to see Ms B and they had to rush off at the end of the appointment. Mrs A recalls that the subsequent two appointments (one of which was with another midwife) were of around 10–15 minutes' duration.

Ms B stated that she did not keep the couple waiting. She provided her diary entry showing that they had her first appointment for the day, and there is no record that anything detained her. She suggested that it was possible that they arrived early and were waiting in the clinic waiting area. Her diary shows that she allows 30 minutes for regular antenatal appointments and had allocated 45 minutes to discuss the birth plan.

Ms B said that during the appointment of 25 February she would have discussed the following with Mr and Mrs A:

- what to expect when labour starts and progression of labour
- when to ring her, including rupture of membranes, any bleeding, and early labour
- advantages regarding staying at home until labour is well established
- reasons for transfer to Hospital as the secondary hospital service
- handover of care to secondary obstetric and midwifery care if needed and the fact that she would stay as a support person.

On Mrs A's birth plan checklist it is noted that pain management was discussed and the use of the pool was noted. Ms B explained that she normally discusses pain management, but she is unsure about the extent of the discussion because the visit was cut short by Mr A having to return to work. She said that it is her usual practice to discuss options including positioning, hydrotherapy (birthing pool), gas, pethidine, and

epidural anaesthesia.[3] Pain relief options such as epidural would be discussed in more detail by the anaesthetist before administration. Ms B commented that epidurals have a place in the management of labour, particularly when complications arise, but are not a part of "normal or physiological birth". During the birth plan discussion, Mr and Mrs A indicated that they intended to have a water birth at the maternity unit.

Ms B noted that Mr and Mrs A attended antenatal classes where epidural risks and side effects are partially covered as well. Ms B had also given Mrs A the Ministry of Health booklet "Your Pregnancy", which includes information about epidural anaesthesia and Ventouse-assisted birth.

Approximately two weeks prior to the birth, Mr and Mrs A expressed concern to Ms B because Mrs A was so "large". They stated that Mrs A asked for a scan to determine the size of the baby. However, Ms B said a scan was not necessary as she was fairly sure that the baby was approximately "7 to 7.5 pounds and that all was well". Mr and Mrs A commented that Ms B always seemed very confident and dismissed their concerns. Ms B had a very relaxed attitude to their questions. They put their trust in her, as they had no knowledge to the contrary. Mr A also commented that Ms B did not discuss a Caesarean section at any time before the birth, even though his wife was clearly "very large".

Ms B cannot remember Mrs A requesting a scan at 38 weeks' gestation. Ms B believes that she would have explained to Mrs A that scans taken late in the pregnancy do not give accurate estimations of fetal size and are not used to estimate fetal growth. Furthermore, her estimate of the baby's size was "only a guess".

Ms B's last antenatal visit was at Mr and Mrs A's house. Mrs A stated that Ms B spent most of this visit talking about the clothes and equipment needed for her baby. According to Mrs A, this visit lasted approximately five minutes.

Intrapartum care

At around 6am on 26 March 2005, Mr A telephoned Ms B and told her that Mrs A had been having contractions since 4.30am and that a contraction was occurring every three to six minutes. The baby was moving and the waters had not broken. Ms B said that she would have breakfast and then go to their house. (Ms B lived approximately 25 minutes away.) Ms B arrived at Mr and Mrs A's residence at about 7.50am. Ms B's assessment of Mrs A included an abdominal palpation, the fetal heart rate (FHR), which was 160 beats per minute (bpm),[4] and a vaginal examination.

[3] The option of epidural anaesthesia is only available at hospital. Epidurals are not specifically part of the birth plan as they are categorised as an intervention.

[4] A normal fetal heart rate is between 105 and 155bpm. The rate fluctuates slightly (5 to 15bpm) when the fetus moves or sleeps.

Ms B recorded that the cervix was 7cm dilated, head presentation at station –2[5] and the membranes intact. Mr and Mrs A and Ms B went to the maternity unit, arriving at 8.10am. Mrs A began using Entonox gas for pain relief at 9.05am. A vaginal examination at 9.50am revealed the cervix to be 9cm dilated and the baby's head level with the pelvic rim.

Ms B advised Mr and Mrs A that if she ruptured the membranes (ARM) it would speed up labour. The ARM was performed and produced thin meconium-stained liquor.[6] Mr A said that, in his view, very little water flowed out and it was "green stained". They had been told subsequently that this was the first sign that the baby was in trouble. Ms B advised that the amount of amniotic fluid, approximately 100ml, was adequate for a term pregnancy.

Ms B explained to Mr and Mrs A that using the birthing pool was no longer an option. The presence of meconium meant that she had to monitor the baby's heart rate continuously and observe the consistency of the meconium. Ms B stated that it would be wise to monitor for fetal distress by using cardiotocograph (CTG) monitoring.[7]

Progress of labour

Ms B began CTG monitoring at 10am. Prior to that, the fetal heart had been recorded every 15 minutes and documented on the partogram. At 11.20am a vaginal examination revealed that a small rim of cervix remained. At 11.45am Ms B inserted an intravenous line to provide fluids and intravenous access for drug administration. She conducted another vaginal examination at 12.10pm and estimated that Mrs A was fully dilated. Ms B sought confirmation from a midwife colleague, who agreed that Mrs A was fully dilated. Ms B recorded her examination (retrospectively after the delivery) as "fully dilated" and "VE also checked by [midwife colleague]".

Mrs A commenced pushing at 12.20pm. At 12.30pm Ms B recorded "variability slightly reduced". She said that the variability of the fetal heartbeat improved after this

[5] Fully dilated is 10cm and "station" refers to the relationship of the presenting part of the fetus to the level of the ischial spines (outlet) of the mother's pelvis. When the presenting part is at the level of the ischial spines, it is at an 0 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).

[6] Meconium is the first faecal material evacuated from the fetus's or newborn's rectum, and appears green to very dark green. Meconium can be present in the amniotic fluid as a green staining. Although not always a sign of fetal distress, meconium in the amniotic fluid is highly correlated with its occurrence. Meconium in the amniotic fluid reveals that the fetus has had an episode of loss of sphincter control.

[7] A cardiotocograph or CTG is the external electronic monitoring of the fetal heart rate. A CTG can indicate abnormalities in fetal heart rhythm, which may indicate fetal distress.

time to between 5–10bpm. The records show a FHR of 160bpm with a baseline of 140bpm with quick recovery post contraction and variable deceleration.[8]

At 1.30pm there was no visible progress with second stage pushing. A vaginal examination revealed that there was no descent of Baby A's head (it was at station –1 to 0) and that a caput (fetal scalp trauma caused by pushing against a fixed rim) had formed. Ms B thought that the baby might have rotated into a posterior position, but the presence of a caput made it difficult to determine. Ms B decided to transfer Mrs A to secondary care. She telephoned the on-call obstetric consultant, Dr C, and arranged to transfer Mrs A to Hospital by ambulance. Ms B told Dr C that Mrs A had failed to progress as expected after one hour of effective pushing and noted the presence of a caput. She explained that there had been thin meconium but that the CTG had been reassuring.

Transfer and handover to secondary services

Ms B said that she explained to Mr and Mrs A her decision to transfer to Hospital. While in the ambulance, Mrs A's contractions became uncoordinated. Ms B said that she discussed the possibility of epidural anaesthesia, Syntocinon infusion, Ventouse or forceps delivery, and Caesarean section delivery.

Mr and Mrs A recall that, in the ambulance, Ms B told them that the baby "did not fit Mrs A's body". Ms B recalls using words such as "the way your baby is sitting, it might not fit through without assistance".

Mrs A arrived at Hospital at 2.30pm. Ms B handed over midwifery care to staff midwife Ms E, and verbally handed over to the obstetric registrar on duty, Dr D. At this time, Ms B had Mrs A's antenatal records. The scan report and blood test results were with the Hospital admission notes in the room.

Ms B gave Ms E information about Mrs A's gestation and antenatal care, and progress in the first and second stages of labour. Ms B told Ms E that she had commenced a CTG in view of thin meconium–stained liquor and that the trace had been reassuring. Ms B also provided details of the vaginal assessment including the presence of caput, and outlined the difficulty ascertaining the position of the fetal head, suggesting that it was "deflexed". She informed Ms E that Mrs A was becoming distressed from the contractions and would probably require an epidural. She stated, "[F]rom my memory, I think that I indicated to staff midwife [Ms E] that the baby was a 'reasonable size' or words to indicate that [Mrs A's] baby was well grown." Ms E recalls that Ms B told her that epidural anaesthesia and other interventions had been fully discussed during the transfer in the ambulance.

Ms B apparently gave Dr D the same information, except that she did not mention the baby's size or growth.

[8] Early decelerations are periodic decreases in the fetal heart rate resulting from pressure on the fetal head during contractions.

At 2.40pm, Dr D assessed Mrs A. He stated that when he palpatated Mrs A's abdomen his impression was of a term-sized infant, with no obvious abnormality in size noted.

Dr D noted that Mrs A was contracting two to three times every ten minutes and that three-fifths of the fetal head was palpable abdominally. Upon vaginal examination, he found that the vulva was oedematous, the cervix was 9cm dilated, the position of the baby was noted as "?deflexed OP"[9] and the head was at station –1. His plan was to put in place epidural analgesia and, if necessary, start a Syntocinon infusion to augment Mrs A's labour if the contractions were not adequate.

Mr A said that throughout his examination Dr D was distracted by calls on one or other of the four pagers he was carrying. Mr A believes the examination was too brief because Dr D was "in and out of the delivery room and did not appear to spend any real time checking [Mrs A] out". Mr A feels that he and his wife were "not important enough to require [Dr D's] undivided attention, rather than consulting pager after pager, at the same time as performing examinations of his patient".

Mr A recalls that on two occasions Dr D had "one hand inside [Mrs A] and the other getting pagers out of his pocket". Mr A considers that Dr D was not professional and found his conduct very distressing.

Dr D explained that it is an extremely busy Hospital and the on-call registrar covers obstetrics and gynaecology. He was carrying locators for both these areas, as well as a personal locator. He recalls one of his locators going off when he was about to examine Mrs A. He asked a midwife to answer it. At that stage he felt that there were no imminent threats to Mrs A or her baby. Dr D also explained that the obstetric locator had a particular tone for emergencies, and this tone sounded during the delivery of Mrs A's baby. Again it was answered on his behalf by another member of the team, although he may have given advice to the person on the telephone.

Dr D stated:

> "It would be my normal practice when performing a delivery or an examination to defer answering a locator until finished with the examination or, if a delay was to be reasonably expected, to ask another member of staff to answer on my behalf. I believe this to have occurred during [Mrs A's] delivery. It would be extraordinarily unusual to answer a locator oneself while doing an internal exam or while performing a delivery as sterile gloves are worn and this would result in loss of sterility, not to mention an unsanitary telephone. I do not believe that I would have answered a pager personally at the time of [Mrs A's] delivery. I do not believe that the locator system in use at [the Hospital] at the

[9] There is some uncertainty about the baby's position but it seemed to be "OP" (occipito-posterior) with head "deflexed" which means the head is back rather than flexed onto the chest, and the back of the head is in line with the mother's spine.

> time of [Mrs A's] delivery distracted me from her care or compromised it in any way."

Dr D stated that after the examination he had a brief discussion with Mrs A regarding the management plan. Mrs A was distressed with pain and upset that she was not yet fully dilated. Dr D was not able to have a prolonged discussion with her until her pain was under control, but she appeared happy with the plan. He recalls that Mr and Mrs A were keen to try whatever means possible to assist with advancing the labour. CTG fetal heart rate monitoring was commenced and continued throughout the labour.

Consultant obstetrician Dr C recalls that about mid-afternoon he received a telephone call at his home from Dr D concerning Mrs A. Dr D told Dr C of his findings after taking the history, examining Mrs A, and monitoring the baby. Dr C said that Dr D suggested administering an epidural with a trial of Syntocinon to obtain regular contractions and full dilation. Dr C agreed with the plan.

Epidural and progress of labour

Ms E contacted the anaesthetist to request an epidural, and was told that there would be a delay as all the anaesthetists were very busy. She advised Mr and Mrs A of this. Ms E commented that she was not aware of any expression of reluctance on the part of Mr or Mrs A in relation to an epidural. Ms E stated:

> "The epidural risks were outlined at this stage and [Mrs A] agreed she wished to go ahead with the epidural. The risks outlined were those that specifically related to the physical placement of the epidural i.e. nerve damage, dural tap resulting in leakage of cerebrospinal fluid which cause severe headache and infection. There was no discussion regarding any possible negative effects on the progress of labour."

Ms B also stated that the anaesthetist "fully explained the risks and side-effects of epidurals to [Mr and Mrs A] prior to the procedure". However, Mr and Mrs A said that they were not informed of the risks epidural anaesthesia posed to the baby, and there was no discussion of the possible effects of the epidural on the progress of labour. Mr A stated:

> "The person administering the epidural did however mention there could be some side effects towards [Mrs A], i.e. headache and vomiting and [Mrs A] then consented, she was in pain after all."

In the meantime, Ms E gave Mrs A pethidine 75mg intramuscularly and 25mg intravenously to control her pain. At 3pm the clinical responsibility for Mrs A's care was formally transferred to the Hospital team, but Ms B remained to support Mr and Mrs A. The epidural was sited by 3.45pm.

At this time the CTG showed reduced variability[10] and Ms E turned Mrs A onto her side to see if this increased variability. Mrs A's medical notes record that the fetal heart rate was non-reactive and that the baseline was 145bpm. Ms E informed the charge midwife, Ms G.

Possibility of Caesarean section
Ms E performed a vaginal examination at 4.40pm, but noted no change. Ms E commented:

> "Around this time [Mr A] expressed concern about how long labour was taking and asked why [Mrs A] was not just going for a Caesarean. My response was to explain that surgery was not without risk, particularly for the mother, and that it was therefore usual practice to try for a vaginal delivery as long as the mother is well and the baby [is] not showing signs of distress."

Dr D reviewed Mrs A and ordered Syntocinon (to strengthen contractions). The infusion was commenced at 2mu/minute (milliunits per minute) at 4.55pm, and increased to 4mu/minute at 5.20pm. Over this period, the fetal heart baseline increased to 160bpm with reduced variability.

At 6pm Ms E examined Mrs A, and noted that some of the cervix could still be felt. Ms E checked the fetal position, querying right occipito-transverse (ROT)[11] with the head remaining deflexed. Ms E stated that she "could not be absolutely certain" of the fetal positioning.

Dr D reviewed Mrs A at 6.10pm. The fetal head was one-to two-fifths above the pelvic brim. He did not record the fetal position, but recorded that the CTG was "acceptable". He said that after examining the CTG and Mrs A he was reassured that they could continue with his original plan that she could deliver vaginally. Dr D decided to re-examine Mrs A in an hour and, if she was not fully dilated by that stage, to consider a lower segment Caesarean section delivery (LSCS or Caesarean section). At about 6.45pm the Syntocinon was increased to 6mu/minute.

Shortly after this, at around 7pm, Ms E brought a shaver into the delivery suite and explained that it might be a good idea to prepare for LSCS. Ms E stated:

> "This is something I often do when the labour is protracted and there seems to be the possibility of a Caesarean section. However, before I could proceed with

[10] Fetal heart rate variability is considered to be one of the most reliable indicators of fetal well-being. Baseline variability (the normal variation of the fetal heart rate within the normal range) increases when the fetus is stimulated, and slows when the fetus sleeps. If no variability is present, it indicates that the natural pacemaker activity of the fetal heart has been affected. Decreasing variability indicates the development of fetal distress. Absent variability is considered a severe sign, indicating fetal compromise (reaction).

[11] This is when the back of the fetal head faces the right side.

> this [Dr D] returned, examined [Mrs A] and found she was now fully dilated and ready to start pushing."

Mr A commented that when the nurse appeared with a razor they understood that Mrs A would have a Caesarean section, but that idea was abandoned without any explanation. Mr A was distressed that, after many hours of labour, he and his wife had to mentally prepare themselves for a Caesarean section, which was then abandoned.

Decision to proceed with vaginal delivery

At 7.10pm Dr D returned and examined Mrs A. He found that she was fully dilated, station at +1, and one-fifth of the fetal head was palpable abdominally. The fetal position was recorded as "OA" (occipito-anterior — the back of the fetal head had moved to the front). Dr D noted that the CTG showed reduced variability but that the fetal heart reacted to scalp stimulation. His plan was for Mrs A to commence pushing. Dr D stated:

> "There was no indication that this was a fetus that would not deliver vaginally and no medical reason to recommend a Caesarean section. All indications were that a ventouse-assisted delivery was feasible.
>
> …
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> An abdominal delivery would have posed considerable risk with the need for disimpaction of the fetal head and a high likelihood of extension to any lower segment incision resulting in excessive blood loss. Caesarean sections in situations such as this can be extremely difficult and pose considerable risk to the mother."

Ms E handed over care to staff midwife Ms F at 7.20pm. Mrs A recommenced pushing at 7.25pm.

At 8.50pm Ms F increased the Syntocinon to 8mu/min. At 9.08pm Ms G, who had come in to check on progress, noted that the CTG showed fetal tachycardia with early decelerations,[12] and the fetal heart baseline had increased to about 180bpm. Dr D was notified at 9.08pm. He contacted Dr C at 9.10pm. (Dr D also called Dr C between 6pm and 7pm in relation to another patient.) Dr C stated that he was "slightly surprised" to hear that Mrs A had still not delivered but Dr D informed him of the delays in both inserting the epidural, getting Mrs A comfortable and commencing Syntocinon. Dr D told him that the baby's head was low in the pelvis and a Ventouse extraction was "possible and safe".

[12] The deceleration follows the pattern of the contraction, beginning when the contraction begins and ending when the contraction ends. The rate rarely falls below 100bpm and returns quickly to between 120 and 160bpm at the end of the contraction.

Dr D reviewed Mrs A at 9.20pm. He said that he was unable to reassess her sooner because he was required to assist an unstable patient in the operating theatre. By 9.20pm Mrs A was exhausted. She was fully dilated with the fetal head at +2, and no part of the fetal head was palpable abdominally.

Mr A reported:

> "[T]hey keep [Mrs A] pushing until about 2115 hrs and [Dr D] appears and starts preparing a Ventouse kit, he has to explain to [Ms F] the midwife, how to use the kit, I found her lack of knowledge in this procedure at this stage of the day of great concern, in that is the apprentice now having a bash."

Discussion about Ventouse delivery
Dr D suggested a Ventouse-assisted delivery, in view of Mrs A's exhaustion, the level of descent of the fetal head, and the increasing fetal tachycardia.[13] Dr D explained that prolonged discussion regarding risks and benefits was not possible given Mrs A's distressed condition. He stated that "a brief discussion regarding the plan to proceed was made". He recalls that Mrs A requested that he do whatever was necessary and she appeared happy to proceed "with the plan as arranged".

Dr D said that it was his usual practice to say that all deliveries pose risks to mothers and babies and that each mode carries its own specific risks. Recommendations are made, on balance, in favour of the mode that poses the least potential risks to mother and child. If patients want further discussion he goes into more detail, but Mrs A was eager to complete the delivery.

Mrs A stated that Dr D did not explain what a Ventouse was or what the procedure involved. Mr and Mrs A recall that Dr D walked into the room and stated, "Let's have a baby."

Delivery
Dr D applied the Ventouse cap to Baby A's head, which was delivered at 9.26pm (after three contractions) and rotated back to its original position (OP). Baby A displayed signs of shoulder dystocia and her anterior shoulder was firmly wedged under the pubis. The umbilical cord was wrapped around Baby A's neck twice and was easily removed. Dr D performed a small episiotomy, and immediately began standard shoulder dystocia manoeuvres. The final manoeuvre released the anterior shoulder and allowed delivery. The time of birth was 9.31pm.

[13] A normal fetal heart rate is between 105 and 155bpm. The rate fluctuates slightly (5 to 15bpm) when the fetus moves or sleeps. Fetal tachycardia is 161 to 180bpm. Marked tachycardia is more than 180bpm. Marked fetal tachycardia may be due to fetal hypoxia (lack of oxygen), maternal fever, drugs, or abnormal fetal heart rhythm.

Baby A was very "flat" at birth, with Apgar scores of 0, 0, 0 at 1, 5 and 10 minutes.[14] The paediatric team commenced full resuscitation with CPR and ventilation. The cord blood pH was 7.29 at the time of birth.[15] Baby A was transferred to the Neonatal Unit, where she began breathing at approximately 15 minutes of age. Baby A appeared to have suffered perinatal asphyxia resulting in damage to her central nervous system.

Follow-up events
Mrs A and Baby A remained at Hospital until 14 April. Mr A expressed concern about the facilities at Hospital. He stated:

> "The after care was in many ways appalling as [Mrs A] was placed in a room with missing ceiling tiles allowing debris to fall on to her bed from above, I had to get up to the ceiling and replace the tiles. She was missed meals on many occasions and I heard staff arguing about whose budget [her] meals were coming out of.
>
> [Mrs A] was flea bitten in her room vigorously; it was a disgrace, especially after what transpired."

The couple state that they were not consulted about the decision-making relating to the labour and the delivery. Mr A believes that they had no explanation of any of the expected risks or side effects of various delivery options, and no one advised them how long a labour should last. He said that they have since learned that epidural analgesia can increase the risk of complications "by 50%" and it seemed that the maternity professionals did not even know the fetal position. Dr D was too busy and the service they received was all he could fit in at the time.

Baby A weighed 4.53 kgs (9lbs 13oz) at birth. Mr A commented that she was "a very big baby for anyone especially a [small person's] first [baby]". He felt that Ms B and Hospital staff should have given more consideration to the size of the baby in light of his wife's ethnicity and size. Mr A said that they had concerns about the size of the baby two months prior to the delivery, but Ms B said that "everything was OK".

Overall, Mr and Mrs A acknowledge that Ms B made the correct decision to transfer them to Hospital but consider that Dr D was "negligent" in the care he provided, and that this resulted in Baby A being disabled.

Mr A said that Dr C and Dr D visited him and his wife the day after the birth to explain what had happened. Mr A said that Dr C told them that everything had been done correctly, it was a "textbook" delivery, and "you are young enough" and "to get over

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[14] An Apgar score is used to ascertain and record the condition of the baby, looking at colour, respiratory effort, heart rate, muscle tone and reflex response, with a maximum/optimal score of 10.

[15] Cord blood pH gives information about the fetal metabolic state. A pH of 7.4 is considered normal. When blood analyses of the fetus are made during labour by use of a scalp capillary technique, a finding of acidosis (blood pH below 7.2) is a certain sign that fetal well-being is compromised.

it". Mr and Mrs A were very upset and Mr A told both doctors to leave. Any further attempts by Dr C to explain to Mr and Mrs A what had happened have been rejected.

Dr C denies that he would have spoken in the manner Mr A recalls but acknowledges that he was unable to develop a rapport with Mr and Mrs A. He recalls that Mr A said it appeared that Dr D did not know what he was doing. Dr D replied that he had used all the correct manoeuvres for the management of severe shoulder dystocia, which are quite forceful.

Dr C recalls that Dr D contacted him again at about 10.30pm after the delivery and told him that delivering the baby's head "was relatively straight forward" but he had unexpectedly encountered shoulder dystocia, which had "created great problems in delivering the baby". Dr C believed that an assisted Ventouse delivery was the most appropriate decision at the time, and all the standard prerequisites for an assisted vaginal delivery were met. He commented that Dr D was an experienced senior registrar, and he felt comfortable leaving him to undertake the delivery.

On reflection, Dr C said that he was concerned about the length of time taken for Mrs A to become fully dilated. He reviewed the CTG and in his opinion "there does appear to be features that suggest the fetus is showing some signs of distress". Earlier delivery might have been considered if there had been a protracted labour and the CTG was thought to be abnormal. However, with the head so low in the pelvis at 9.10pm, attempting LSCS might also have proved difficult.

As Mr and Mrs A would not see him, Dr C arranged for an obstetrician colleague to meet with them to discuss the nature of shoulder dystocia and managing prolonged labour. They met on 31 March and 7 April 2005. The obstetrician also saw Mrs A informally on two or three other occasions.

On 14 April Mrs A was transferred to her local hospital. Baby A was admitted into the neonatal intensive care unit and then transferred to a Newborn Special Care Service. She was discharged on 18 April 2005, with arrangements to be followed up by a home care team and community paediatricians.

Mr and Mrs A initially complained directly to the DHB. A meeting with the Chief Medical Officer for the DHB did not resolve their concerns. Mr and Mrs A advised that he provided "an apology by [the DHB] for the actions by [Dr D] regarding the simultaneously checking pager whilst doing internal examination, also for the lack of communication".

Dr D's training and qualifications
Dr D advised that his obstetric qualifications and experiences include the following:

> "I have an MBChB degree from an [overseas University]. This was awarded in 1992. Since then I have worked in a number of obstetric and gynaecology posts around the world predominantly in South Africa and New Zealand. I hold

Membership of the Royal Australian and New Zealand College of Obstetrics and Gynaecology, awarded on 2/5/2004 (i.e., prior to [Mrs A's] delivery). … At the time of [Mrs A's] delivery, I had approximately eight years' experience as a Registrar in O&G and was in my sixth and final year of training towards Fellowship[16].

[The Hospital] has a weekly seminar to assist in training. Every two out of four sessions would normally include a half-hour session on CTG interpretation and discussion of 'difficult to interpret' CTGs. Registrars, on average, are able to attend about three quarters of such sessions. In addition, in-house sessions regarding emergency drills were run one session-in-four at the time that [Mrs A] delivered. These were run by a registrar who had gained experience as a role leader while working in the UK. A session regarding shoulder dystocia was run I think in January or February 2005. Over the last six years, I have been a trainee of the Royal Australian and New Zealand College of Obstetrics and Gynaecology. During this period, I have received training via the Integrated Training Program, which has included modules on fetal physiology.

Training in ventouse delivery has been provided to me over the period of my training by a number of consultants in the various institutions in which I have worked on a hands-on practical basis. In particular, my training supervisors have been [two supervisors]. They have ensured my training has been complete by liaising with all the consultants with whom I have worked and in particular the obstetricians with whom I have been placed during my training. This includes time with both high risk and general obstetric teams at both Hospitals.

…

My College records reflect that I had carried out approximately 136 ventouse-assisted deliveries while a trainee, prior to 2005. In addition, a further 40–50 ventouse-assisted deliveries would have been performed by me while a registrar not-in-training and as a senior house officer. In total, I would have performed 170–180 ventouse-assisted deliveries. I have not had any informal or formal complaints regarding any of these deliveries.

…

I have discussed this incident extensively with colleagues and mentors, as well as with senior clinicians in the O&G department at [the Hospital]. In part, this has been as a debriefing process for me. All people I have discussed the case with have agreed that normal management procedures were followed and that in the same circumstances their recommendations would have been the same. I have

[16] Dr D since became a Fellow of the Royal Australian and New Zealand College of Obstetricians and Gynaecologists.

> taken increased care when assessing fetal position and stage prior to performing a ventouse-assisted delivery in order to be certain that there is no contra-indication to its performance (as was the case in this situation). I have been careful to ensure that this adverse event does not cause me to increase the use of Caesarean section unnecessarily.
>
> My current position in Australia is providing me with the ability to assess adverse events and to look at performing a root-cause analysis of adverse events, which will be of benefit, should I ever experience any similar event again. In addition, I have become more insistent on collegial support when units become extremely busy to ensure that more time can be spent with each patient."

DHB review

The DHB arranged an independent review by midwife Norma Campbell and obstetrician Alastair Haslam. They were asked to consider the case and the transfer and management of care, with particular attention to the processes and systems. Ms Campbell and Dr Haslam provided a joint report dated 23 March 2006 in which they advised:

> "From the reviewers' point of view, the clinical management [once transferred to Hospital] was appropriate, i.e. the obtaining of adequate pain relief and then the commencement of an oxytocin infusion to stimulate adequate contractions. Particularly in someone having their first baby, labour may not be effective and provided the baby is shown to be in good condition, adequate contractions need to be achieved in order to state that a trial of labour is adequate. How this was conveyed to [Mrs A] and [Mr A] and their involvement in the decision making process whilst it appeared to be clear to the professionals involved as judged by their reports and discussion, was not so clear to the [couple]."

Ms Campbell and Dr Haslam concluded that the transfer to Hospital was timely, and the process appropriate. They recommended that all women transferred from a primary unit to secondary or tertiary facilities such as Hospital should be seen by the registrar within a specific period of time. They recommended that the outcome of the assessment and clinical plan be discussed with the woman — while acknowledging that this discussion may not be able to occur until a later date owing to pain. Management of the case was deemed appropriate, as was the management of shoulder dystocia. The reviewers stated:

> "Shoulder dystocia is a well known and much feared emergency occurring at delivery. It is poorly predicted and all those conducting deliveries have a way of dealing with it. It is always stressful particularly for those family members in attendance witnessing the trial of the various manoeuvres that are accepted practice within midwifery to try and dislodge the impacted shoulders. From the reviewers' discussion with the [couple] it was clear that their case was no exception to this.

> [Dr D's] description and recording of what was done in relation to the shoulder dystocia was best practice and he did successfully deliver [Baby A].
>
> …
>
> Neither [Dr D] or Midwife [Ms G] was sure that the baby was ever posterior. Arrested progress in a primigravid with a baby in a normal position must raise the question of cephalopelvic disproportion, but in the end the matter is conventionally resolved clinically by a trial of labour usually with oxytocin stimulation if needed to achieve adequate contractions and usually an epidural anaesthetic as occurred in this case."

In relation to Mr and Mrs A's concerns about Dr D's pagers, the reviewers commented:

> "On discussion with the family it became clear that the obstetric registrar was carrying three pagers at the time he was on call. This was confirmed by the clinical director in discussions following the interviews. At the time the family were concerned that [Dr D] had a number of pager devices and was interrupted during the course of his assessing [Mrs A] with a pager. In a busy tertiary unit, registrars have to be aware that interruptions from pagers can lead to the impression that their mind is not fully focused on the patient in front of them. This was a major issue for the [couple].
>
> When the reviewers tried to determine how/why this was necessary there appeared to be a very complex arrangement of paging the registrars on call at [the Hospital]."

Ms Campbell and Dr Haslam recommended a review of the paging system for the obstetric registrar at Hospital, and education and reminders of "pager etiquette" at the beginning of each registrar placement.

DHB advised:

> "With regards to the actions mentioned in our letter to [Mr and Mrs A] dated 19 April 2006[17] we can report that:
>
> — The process for multiple pages has changed with medical staff having a maximum of 2 pagers, i.e., an emergency obstetric pager and a personal pager.
>
> — In December 2005 we introduced 2 tiers of registrars and onsite SMO [Senior Medical Officer] cover for most of the week.

[17] Ms Campbell's and Dr Haslam's report was forwarded to the [couple].

— We introduced a weekly debrief/liaison meeting between the neonatal and obstetric teams to discuss past and future problems and early identification of the need to meet with families.

— Clinical prioritisation is encouraged as this enables most urgent cases to be seen sooner. This includes transfers in and takes into consideration all cases including existing cases on the Delivery Suite.

— Communication workshop for registrars has been completed."

DHB stated that the criteria for women who choose to birth at the community units have been reviewed, as well as the referral guidelines. A pamphlet will be designed to explain the birthing criteria, reasons when transfer to Hospital is necessary, and what to expect. This has been completed. DHB also advised that the issues concerning the ceiling tiles and fleas had been addressed.

DHB stated that there were no specific policies in relation to Ventouse-assisted deliveries or the management of prolonged labour, as these are part of the "expected core competencies of all clinical staff". DHB provided a copy of the relevant protocols in relation to shoulder dystocia, the use of syntocinon, meconium exposure and the monitoring of the fetal heart in labour.

ACC decision

On 21 October 2005, ACC declined Mr and Mrs A's claim for cover.[18] ACC concluded that the cause of [Baby A's] injury was shoulder dystocia, a known complication of pregnancy, and was not the result of the medical treatment she received. ACC obtained advice from midwife Joan Skinner and obstetrician Dr Pravin Nahar. Ms Skinner advised ACC:

> "[Ms B's] care of [Mrs A] during labour at [the] Maternity Unit was appropriate. The recordings were taken at regular intervals and the heart rate well monitored. [Ms B's] management of the persistent anterior lip was also appropriate. She encouraged changes in position, ruptured the membranes and started intravenous fluid. The decision to transfer to the base Hospital for obstetric assistance after an hour of active pushing with no progress was also appropriate. The fact that at this stage some of the cervix was still present is not an indication of substandard care. [Ms B] had asked for a second opinion about this and it is not very unusual for some of the cervix to reappear after it has been manipulated over the head. Estimation of fetal size can also be difficult and I note that none of the practitioners who provided care in the remainder of the pregnancy made note of an overly large baby. It is difficult for me to comment on whether the fact that no one picked up the size of the baby prior to delivery is a reflection of lack of an appropriate standard of care. It is easy in retrospect to see how this may have

[18] Since 1 July 2005 cover has existed for "treatment injury", ie, injury suffered as a result of medical treatment.

> been implicated in the shoulder dystocia, but fundal size can be very misleading. It was not unreasonable for [Mrs A] to attempt delivery at [the maternity unit] and I can find no evidence that [Ms B's] care was below a standard reasonably to be expected in the circumstances."

Dr Nahar advised ACC:

> "From the time of arrival at [the] Hospital until delivery, the cardiotocogram (CTG) tracing showed prolonged periods of reduced variability of fetal heart rate. In the later stages (from approximately 1900 hours onwards), the CTG also showed variable decelerations which were getting worse until the time of delivery. Given that the cervix was 9cm dilated at 0955 hours at [the local] Hospital, it took nearly 11½ hours from that time and the delivery of [Baby A]. It is generally accepted that the cervix should be dilating at the rate of at least 1cm per hour during the active phase of labour. However the duration of second stage can be prolonged with the use of epidural analgesia. Even after taking that into consideration, I would conclude that there was significant delay in delivery of [Baby A] especially during the late first stage and second stage of labour."

Dr Nahar found no evidence of mismanagement of the shoulder dystocia by Dr D. He said it could be argued that a Caesarean section should have been performed in view of the prolonged labour and non-reassuring CTG. However, it was questionable whether there was enough evidence to justify a Caesarean to prevent shoulder dystocia and apart from the baby being known to be a reasonable size, there was no other reason to suspect or predict a shoulder dystocia.

Advice to Mr and Mrs A

Following ACC's decision, Mr and Mrs A obtained advice from midwife Robyn Maude and obstetrician Dr Jenny Westgate. Ms Maude stated:

> "On the balance, I am satisfied that all the midwives involved in this case have observed a standard of care and skill reasonably to be expected in the circumstances and therefore there are no grounds to find for medical error. Neither does this case fit the criteria for medical mishap."

Dr Westgate questioned the cause of [Baby A's] injury, saying there was no evidence of fetal hypoxia during labour. Dr Westgate advised:

> "In my review of [Baby A's] CTGs taken during labour, I am struck by the fact that right from the start of recording at [the] Hospital the baseline heart rate was 150 increasing to 165bpm and apart from a couple of very brief periods (less that 10mins on two occasions) her heart rate variability was very low to absent even using the external ultrasound to record her FHR. There is no record of pethidine being given to [Mrs A] to explain this. The CTG taken on arrival at [Hospital] showed virtually absent heart rate variability before pethidine was given to [Mrs A] at 1450. There are no significant fetal heart rate decelerations during the

recordings to indicate progressive hypoxia. It is true that her baseline heart rate continued to increase and rose to 180 bpm by 2000 hours. Some of this tachycardia would have been related to the fact that [Mrs A] developed a fever in labour. She had a temperature of 37.8 at 1600, 37.6 at 1700 and 38.0 at 1800. [Baby A's] heart rate was clearly abnormal by the time of delivery, and indeed, [Dr D] could be criticised for not seeking to ensure fetal wellbeing by performing a fetal blood sample prior to attempting an operative delivery given such a CTG. Fortunately, the availability of cord gas results show that [Baby A] was not significantly hypoxic prior to delivery."

Dr Westgate concluded that she could see no evidence that any of the registered health professionals failed to observe a standard of care and skill reasonably to be expected in the circumstances.

Independent advice to Commissioner

Midwifery advice

The following expert advice was obtained from Liz Brunton:

"Expert Advice

Thank you for the opportunity to comment on this case **06/02099**.

My name is Liz (Dorothy Elizabeth) Brunton.

I am a registered Midwife and General and Obstetric Nurse. I have a Bachelor degree in Psychology/nursing and am at present studying for a Master's degree in Midwifery.

I have practiced as a midwife for 25 years in a variety of settings, in Hospitals for 4 years, 6 years as a tutor of student midwives in a Polytechnic and 15 years as an Independent (LMC) midwife. Since 2006 I have been employed at Massey University as a senior tutor for the student midwives.

I am a member of the NZ College of Midwives and am a member of the Midwifery Standards Review panel.

I have read and agree to follow the Commissioner's Guidelines for Independent advisors.

…

Supporting Information

- [Mr and Mrs A's] complaint letter to the Commissioner, marked "A" (pages 1–8);
- Notification of investigation letters and requests for information from [DHB] midwives, marked "B" (pages 9–27);
- Information from [Mr and Mrs A], marked "C" (pages 29–41A);
- Information from [Dr D], marked "D" (pages 42–59);
- Information from [Dr C], marked "E" (pages 60–66);
- Information from [the] DHB, marked "F" (pages 67–101);
- Information from [Ms B], including [Mrs A's] antenatal and intrapartum medical records, marked "G" (pages 101 A, B–165);
- Information from [Ms G], marked "H" (pages 166–173);
- Information from [Ms E], marked "I" (pages 174–178);
- Information from [Ms F], marked "J" (pages 179–181);
- Report from Tom Pontano, neonatal nurse specialist, marked "K" (pages 182–183);
- Report from Dr Alan Drage, paediatrician, marked "L" (pages 184–185);
- Report from Dr Lindsay Mildenhall, neonatal paediatrician, marked "M" (pages 186–87);
- Mrs A's medical records from [Hospital], marked "N" (pages 188–258);
- Excerpts from Baby A's medical records from [Hospital], marked "O" (pages 259–265)

…

1. *In your professional opinion was the antenatal care provided to [Mrs A] by [Ms B] of an appropriate standard?*

   [Ms B's] care during the pre-birth/antenatal period was mainly of an appropriate standard.

   According to 'section 88 of the NZ Public Health and Disability Act 2000', [Ms B] is required to 'commence and document a Care Plan to be used and updated throughout all modules covering, as a minimum, the items listed in Appendix III' (see references, item 1. Maternity Services).

   There is no evidence in the supplied documentation that a care plan was made.

2. *In your professional opinion was the intrapartum care provided to [Mrs A] by [Ms B] of an appropriate standard?*

   [Ms B's] care during the intrapartum period was of an appropriate standard.

3. What standards apply in this case?

[Ms B] is a member of the NZ College of Midwives, thus all of the standards will apply. In particular to this case, Standards 2, 3, 6 and 7 have particular bearing.

Were those standards complied with?

Yes, the standards were basically complied with.

Standard 2 refers to:

'the midwife up holds each woman's right to free and informed choice and consent throughout the childbirth experience

Shares relevant information, including birth options, and is satisfied that the woman understands the implications for her choices.'

Standard 2:
[Ms B] refers to a shortened 36 week pre-birth visit where the birth plan was discussed. She lists the information she would usually give and this is appropriate for pre birth information. It is not usual to have a lengthy discussion regarding practices outside the scope of midwifery practice and when the expected practices are at a primary maternity unit. As [Mrs A] was having her first baby it could have been appropriate to provide more detail regarding possible outcomes if the labour did not progress and a potential need for transfer to a tertiary unit. Provision of information regarding an epidural is preferred in the pre-birth period as decision making when offered an epidural in established labour is an awful time to be making quality decisions. (See references: item e. Black, j, Cyna, A. 2006.)

Standard 3 refers to:
'The midwife collates and documents comprehensive assessments of the woman and/or baby's health and well being.'

Standard 3:
This standard was maintained in that [Ms B] showed appropriate collection and documentation of information. The pre-birth visits are well within the recommended number. She assessed and documented that the health of [Mrs A] and her baby were normal at each visit and this was clearly recorded in her notes. There is no notation of fundal height measurement but the uterus was noted to be equal, but not more than, for the gestation.

There is no evidence of a written comment for each pre-birth visit apart from a chart (page 115). This makes it difficult to know the depth and range of any discussions that [Ms B] did or did not have with her client, regarding discussion of the baby size or [Mrs A's] oedema and uterine size.

Standard 6 refers to:
'Midwifery actions are prioritised and implemented appropriately with no midwifery action or omission placing the woman at risk.'
— plans midwifery actions on the basis of current and reliable knowledge and in accordance with Acts, Regulations and relevant policies
— ensures assessment is on-going and modifies the midwifery plan accordingly
— identifies deviations from the normal, and after discussion with the woman, consults and refers appropriately
— has the responsibility to refer to the appropriate health professional when she has reached the limit of her expertise.'

Standard 6:
[Ms B] fulfilled all of the requirements. Her midwifery care while at the base Hospital was within the scope of a midwife's practice. [Ms B's] rupturing of the membranes to enhance cervical dilatation was within the range of appropriate care. Her response to thin meconium in the liquor by commencing a CTG (cardiotocograph) and informing [Mrs A] that a water birth was no longer an option because of the need to more closely monitor the baby was appropriate. Her assessment of the baby's heart rate from the CTG was correct.

Standard 7 refers to:
'the midwife is accountable to the woman, to herself and to the midwifery profession and to the wider community for her practice
— clearly documents her decisions and professional actions
— records her decisions and makes them freely available
— ensures relevant information is available to the woman
— in situations where another dimension of care is needed, ensures negotiation takes place with other care providers to clarify who has responsibility for the care.'

Standard 7:
[Ms B] fulfilled most of her requirements of this standard. Documentation is minimal and there is no record of discussion with her clients regarding progress/non-progress of labour, consent to perform an ARM, explanation of meconium liquor or change in preferred option of a water birth. In [Ms B's] written explanation all these issues are mentioned.

Her care during the labour was appropriate and within the midwife's scope of practice. Her actions were modified by, her client's behaviour and need, the assessment information and progress of the labour.

[Ms B] assessed that the labour was not progressing normally and becoming beyond the scope of her midwifery practice. She made the appropriate referral to a tertiary Hospital/Obstetric consultant.

If not covered above, please answer the following:
Did [Ms B] take appropriate steps with regard to determining the size of the baby? Should she have been able to determine that this was a large baby?

[Ms B] took appropriate steps to determine the size of the baby. As an experienced midwife she will have the ability to estimate a baby's size in the pre-birth period. Her assessments did not find the baby to have exceeded the fundal height according to gestation at any of the visits. In hindsight it would have been preferable to have continued measuring with a tape measure as well as this can give a more empirical evidence of uterine growth.

The baby's position may inhibit full realisation of the size especially with a posterior laying baby. This may have led [Ms B] to believe the baby was smaller than it was as most experienced midwives should be able to determine if a baby is small, average or large.

Would it have been appropriate for [Mrs A] to have a 38 week scan to determine the size of the baby?

A scan would not necessarily have given an exact size estimation but would have stated that the baby was of good size (4000gms +). In hindsight this may have influenced the decisions made regarding the birth mode in the tertiary unit.

Scans do have a range of error as do clinicians. There is some debate regarding the 'fear' factor involved in slowing the second stage of labour. If a client perceives her baby to be 'too big' she may hold back her ability to birth vaginally.

Regardless of the baby's size, the process/progress of labour will show if a vaginal birth is appropriate or not. (See reference, item 3. Ronald, M. 2002.)

Please comment on [Ms B's] observation that, when an ARM was performed, an 'adequate amount' of fluid drained.

[Ms B's] observation that there was 'an adequate amount' of fluid drained would be appropriate for this stage of labour. Her assessment that the baby's head was at station '–1– 0' would mean that the head was in the pelvis and only the fore-waters would drain. The remainder of the amniotic fluid would be prevented from flowing out via the vagina as the head effectively forms a 'plug' in the pelvic cavity. The amount of fore-water can vary from 10–60+ ml. The absence of fluid may indicate inadequate ARM or oligohydramnios/minimal amniotic fluid. 'Adequate' denotes that the fluid was within 'normal' limits and of no concern.

What is the significance of thinly meconium-stained liquor?

The presence of any meconium in labour will alert the practitioner to the potential of 'fetal distress'. This then necessitates a more frequent monitoring of the baby's heart rate in response to the labour contractions.

The presence of 'light' or 'thin' can be an indication of normal labour stress until proved otherwise.

(See reference, item 4. Ziadeh.S M, Sunna.E, 2000, & Saunders.K, 2002)

What is usual midwifery practice regarding advising patients about signs of fetal distress?

It would be usual for a midwife to inform her client that there was meconium in the liquor, that it was usually a sign that the baby was stressed by the pregnancy/labour and some explanation regarding the amount of meconium and any consequence for this labour and birth.

The midwife would ask her client if she could commence monitoring the baby more closely, usually with a CTG. She would explain that she was looking for signs that the baby was not coping with the labour, i.e., early to late decelerations. She would ask to see any sanitary-pads the woman changed to assess the amount of meconium in the liquor.

The midwife would discuss possible causes for the baby's stress and if the meconium was thin, give some reassurance that it was not uncommon and that it could have happened prior to the labour. She would try to reassure her client that most babies are strong and designed to cope with the birth process.

She would explain the significance of the CTG and reassure if all was within normal limits. If the meconium was thick or the recording of the baby's heart rate showed decelerations after a contraction she would explain that referral to an obstetrician was recommended as the baby was showing signs of considerable stress.

Please comment on the CTG trace recorded at [the] Maternity Unit and [Ms B's] assessment of the CTG trace as being 'reassuring'.

[Ms B's] assessment of 'reassuring' for the CTG trace at [the] Maternity Unit would be correct, from review of the CTG recordings. The recording showed contractions 4–5:10, a base line fetal heart of 150 with early decelerations and good recovery. Her client was nearing full dilation, the baby's head was descending into the pelvis and this trace was 'normal' at this time. It would be reassuring to note that though the heart rate dipped with the contraction, it recovered well and returned to the base line. I am not sure when [Ms B] made this statement but towards the time that [Ms B] made the decision to transfer in, the CTG was not as reassuring.

What are the options available for pain relief in labour?

In a primary Maternity Unit there are similar options as for a home birth. These include the strength of the woman, the skill of the midwife and the support team available. Alternative therapies can help, acupressure/puncture, homoeopathy, reiki; warm water and paracetamol are all available. At the primary unit, nitrous oxide and pethidine are available. At a tertiary unit all of the above plus epidural and general anaesthesia are available.

What are the material risks associated with an epidural and what is usual midwifery practice regarding advising patients of those risks?

Risks from an epidural include, 40% increase in potential to have an instrumental birth, headache from a dural tap, hypotension, bladder incompetence and urine retention, infection/abscess, inadequate/patchy analgesia, upward tracking of the anaesthetic leading to respiratory distress, nerve damage to permanent neurological injury.

(See reference: item 5. Lowe, N. 2004, Sweet, B. 1998.)

It is usual to discuss the risks but a midwife usually will not dwell on the most severe ones. Many midwives now give their client information printed by the Anaesthetic department or refer the client to the Web. Most pregnancy and birth books also have a reference to types of analgesia in labour, epidural being one of these. Birth classes also discuss this topic. It is the midwife's responsibility to ensure that the client has understood the information. (Standard 2, NZCOM Midwifery Standards.)

Please comment on the information [Ms B] provided to staff midwife [Ms E] and to obstetric registrar [Dr D].

My reading of the note provided leads me to believe that [Ms B] was clear in her hand-over to both [Dr D] and [Ms E] regarding the need to transfer client and care due to an obstructed labour. From the Hospital notes there is no documentation of the obstetric consultation conversation nor of the hand over to the Hospital midwife. In her written statement [Ms B] states that she said there was failure to progress during the labour and there was thin meconium. She does not recall telling the obstetrician her thoughts about the baby's size but she believed she told the midwife that the baby was a 'reasonable' size.

I believe that she gave adequate information to the [Hospital] staff and that it was clear there was a problem with the labour and that was why she was transferring care.

If, in answering any of the above questions, you believe that [Ms B] did not provide an appropriate standard of care, please indicate the severity of her departure from that standard . . .

I believe [Ms B] provided an appropriate standard of care.

Are there any aspects of the care provided by [Ms B] (or [the] District Health Board) that you consider warrant additional comment?

I believe that [Ms B] provided safe care and transferred her client and responsibility appropriately. I believe that in hindsight that an emergency LSCS would have been preferable, especially as the CTG showed increasing fetal distress a couple of hours pre birth (reduced variability, slow recovery from early decelerations and presence of late decelerations).

It is hospital policy to attempt a vaginal birth with analgesia and syntocinon and often it is the appropriate form of action and certainly the head descended and was born with ease. I feel the unit was very busy and the baby's distress was not acknowledged soon enough."

Obstetric advice

The following advice was provided by obstetrician Dr Gary Fentiman:[19]

"1. *In your professional opinion were the services provided to [Mrs A] by [Dr D] of an appropriate standard?*

I believe that the services rendered to [Mrs A] were of an appropriate standard. However, in my opinion, not all decisions made by [Dr D] were correct. Based on the information provided to me in this report from the professional staff in attendance throughout [Mrs A's] labour and stay in [Hospital], I am of the opinion that [Dr D] attended [Mrs A] properly and appropriately but his interpretation of the CTG was flawed. His assessment that the CTG showed no possibility of compromise led to persistence with syntocinon in an attempt to correct the protracted 1st stage of labour.

[Dr D] was charged with correcting a natural process that had gone awry, as labours often do. The assumption is that the obstetrician should be able to fix the problem while protecting the health of the mother and fetus. This is not always achievable, despite due care and attention. The tools we have to assess fetal size and fetal well being in labour are imprecise. The measure here is what would be the expected of a senior registrar with consultant support in a busy maternity unit.

My opinion is that [Dr D] should have recognised that fetal compromise was possible in this case of protracted 1st stage labour. Given that assessment, he should have either used further investigation (i.e., fetal blood sampling) to determine fetal status or proceeded to Caesarean section for protracted labour in the face of a CTG which fluctuated between non-reassuring and abnormal. If

[19] See Appendix 1 for the information on which Dr Fentiman based his advice.

he wished to proceed with augmentation of labour in the face of a non-reassuring CTG he should have informed his consultant of his plan so as to give the consultant the opportunity to further assess the situation. There is no indication in the material provided to me that [Dr C] was informed of a non-reassuring or abnormal CTG. This was because [Dr D] assessed the CTG as 'acceptable'.

[Dr D] provided good care to [Mrs A] and her baby. He did however in my opinion make an inaccurate assessment of the CTG. The shoulder dystocia however was an unfortunate outcome of the birth which even if suspected, could not have been expected to be as severe as it was. [Dr D] was well equipped to deal with shoulder dystocia and, by all accounts of the professionals in attendance, performed well. My review of the literature which I have appended to my report supports the view that though there are factors found in association with shoulder dystocia, there is no reliable predictor of shoulder dystocia.

What standards apply in this case?

a) Assessment of a patient transferred in labour from a peripheral maternity unit.
b) Formation of treatment plan for protraction of what was originally assessed and presented as 2nd stage labour.
c) Communication with patient regarding treatment plan.
d) Communication with maternity unit staff regarding treatment plan.
e) Monitor implementation and progress of treatment plan.
f) Assess intrapartum information such as patient vital signs and continuous electronic fetal monitoring.
g) Communicate with the patient and her support team within the context of the clinical situation.
h) Perform an operative vaginal delivery.
i) Appropriately deal with a severe shoulder dystocia.
j) Appropriately manage 3rd stage of labour.
k) Communicate with the patient and her husband concerning the outcome of the pregnancy.
l) Proper documentation.
m) Communicate with on call consultant as appropriate.

2. *Were those standards complied with?*

Generally, yes.

However, as mentioned, the assessment of the CTG was in my opinion inaccurate (f). I believe this to be a mistake in judgement rather than a lack of

upholding a standard of care. This then led to an incomplete communication with [Dr D's] consultant, [Dr C] (m).

Communication with the patient and her support person was by all accounts difficult for a variety of reasons (g). I do not believe that [Dr D's] actions with his pager distracted him in making clinical judgements or in properly assessing [Mrs A's] labour. I do however feel that it interfered with the development of rapport with [Mrs and Mr A].

3. *Did [Dr D] take appropriate steps with regard to determining the size of the baby?*

   Yes.

   Should he have been able to determine that this was a large baby?

   Estimation of fetal weight by palpation and ultrasound is relatively inaccurate. Documentation and replies of midwives confirm that [Dr D] took due care to examine [Mrs A] by abdominal and vaginal palpation.

4. *Please comment on the CTG trace and [Dr D's] assessment that it was 'acceptable at all times'.*

   I cannot agree that the CTG was acceptable at all times.

   Though there are periods of a reassuring CTG, there are also times, especially from 1800h onwards, when the CTG was non-reassuring and at times abnormal (i.e., 2 non-reassuring signs or 1 abnormal sign) as detailed in the DHB policy on 'Monitoring FH in Labour/CTG Monitoring'; Issued February 2005.

   The non-reassuring signs relate to the baseline tachycardia above 150 and the decreased variability of less than 5bpm for >40 but <90 minutes. This is especially evident in 2nd stage (from 1930h onwards) in the presence of variable decelerations that have a slow return.

5. *Was the syntocinon infusion increased appropriately?*

   Not in the presence of an abnormal CTG as was done at 2050h when contractions were already 4 per 10 minutes.

6. *Should a Caesarean section delivery have been performed at any point in [Mrs A's] labour?*

   In my opinion a Caesarean section would have been an option because of slow progress at 1800h. However this is a call that would very much be dependent on the doctor's assessment of the situation at the time. This can be a difficult obstetric situation when a labour progresses very slowly but does progress to the point where the head is low in the pelvis. As intangible as it may be, this is a

place where experience is invaluable in making these sorts of decisions. In hindsight a consultant opinion may have been useful here but one cannot say that the decision pathway would have been different.

[Dr D] did consider Caesarean section. This demonstrates to me that his thought process was appropriate. I believe that he did proceed with due care. However, his decision to regard the CTG as 'acceptable' was in my opinion not correct. Shoulder dystocia is most often an unpredictable and unpreventable obstetric emergency. Associated intrapartum factors include labour induction, epidural anaesthesia, and operative vaginal delivery (forceps and vacuum-assisted delivery). In each case, risk factors can be identified, but their predictive value is not high enough to be useful in a clinical setting.

7. *Should [Dr D] have performed a fetal blood sample prior to delivery?*

In my opinion, yes.

Though [Dr D] assessed the situation and thought the CTG to be 'acceptable', by the DHB document on electronic fetal heart tracing the CTG was 'abnormal' well before the decision to deliver.

When reviewing the patient at 1810h [Dr D] would have had the opportunity to review not just a snapshot of the CTG but would have needed to consider what had transpired since he last saw the CTG and the context of [Mrs A's] entire labour. At 1810h [Mrs A] would have only progressed 2–3 cm since the assessment by her midwife at 0750h. Going by the change in exam at 1445h, when [Mrs A] was felt to be 9 cm instead of the 'anterior lip, moved away; fully dilated' [when] she was assessed by 2 midwives at 1210h, progress was protracted (less than 1 cm in 3.5hrs). Both early and variable decelerations were present on the [maternity unit] CTG. Baseline at that time was often above 150bpm and maternal temp was only 37.5°C. On admission to [Hospital], from 1440h, baseline was 155–160bpm and variability was decreased until 1500h when there was a drop in the baseline to 150 with acceptable variability. When syntocinon was started around 1640h the variability was poor and the baseline was 160bpm. With syntocinon the baseline fluctuated between 150 and 160bpm and there was a mixture of both early and variable decelerations. Some of the variables exhibited a late component. The contraction pattern on the relatively low dose syntocinon was not regular and progress, as mentioned above was protracted.

It is my opinion that at 1810h when [Dr D] reviewed the clinical situation and the CTG he should not have put as much credence on the increased fetal heart rate with head stimulation as he did. I feel that, in light of the slow progress and the at least non-reassuring if not abnormal CTG, he should have offered fetal scalp sampling to [Mrs A]. My understanding is that this is available at Hospital. [Dr D] could have then been guided by that result and could have discussed this with [Dr C] if necessary.

Electronic fetal monitoring is a very good tool for predicting a fetus that is not compromised but it is imprecise in predicting a fetus that is going to suffer long term problems. The fetal blood sampling for determining pH and or lactate can be a very useful tool in this situation.

One cannot say definitely that this fetus was compromised at 1800h but there were enough non-reassuring signs in the CTG to warrant further investigation in the face of protracted 1st stage labour. A fetal blood sample any time after 1800h would have been an appropriate and I feel, necessary step if one was going to persist with labour.

8. *What are the options available for pain relief in labour?*

   Multiple: Acupuncture, nitrous oxide, narcotic, regional anaesthesia (spinal, epidural) Tens unit, etc. Most common in NZ would be support person, encouragement (psycho-prophylaxis), nitrous oxide, narcotic and epidural.

9. *What are the maternal risks associated with an epidural and what is usual practice regarding advising patients of those risks?*

   Hypotension, fever, postdural puncture headache, pruritus (with added opioid only), inadequate pain relief.

   Ultimately it is the responsibility of the person performing the procedure to ensure that informed consent is obtained. This would be the anaesthetist. Both midwives and obstetricians do explain these risks as well but the ultimate responsibility should lie with the anaesthetist.

10. *What is usual practice regarding advising patients about signs of fetal distress?*

    Usual practice in a situation such as this would be to explain what you are recommending in the way of fetal surveillance and why. Remember that the doctor receiving a transfer of a woman, in labour, and in distress is faced with a situation quite different to an office setting and a preoperative informed consent visit. The doctor who has never met the woman before this time is faced with the task of establishing rapport and trust very rapidly so as to become an effective care giver. In a case such as this usual practice would be to inform the women of the need to establish adequate pain relief so that proper assessment can be made. The explanation of the place of electronic fetal monitoring in a very basic fashion would be appropriate. One would not expect the doctor to go into detail on how to assess a CTG. Merely stating that one would be looking for reassuring or non-reassuring patterns would be acceptable. Once pain relief had been achieved then elaboration can take place as necessary. The role of meconium can be explained and questions answered. Both midwives and doctors work in concert to explain as appropriate. The situation here is a

dynamic one. Often the woman listens to the person with whom she has the most rapport and trust.

11. *What were the options available for management of [Mrs A's] labour?*

    Syntocinon augmentation with adequate pain relief such as epidural.

    Caesarean section for protracted 1st stage in the face of a non-reassuring CTG.

12. *What are the material risks associated with a Ventouse-assisted delivery and what is usual practice regarding advising patients of those risks?*[20]

    …

    [Dr D] was well equipped to deal with a shoulder dystocia. He had all the necessary staff present to help deal with this if it were to occur. He could not have predicted the severity of the shoulder dystocia, nor could he have predicted the severity of the neonatal outcome.

13. *What is usual practice regarding advising patients in labour about the timeframe within which services will be provided?*

    I doubt that there is a 'usual practice' regarding the dispensing of this sort of information. As mentioned, this is a dynamic process and the woman is often not in a receptive mode. The husband or partner is also not necessarily in a receptive mode. If time and circumstances allow for prolonged dialogue then often these things can be discussed. In a busy unit such as [in this Hospital] the doctor may not get the opportunity to enter into this discussion unless he/she is asked.

14. *Whose responsibility was it to provide the information referred to in questions 9 to 14 above?*

    The ultimate responsibility lies with the person responsible for the clinical care which in this case was the consultant obstetrician. However this responsibility can be delegated to those with appropriate knowledge and skills. This can be the registrar and the core midwifery staff. The on site registrar had the responsibility to keep the consultant informed as to clinical situation and also the responsibility to let the consultant know if they are out of their depth. This clinical situation is one that registrar [Dr D] would always have the option to ask the consultant to attend if he felt the workload was such that he couldn't give his attention to an individual or if he felt he needed help in decision making.

[20] Dr Fentiman provided reference material about the risks of Ventouse-assisted delivery. I have not included this information in my report.

15. *What, in your opinion, was the likely cause of the damage to [Baby A's] central nervous system?*

    I am not a neurologist nor am I a paediatrician. However I can say that [Baby A] suffered an asphyxial event with the shoulder dystocia. Because of the umbilical cord being twice around the neck, delivery of the head put the cord in a position to be occluded by the body with the shoulder dystocia. This resulted in 5 minutes of no blood flow to the baby.

    The cord blood sample taken at the time of delivery of the placenta showed a pH of 7.29 with a base excess of –6.7.

    The 1st arterial blood gas from [Baby A] was 24 minutes after birth with no heart rate for at least 10 minutes after birth despite rigorous resuscitation by an experienced neonatal nurse practitioner was pH 6.95 and base excess of–28.

    It is hard to assess the cord blood sample as it is uncertain as to whether this was obtained from a clamped segment of cord or from a placental vessel. Midwife [Ms G] indicates in her note 'Cord pH sent to lab. Ward result from Placenta 7.29.'

    If the 'cord blood' sample is reflective of the fetal status at the time that the head was delivered and the cord occluded then the asphyxial event would be the shoulder dystocia; a poorly predictable and largely unpreventable event. The fact that there was no heart rate for at least 10 minutes after delivery of the body would compound the asphyxia.

    …

    In this case there was no multisystem organ involvement which one would expect. Though the infant blood sample yielded a pH less than 7, the cord pH was within the acceptable range. Many times babies will recover from a severe shoulder dystocia but in this case [Baby A] did not have a heart beat until 13 minutes after birth. I do not think that the shoulder dystocia of this severity could have been predicted based on the clinical picture presented to [Dr D]. The documentation presented to me indicates that [Dr D] handled the difficult situation as would be expected of a senior registrar at his stage of training.

[The] District Health Board

16. *In your professional opinion were the services provided to [Mrs A] by [the] District Health Board of an appropriate standard?*

    With the exception of [Mr and Mrs A's] description of the ceiling tiles and the fleas, yes.

17. *Were the policies and processes in place at [the] Hospital at the time of [Mrs A's] delivery appropriate?*

    Yes.

18. *Were these policies and procedures followed?*

    It would appear so. However if one considers the CTG abnormal at the last syntocinon increase then there was no indication to increase the rate.

19. *Please comment on the communication between [Dr D] and the hospital midwives.*

From the documentation in the notes this seems satisfactory.

20. *Do there appear to be any systems issues that impacted upon the quality of care in this case?*

    As previously mentioned the issue of the pagers and [Dr D's] clinical demands gave an impression to the [couple] that he may not have been giving [Mrs A] the attention necessary to provide good care. The documentation supports the notion that [Dr D] was giving the necessary attention. The decisions he made with regard to the management of [Mrs A's] labour appear to have been made after consideration of the clinical information as he interpreted it.

    If, in answering any of the above questions, you believe that [Dr D] or [the] District Health Board did not provide an appropriate standard of care, please indicate the severity of their departure from that standard.

    Had [Dr D] undertaken a Caesarean section at say 1800h and [Mrs A] suffered an equally severe complication of that procedure such as a pulmonary embolus or aspiration [and] the baby was delivered without a problem then no doubt we would be questioning [Dr D's] decision to carry out the Caesarean rather than continue with labour.

    Outcomes can be unsatisfactory despite well considered clinical decisions. Sometimes doctors can make what turns out to be the wrong decision. That doesn't mean that they didn't take due care and skill in arriving at that decision.

    The one clinical decision that I feel was not considered by [Dr D] was the place of a fetal blood sample in the face of an abnormal CTG. One cannot say

whether or not the outcome of such a test would have influenced the outcome in this case but it should at least have been considered.

To assist you on this last point, I note that some experts approach the question by considering whether the providers' peers would view the conduct with mild, moderate, or severe disapproval.

I believe peers would be divided on this issue. However because the outcome was not favourable I am certain both sides would have strong views.

[Dr D's] conduct was acceptable; I believe his decision regarding the CTG was inaccurate.

Are there any aspects of the care provided by [Dr D] or [the] District Health Board that you consider warrant additional comment?

No."

Dr Fentiman appended documents to his advice, which had not been included in my report.

Responses to Provisional opinion

Mr and Mrs A

Mr and Mrs A advised that it has been a very hard time for them since Baby A's birth both emotionally and financially. They were first-time parents and relied on professional people who did not advise them appropriately and give them the chance to decide how the labour and birth would be managed.

Mr and Mrs A also provided a report from Professor Peter Gluckman, a paediatric scientist. In summary, Professor Gluckman stated:

"The issues are what caused the severe depression at birth. The most probable immediate cause is the combination of shoulder dystocia and a double wrapped nuchal cord. The lack of recorded dips on the CTG would argue against the latter being significant prior to the second phase of labour.

…

More confusingly (and I am relying on Dr Westgate's expertise in CTGs as she is, in my opinion, NZ's leading expert) there is evidence suggesting fetal tachycardia and loss of heart rate variability from the initial recording. Some meconium was noted but the cord gases are unremarkable. Thus like Dr Westgate I have some suspicion of early compromise of the fetal brain. Not withstanding this one must conclude on the balance of probabilities that the substantive damage was associated with the stage two of labour.

…

The questions that one would have to raise are: Were there any omissions or decisions made that should have or have not been made prospectively on the basis of information at the time the decision had to be made. The issues relate to whether the macrosomia [large baby] should have been recognised in a woman of [this] habitus, whether the length of failure to progress from 9cm to full dilation was too long, whether the CTG indicated a different action earlier, or whether there were any other compelling reasons for a section? These are strictly 'standard of care' questions beyond my recognised competence but I note that Dr Westgate concludes that there were not."

Ms B

The New Zealand College of Midwives legal advisor responded to the provisional opinion on behalf of Ms B. She provided copies of relevant pages from Ms B's diary and comments on the provisional opinion from midwife Marion Hunter. Ms Hunter commented that Ms B had completed a birth plan but had not kept a copy and had not wanted to ask Mrs A for a copy. She also noted that the birth plan was not included in the information provided to the expert advisor, Ms Brunton. A copy of the birth plan was subsequently obtained which, in Ms Hunter's opinion, showed that Ms B had completed a care plan that complied with the Maternity Service Notice issued under Section 88 of the New Zealand Public Health and Disability Act 2000. Ms Hunter also stated:

"[Ms B] has undertaken a care plan and it is evident by this documentation that there was discussion about pain management and [Mrs A] chose to use the Pool as a method of pain relief during labour at the primary maternity unit.

…

In the case of [Mrs A], she had been transferred for problems during her labour and therefore was in need of interventions at this point in time. Both Midwife Expert Advisors … commended [Ms B] for her timeliness re transferring [Mrs A] to secondary care services.

From [Ms B's] documentation on the care plan, it is evident that [Mr and Mrs A] were undecided about aspects of their birth plan including whether or not to keep the placenta and whether or not to administer Vitamin K to the baby. [Ms B] states that she encourages discussion and informed consent during the birth plan. This discussion can be time consuming, particularly when parents are undecided (as indicated by the queries on the [couple's] birth plan).

[Ms B] has documented that pain management was discussed during the birth plan and that her usual practice is to discuss epidural analgesia, which can only be administered after a transfer to [Hospital]. [Ms B] has documented that [Mrs A] elected to use water (Hydrotherapy) as the option for pain relief during her labour.

> [Ms B] had encouraged the [couple] to attend childbirth education classes and she knew that [Mr and Mrs A] had attended classes at [the local hospital]. Epidural analgesia and interventions are discussed at these classes.
>
> …
>
> [Ms B] has documented an updated care plan (after admission in labour) on [the DHB] notes.
>
> …
>
> *Summary*
>
> The birth plan has been located and is tabled to demonstrate that [Ms B] did complete a care plan and she updated the care plan during labour as indicated by comments on the vaginal record page. [Ms B] discussed pain management options and documented [Mrs A's] choice of hydrotherapy (water) during labour. This documentation alongside the clarifications in this response should release [Ms B] from any suggestions of breach of Code."

I asked my midwifery advisor, Ms Brunton, to confirm that the birth plan did comply with section 88 New Zealand Public Health and Disability Act 2000. Ms Brunton said that the "birth plan" was a checklist which told her Ms B had discussed pain management with Mrs A. Ms Brunton suggested that Ms B should consider using the checklist to get her client to write their own birth plan and use the checklist as a point for discussion at the next antenatal session. This tells the LMC that the client has understood what is being taught. I forwarded the "care plan" to Ms Brunton, who commented:

> "This is a record of topics to be/or discussed but it is not a 'care plan.' It shows that the midwife has mentioned these topics but does not include the depth or the client's opinion. There are also some gaps in the check list which are relevant to the eventual outcome. i.e. 'complications/referrals'.
>
> There is minimal detail as to the decisions that the client has made in preparation for her birth, the choices she would prefer and the options she has if there are problems in labour.
>
> This document (care plan checklist) is not a care plan and is inadequate according to the service specifications (4.1.c) under section 88 of the NZ Public Health and Disability Act 2000 …"

Dr D

Dr D summarised his response to the provisional opinion as follows:

> "I certainly appreciate how awful this event was for [Mr and Mrs A] and for their daughter, and I do not wish to contribute further to that by drawing out your investigation. For that reason, I am prepared to accept the provisional finding, although there are some matters in it that I mildly disagree with.

I am concerned that what Dr Fentiman appears to describe as an error of judgement is assumed to be a breach of the Code. My understanding is that not all errors of judgement equate to breaches, but, as I have said above, I see no benefit in arguing this matter with you.

One matter that seems to be of some concern is that I had described, in an earlier report, that I thought the CTG was *'acceptable at all times'*. I did not have the CTG trace with me at the time that I wrote this, and was proceeding on the basis of my recollection of things. You will recall that I was working in Australia at the time. I believe it would have been more accurate to refer to what I said when I responded to the specific questions from your office, when I said:

> 'To the best of my recollection, the CTG was acceptable during labour. I do not have the CTG to look at again. I recall that there were periods of reduced variability, as well as a borderline (but not markedly abnormal) baseline rate. The CTG was run continuously in view of this, and in keeping with normal guidelines regarding the monitoring of patients on a syntocinon infusion,'

The recollection I took away with me was that when I looked at the CTG and assessed [Mrs A], there were reassuring features which suggested that I could continue with the plan that I did. I accept in retrospect that there were areas of abnormality on the CTG trace. I do not accept that that would have altered the outcome, in view of the comments by Professor Westgate.

…

You have also asked me to review my practice, which I have done on numerous occasions already but will do so again. [The Clinical Director at Hospital] has suggested that I present the case at a departmental meeting, and I am very keen to do this. I feel this would be a good way for lessons to be learned and to (hopefully) avoid something like this happening again. Shoulder dystocia is unpredictable, and issues of communication will be the major issues to be pushed in my presentation."

Dr D provided a written apology to Mr and Mrs A.

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.

RIGHT 6

Right to be Fully Informed

(1) Every consumer has the right to the information that a reasonable consumer, in that consumer's circumstances, would expect to receive, including—
…
(b) An explanation of the options available, including an assessment of the expected risks, side effects, benefits, and costs of each option; …

Other relevant standards

The New Zealand College of Midwives *Midwives Handbook for Practice* (2002)

Maternity Services Notice pursuant to section 88 of the New Zealand Public Health and Disability Act 2000 (effective from 1 July 2000)

Opinion: No Breach — Ms B

Standard of care
Under the Code of Health and Disability Services Consumers' Rights (the Code) Mrs A had the right to midwifery services provided with reasonable care and skill (Right 4(1)) and that complied with professional standards (Right 4(2)).

The couple claims that Ms B did not accurately assess the size of the baby before Mrs A went into labour on 26 March 2005, and that this contributed to the

complication of shoulder dystocia. Mrs A was concerned about her size from about the 31st week of her pregnancy. Mr A said that their friends commented on her hands and feet, which were swollen. As Mrs A's pregnancy progressed, Mr and Mrs A asked Ms B about the size of the baby and wondered whether Mrs A should have been induced. The additional concern was the fact that Mrs A has a small frame. Ms B "dismissed" their concerns and considered the baby was a normal size.

Ms B informed me that she knew the baby was a reasonable size. She provided an estimate (of 7.5 pounds). She palpated Mrs A at each of her antenatal visits and could detect no abnormalities, recording that the fundal height was commensurate with dates (although the fetus was recorded as slightly larger than average at 27 weeks).

My midwifery advisor, Liz Brunton, stated:

> "[Ms B] took appropriate steps to determine the size of the baby. As an experienced midwife she will have the ability to estimate a baby's size in the pre-birth period. Her assessments did not find the baby to have exceeded the fundal height according to gestation at any of the visits."

Mrs A had two antenatal scans, on 3 November 2004 and 8 February 2005, both within normal limits (although the second scan indicated above average interval growth). Mr and Mrs A requested a further scan approximately two weeks before the birth, due to their ongoing concern about the baby's size relative to Mrs A. Ms B advised that a scan was not necessary, as she was fairly sure the baby was a normal size and that all was well.

Ms Brunton commented that a scan at 38 weeks would have shown a "good sized" baby but it was only an estimate. Estimating the size of a fetus in utero is notoriously difficult. Scans are not always correct. Ms Brunton explained that, regardless of the size of the baby, the progress of labour will show whether or not a vaginal birth is appropriate. She added that the lack of written comment from each pre-birth visit apart from a chart makes it difficult to know the depth and range of any discussions that Ms B had with the couple about the baby's size.

Midwife Joan Skinner (in her report to ACC) also considered that Ms B made a reasonable estimation of the fetal size. She stated:

> "Estimation of fetal size can also be difficult and I note that none of the practitioners who provided care in the remainder of the pregnancy made note of an overly large baby. It is difficult for me to comment on whether the fact that no one picked up the size of the baby prior to delivery is a reflection of lack of an appropriate standard of care. It is easy in retrospect to see how this may have been implicated in the shoulder dystocia, but fundal size can be very misleading."

Neither Dr D nor Dr C had any particular concerns about the size of the fetus when deciding to continue with a vaginal delivery. On examination, Dr D found no signs that the fetus was abnormally large. Ms Campbell and Dr Haslam commented:

> "Arrested progress in a primigravid with a baby in a normal position must raise the question of cephalopelvic disproportion, but in this end the matter is conventionally resolved clinically by a trial of labour usually with oxytocin stimulation if needed to achieve adequate contractions and usually an epidural anaesthetic as occurred in this case."

Mr and Mrs A acknowledged that the transfer of Mrs A's care to Hospital by Ms B was appropriate. However, they considered Ms B was "dismissive" of their concerns (particularly in relation to the size of the baby) and had a "very relaxed attitude".

Ms Brunton considered that, overall, Ms B met all the requirements of Standard six[21] of the *Midwives Handbook for Practice*. Ms Bunton stated:

> "[Ms B's] rupturing of the membranes to enhance cervical dilatation was within the range of appropriate care. Her response to thin meconium in the liquor by commencing a CTG (cardiotocograph) and informing [Mrs A] that a water birth was no longer an option because of the need to more closely monitor the baby was appropriate. Her assessment of the baby's heart rate from the CTG was correct."

Midwife Joan Skinner considered that Ms B's care of Mrs A during labour at [the] Maternity Unit was appropriate. Ms Skinner stated:

> "The recordings were taken at regular intervals and the heart rate well monitored. [Ms B's] management of the persistent anterior lip was also appropriate. She encouraged changes in position, ruptured the membranes and started intravenous fluid. The decision to transfer to the base Hospital for obstetric assistance after an hour of active pushing with no progress was also appropriate. The fact that at this stage some of the cervix was still present is not an indication of substandard care."

Conclusion re standard of care

Mr and Mrs A were concerned about the size of their baby, and possible difficulties with birth because of Mrs A's relatively small size. Ms B did not document the extent of concern they had, and only specifically recorded the fundal height at 27 weeks but did compare the measurement with gestation. Although her estimation of Baby A's size proved incorrect (Baby A's birth weight was almost 10 pounds) it is well recognised that estimating the baby's weight in utero can be difficult. Ms Brunton and Ms Skinner both considered that Ms B took appropriate steps to estimate the size of the baby. Although Baby A was relatively large at birth, there were no indications that a Caesarean section should have been recommended by Ms B. As noted by

[21] Standard six states that midwifery actions are prioritised and implemented appropriately with no midwifery action or omission placing the woman at risk.

Ms Campbell and Dr Haslam, slow progress in labour due to possible disproportion is conventionally resolved by a trial of labour.

Overall, I am satisfied that Ms B took all reasonable care to assess the size of the baby. Her actions at [the] Maternity Unit in rupturing the membranes, commencing CTG monitoring and deciding to transfer Mrs A to Hospital were in accordance with professional standards. Accordingly, Ms B did not breach the Code.

Care plan and information provided to Mrs A
Under Right 6(1) of the Code, Mrs A had the right to information that a reasonable consumer, in her circumstances, would expect to receive, including an explanation of the available options for pain relief and delivery. The provision of sufficient information is an important aspect of antenatal care, as it gives the mother the chance to carefully consider her options prior to birth and delivery.

Right 4(2) of the Code entitled Mrs A to care from Ms B that met legal and professional standards. Giving adequate information about pain relief and labour delivery options, and developing an appropriate care plan in consultation with the mother, is required by the Maternity Services Notice issued under section 88 of the New Zealand Public Health and Disability Act 2000.

Mr and Mrs A believe that they were not provided with the necessary information to make informed choices about labour and delivery. It seemed to them that there were warning signs that all was not well early in the labour, but decisions about Baby A's birth were taken out of their hands (particularly after they arrived at Hospital). They said that they were not told about all the options for pain management, including information about the risks and benefits of an epidural. The couple stated that they were led to believe that there would be four hour-long appointments with Ms B to discuss the birth plan, but the appointments were much briefer. Furthermore, Ms B did not discuss the option of a Caesarean section at any time, even though Mrs A was obviously very large. The couple had the impression that Ms B had a rather "relaxed" attitude to their questions.

Ms B explained that her practice was to discuss pain management options, including epidural anaesthesia, during the course of an hour-long visit, and that this occurred on 25 February. However, she is unsure of the extent of the discussion as the visit was cut short, and she cannot confirm what was actually discussed. Ms B commented that an epidural is not specifically part of the birth plan (as it is an intervention) and Hospital staff discuss the risks and benefits of an epidural in detail, when it arises.

Ms B has provided a copy of Mrs A's birth plan, which indicates that the care plan was discussed with Mrs A on several occasions, including on 15 September 2004 and as the time of the birth drew near, with particular reference to pain management. The last antenatal visit, on 24 March 2005, was about ensuring the home was ready to receive the new baby. My midwifery advisor, Ms Brunton, was not satisfied that Ms B's care plan was, in fact, a care plan. She considered it a checklist of topics, and said that it

would not have complied with section 88. It should have been used as the basis of a birth plan developed with Mrs A at further antenatal appointments.

In addition to the checklist, Ms B provided Mrs A with a copy of the Ministry of Health booklet "Your Pregnancy". Ms B noted that epidural risks and side effects are partly covered in antenatal classes.

Ms B said that, in the ambulance on the way to the Hospital, she discussed with the couple the possibility of epidural anaesthesia, Syntocinon and Ventouse, forceps or Caesarean birth. Hospital midwife Ms E recalls being told of this discussion. Mr and Mrs A recall that Ms B explained that the baby "did not fit [Mrs A's] body". Ms B denied using those words but recalls saying something similar to, "the way your baby is sitting, it might not fit through without assistance".

Ms Brunton advised that it is not usual to have a lengthy discussion regarding practices outside the scope of midwifery practice but, as Mrs A was having her first baby, it may have been appropriate to provide more detail regarding possible outcomes if the labour did not progress, and the potential need for transfer to a tertiary unit. Ms Brunton further stated that provision of information regarding an epidural is preferable in the pre-birth period, as once a woman is in established labour it is "an awful time to be making quality decisions".

It was appropriate for discussion of the risks and benefits of an epidural to have been undertaken by Hospital staff prior to administration. However, it is important that the midwife provide information about epidural anaesthesia in the pre-labour period. This information should be discussed, and a care plan formulated. Although an epidural is an "intervention", a care plan for "options and preference for monitoring, interventions and treatments" is a requirement under Appendix III of the Maternity Services Notice. The notes in Mrs A's "care plan" support the view that Ms B did discuss pain relief options with Mr and Mrs A in the pre-labour period. It also appears that there was some discussion of the options in the ambulance en route to Hospital. In addition, Mrs A was provided with written information in the Ministry of Health pamphlet.

I consider that the information provided to Mrs A about pain relief options could have been better, and have commented further on this issue below. However, with some reservations, I conclude that in the pre-labour period Ms B provided adequate information to Mrs A about pain relief and labour options, and did not breach the Code.

Opinion: Breach — Dr D

A number of expert advisors have commented on the care provided in this case and it is worthwhile clarifying the extent to which I have taken this advice into account. In

response to the provisional opinion, Mr and Mrs A provided a copy of a report from Professor Gluckman obtained in relation to their ACC claim (in addition to the report from Dr Westgate). While I have no doubt as to Professor Gluckman's expertise in his field, he describes himself as a paediatric scientist rather than a practising clinician, and does not believe that he is qualified to comment on the standard of care. Unlike Dr Westgate, Dr Nahar and Dr Fentiman, Professor Gluckman is not a peer of Dr D. I have therefore not referred to his advice in forming my opinion.

Intrapartum care

Mrs A was sent by ambulance to Hospital because of failure to progress in labour and because of evidence of possible fetal distress (meconium-stained liquor). The couple understood that Mrs A was being transferred to Hospital for obstetric review because it was no longer safe for her to labour at [the] Maternity Unit. Mrs A arrived at around 2.30pm and her care was "handed over" to staff midwife Ms E and obstetric registrar Dr D. Ms B was not responsible for Mrs A's care after she handed over to Hospital staff. However, she remained as a support person.

Dr D first examined Mrs A at 2.40pm. Mrs A was distressed with pain but it appeared that the baby's position had turned, with the head back (deflexed), meaning that labour was likely to be prolonged. [Dr D] did not find anything to suggest that the baby was abnormally large.

Dr D disagreed with Ms B's earlier assessment that Mrs A was fully dilated, even though she had been pushing for a little over an hour. When Mrs A learned this she was upset. Furthermore, her contractions had been ineffective, as often happens with first-time mothers.

Dr D had a brief discussion with Mr and Mrs A about his proposed management plan of a trial of labour with epidural anaesthesia and a Syntocinon infusion to obtain regular contractions and full dilation. This was discussed with consultant obstetrician Dr C, who agreed with the plan. The epidural was sited by 3.45pm and a Syntocinon infusion was started at 4.55pm. The Syntocinon was increased at 5.20pm.

Ms B considered that the CTG recording taken at [the] Maternity Unit had been reassuring. CTG recording was commenced at [Hospital] and continued throughout the labour. As the labour progressed, the CTG recordings exhibited reduced variability with increased baseline measurement of 160 beats per minute.

When Dr D assessed Mrs A again at 6.10pm he decided that, if she had not progressed to full dilation within the next hour, he would consider a lower segment Caesarean section. He recorded that the CTG was "acceptable" but later clarified that he meant that there "were reassuring features" which, in his view, suggested that he should continue with the plan for a vaginal delivery. Dr D acknowledges that in retrospect there were areas of abnormality on the trace.

My expert obstetrician advisor, Dr Gary Fentiman, considered that Dr D's interpretation of the CTG recordings as "acceptable" was flawed:

> "My opinion is that [Dr D] should have recognised that fetal compromise was possible in this case of protracted 1st stage labour. Given that assessment, he should have either used further investigation (i.e., fetal blood sampling) to determine fetal status or proceeded to caesarean section for protracted labour in the face of a CTG which fluctuated between non-reassuring and abnormal. If he wished to proceed with augmentation of labour in the face of a non-reassuring CTG he should have informed his consultant of his plan so as to give the consultant the opportunity to further assess the situation. There is no indication in the material provided to me that [Dr C] was informed of a non-reassuring or abnormal CTG. This was because [Dr D] assessed the CTG as 'acceptable'."

Dr Fentiman commented that while CTG monitoring is good at assessing normal progress it is imprecise in cases of suspected fetal compromise. If Dr D intended to allow Mrs A's labour to continue, he should have taken fetal scalp blood for analysis. It is not possible to say whether this may have affected the outcome, but such a test should have at least been considered. Dr Fentiman also commented that a protracted labour does not necessarily indicate that a Caesarean should be performed. He advised that Dr D appropriately considered a Caesarean section but decided to proceed with a vaginal delivery. Dr Fentiman noted:

> "Outcomes can be unsatisfactory despite well considered clinical decisions. Sometimes doctors can make what turns out to be the wrong decision. That doesn't mean that they didn't take due care and skill in arriving at that decision."

Dr Westgate commented on the reduced heart rate variability and increase in baseline heart rate. She stated that Dr D could be criticised for not seeking to ensure fetal well-being by performing a fetal blood sample prior to attempting an operative delivery given such a CTG. However, overall Dr Westgate did not consider that he failed to observe a reasonable standard of care in the circumstances. She also noted that the cord gas results show that Baby A was not significantly hypoxic prior to delivery.

Obstetrician Dr Pravin Nahar also observed that the CTG recording was non-reassuring and expressed concerns about the length of the first and second stages of labour.

When Dr D returned at about 7.10pm, Mrs A was fully dilated and ready to push. The CTG recording indicated reduced variability but the fetal heart rate responded to scalp stimulation. Dr D stated that there were no indications that the fetus would not deliver vaginally, and no reasons to recommend a Caesarean. He stated that a Caesarean section in this situation would have posed considerable risk with the need for disimpaction of the fetal head. Dr Fentiman agreed that it is a "difficult obstetric situation" when a labour progresses very slowly but does get to the point where the baby's head is low in the pelvis.

Dr D reviewed Mrs A's progress at 9.20pm. The baby's head had descended fully into the pelvis but progress was slow. Mrs A was distressed and exhausted. In view of these factors and increasing fetal tachycardia, Dr D elected to perform a Ventouse extraction. During this procedure, Baby A's shoulder became wedged under Mrs A's pubis — a complication of vaginal delivery known as shoulder dystocia. The obstetric experts who have reviewed this case agree that Dr D responded to this "much feared" complication appropriately.

Dr Fentiman stated:

> "[Dr D] provided good care to [Mrs A] and her baby. He did however in my opinion make an inaccurate assessment of the CTG. The shoulder dystocia however was an unfortunate outcome of the birth which even if suspected, could not have been expected to be as severe as it was. [Dr D] was well equipped to deal with shoulder dystocia and, by all accounts of the professionals in attendance, performed well. My review of the literature which I have appended to my report supports the view that though there are factors found in association with shoulder dystocia, there is no reliable predictor of shoulder dystocia."

Mr A was concerned that with Mrs A being a small woman and Baby A being a large baby, it was predictable that the baby could become "severely stuck". Dr Fentiman responded:

> "I do not think that the shoulder dystocia of this severity could have been predicted based on the clinical picture presented to [Dr D]. The documentation presented to me indicates that [Dr D] handled the difficult situation as would be expected of a senior registrar at his stage of training."

Conclusion

Having reviewed all the obstetric advice in this case, I accept that shoulder dystocia could not have been predicted and that Dr D managed the unexpected situation appropriately. The decision to proceed with a vaginal delivery was an appropriate clinical judgement on Dr D's part. Overall, there is no indication that Dr D did not perform the Ventouse-assisted delivery appropriately.

However, Dr Nahar, Dr Westgate, and my own advisor, Dr Fentiman, have all indicated that the CTG was not reassuring and required further investigation. Dr Westgate questioned the fetal well-being from as early as the first ultrasound recorded at the Maternity Unit and throughout the afternoon, particularly the rapid fetal heart rate and low variability, signs that could not be entirely explained by Mrs A's high temperature and her pain management. This matter was also noted by Dr Fentiman. Dr Nahar advised ACC that he could detect "no gross [CTG] abnormality" when Mrs A arrived at Hospital at 2.30pm but there were prolonged decelerations from about 7.00pm. Dr Fentiman said that Dr D tried to correct a protracted first stage (with Syntocinon) and should have been alert to the possibility of fetal compromise. Dr

Fentiman found periods of reassuring CTG but from about 6.00pm the CTG was clearly "non-reassuring" (baseline FHR above 150bpm and low variability).

Based on all this information, it appears that Dr D made an error of judgement at 6.10pm when he interpreted the CTG as "acceptable" and did not take a fetal blood sample. The appropriate course of action would have been to discuss the situation with consultant obstetrician Dr C.

I accept that not all errors of judgement amount to a breach of the Code. However, the exercise of reasonable care and skill in reading a CTG is an important aspect of good care by an obstetrician. In this case, considering other factors such as the very slow progress and prolonged labour, further investigation was needed. I conclude that Dr D failed to exercise reasonable care and skill and breached Right 4(1) of the Code in this aspect of his obstetric management.

While it is not my role to ascertain the cause of Baby A's injuries, I note that even if Dr D had taken a scalp blood sample, the same outcome may well have occurred, given Dr Westgate's advice. The blood cord gas after Baby A's birth did not indicate that she was hypoxic prior to delivery. I also wish to acknowledge Dr D's thoughtful and compassionate response to the provisional opinion and the steps that he has taken to review his practice in light of this case.

Opinion: No breach — Dr D

Information about labour and pain relief options
Mrs A had the right to receive adequate information to enable her to make informed choices about her labour and pain relief. Mrs and Mr A said that they were not informed of the risks epidural anaesthesia posed to the baby, or that it could prolong labour. They were distressed that after many hours of labour, they mentally prepared themselves for a Caesarean section, which was then abandoned. Overall, the couple believe that they were not involved in the decision-making process about labour and delivery. Mr and Mrs A were also concerned that Dr D did not give them his full attention during this examination, as he was distracted by his pagers ringing (see *Other comment*).

Midwife Ms E was told by Ms B that epidural anaesthesia and other interventions had been discussed in the ambulance. Ms B advised me that she expected the risks and benefits of an epidural to be discussed in more detail around the time of administration. As discussed previously, Ms B's "care plan" confirmed that she provided the couple with some information about epidural anaesthesia, including the Ministry of Health booklet, and discussed it again during the ambulance transfer.

Dr D assessed Mrs A shortly after her arrival and decided to give her a trial of labour. His plan for epidural anaesthesia and Syntocinon was discussed. Mrs A's distress and pain meant that prolonged discussion was not possible but she appeared happy with the plan. He recalls that the couple were willing to try whatever means possible to assist with advancing the labour.

Ms E informed me that she outlined the epidural risks to Mrs A, who agreed to go ahead. It appears that this explanation primarily concerned the risks to Mrs A, not to the baby or the progress of labour. Ms B also stated that the anaesthetist "fully explained the risks and side-effects of epidurals to Mr and Mrs A prior to the procedure".

Ms E examined Mrs A at 4.40pm. Mr A is reported to have queried why a Caesarean section was not being performed, as he was concerned about the length of Mrs A's labour. Ms E explained that vaginal delivery is normally attempted if mother and baby are not showing signs of distress.

At 6.10pm Dr D examined Mrs A and decided to consider a lower segment Caesarean section if she was not fully dilated in an hour. When he returned at about 7.10pm he considered that Mrs A was able to deliver the fetus vaginally. In the meantime, Ms E had been in with a shaver explaining that it might be a good idea to prepare for a possible Caesarean section. Not surprisingly, Mr and Mrs A were under the impression that a Caesarean section was likely.

When Dr D returned at 9.20pm Mrs A was again distressed and exhausted, and discussion about the proposed Ventouse delivery was brief. Dr D recalls that Mrs A wanted whatever necessary to be done, and she appeared happy to proceed.

It is unclear what information Mr and Mrs A received about labour management, pain control or delivery during what was clearly a changing clinical situation. It is true that the flow of information can become difficult when labour becomes complicated and clinical decisions need to be made quickly.

Dr Fentiman commented:

> "I doubt that there is a 'usual practice' regarding the dispensing of this sort of information. As mentioned, this is a dynamic process and the woman is often not in a receptive mode. The husband or partner is also not necessarily in a receptive mode. If time and circumstances allow for prolonged dialogue then often these things can be discussed. In a busy unit such as [in this Hospital] the doctor may not get the opportunity to enter into this discussion unless he/she is asked.
>
> …
>
> The ultimate responsibility lies with the person responsible for the clinical care which in this case was the consultant obstetrician. However this responsibility can be delegated to those with appropriate knowledge and skills. This can be the

> registrar and the core midwifery staff. The on-site registrar had the responsibility to keep the consultant informed as to clinical situation and also the responsibility to let the consultant know if they are out of their depth. This clinical situation is one that registrar [Dr D] would always have the option to ask the consultant to attend if he felt the workload was such that he couldn't give his attention to an individual or if he felt he needed help in decision making."

LMCs, core midwives, anaesthetists and obstetricians work in concert to provide information as the clinical situation changes. Dr D was not solely responsible for keeping the couple informed, although he had primary responsibility after handover of care to secondary services.

Although Mr and Mrs A needed to be advised of the changing situation and options after they arrived at the Hospital, Dr D was entitled to assume that the couple had already been given a certain amount of information by their LMC during the antenatal period, when the environment was more conducive to detailed discussion. Furthermore, other Hospital staff (and Ms B) were available to provide the couple with relevant information as the need arose. It appears that Ms E undertook this role.

Urgent clinical situations limit the available options and, where people are distressed or there is a developing emergency, communication is often difficult. Overall, I consider that Dr D fulfilled his information disclosure obligations and did not breach the Code in this regard.

Opinion: No breach — The DHB

As a health care provider, the DHB is subject to the Code and had a duty to provide Mrs A with maternity services of an appropriate standard.

There were no specific policies in relation to Ventouse-assisted deliveries or the management of prolonged labour. The DHB stated that these are part of the "expected core competencies of all clinical staff". The DHB provided a copy of the relevant protocols in relation to shoulder dystocia, the use of Syntocinon, meconium exposure, and the monitoring of the fetal heart in labour.

Dr D is an experienced senior obstetric registrar at the Hospital. Dr D's incorrect interpretation of the CTG and failure to take fetal scalp gas analysis departed from DHB guidelines (for prolonged first stage). DHB protocol on the monitoring of fetal heart rate in labour states that there should be a reduction or cessation of Syntocinon when the fetal heart rate is abnormal. Syntocinon was commenced at around 5pm and increased at 5.20pm and at around 6.45pm. However, as discussed above, Dr D was not alert to the possibility of fetal heart rate abnormality. There was a minor delay with

the administration of the epidural anaesthetic, although there is no indication that this contributed to what occurred.

My expert obstetrician, Dr Fentiman, advised that the DHB provided services of an appropriate standard to the couple. He did not consider that any systems deficiencies contributed to what occurred, and commented that the policies and procedures at Hospital were appropriate. Dr Fentiman advised that the communication between the Hospital midwives and Dr D was satisfactory and that Dr D was well equipped to manage the shoulder dystocia complication.

Overall, I conclude that the DHB did not breach the Code.

Vicarious liability
In addition to any direct liability for a breach of the Code, employing authorities may be vicariously liable under section 72(2) of the Health and Disability Commissioner Act 1994 for acts or omissions of their employees or agents. Under section 72(5) it is a defence for the employing authority to prove that it took such steps as were reasonably practicable to prevent the employee from doing or omitting to do the thing that breached the Code.

Dr D was employed by the DHB at the time of these events. The DHB is therefore potentially vicariously liable for his acts and omissions. Dr D was registered within a general scope of practice, working as a registrar in obstetrics and gynaecology. He therefore required clinical supervision by a Hospital consultant. This was provided by obstetrician Dr C.

Dr C was also the on-call obstetrician and was available if Dr D needed assistance. DHB had CTG monitoring guidelines in place and provided a regular forum for registrars to discuss difficult CTG tracings. In these circumstances, I am satisfied that DHB is not vicariously liable for Dr D's breach of the Code.

Other comment

Pagers
Mr A recalls that Dr D was carrying four pagers and was continuously interrupted, answering one or other of the pagers, even when he was assessing Mrs A. The couple believe that Dr D was not giving Mrs A his full attention, which led him to make inappropriate clinical decisions.

Dr D explained that he carried three pagers. As the on-call registrar he had pagers for obstetrics and gynaecology, and a personal pager. He recalls that one of his pagers went off when he was about to examine Mrs A, and he asked a midwife to answer it. Dr D stated:

> "It would be extraordinarily unusual to answer a locator oneself while doing an internal exam or while performing a delivery as sterile gloves are worn and this would result in loss of sterility, not to mention an unsanitary telephone. I do not believe that I would have answered a pager personally at the time of [Mrs A's] delivery. I do not believe that the locator system in use at [the Hospital] at the time of [Mrs A's] delivery distracted me from her care or compromised it in any way."

Dr Fentiman advised:

> "I do not believe that [Dr D's] actions with his pager distracted him in making clinical judgements or in properly assessing [Mrs A's] labour. I do however feel that it interfered with the development of rapport with [Mrs and Mr A]."

Midwife Ms Campbell and obstetrician Dr Alistair Haslam noted that there was a "very complex" system of paging registrars at the Hospital. The DHB has since changed its system ensuring that obstetric registrars carry no more that two pagers.

Although there is no evidence to suggest that the number of pagers Dr D was carrying had a detrimental effect on the care he provided to the couple, I am not surprised that it led them to believe they did not have his full attention. I agree that the system needed review.

Overall, I am now satisfied that the DHB has taken appropriate steps to simplify the system of pagers at Hospital.

Information about pain relief
As stated above, I am satisfied that Ms B provided adequate information to Mr and Mrs A about pain relief options. However, this case illustrates why it is preferable to provide comprehensive written information about pain relief options to pregnant women well in advance of their expected delivery date. Such written information should be a supplement to discussions with the LMC.

In the case of epidurals, anaesthetists obviously have an obligation to provide the woman with information about risks and benefits. However, LMCs would assist their clients by providing this information at an earlier stage. As noted by my expert advisor, Ms Brunton, once a woman is in established labour it is "an awful time to be making quality decisions".

Follow-up actions

- A copy of this report will be sent to the Medical Council of New Zealand and the Midwifery Council of New Zealand.

- A copy of this report, with details identifying the parties removed, will be sent to the Royal Australian and New Zealand College Obstetricians and Gynaecologists and the New Zealand College of Midwives.

- A copy of this report, with details identifying the parties 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.

Appendix 1

Information on which Dr Fentiman based his advice:

- [Mr and Mrs A's] complaint letter to the Commissioner, marked "A" (pages 1–8);
- Notification of investigation letters and requests for information from [the DHB] midwives, marked "B" (pages 9–27);
- Information from [Mr and Mrs A], marked "C" (pages 28–41);
- Information from [Dr D], marked "D" (pages 42–59);
- Information from [Dr C], marked "E" (pages 60–66);
- Information from [the DHB], marked "F" (pages 67–101);
- Information from [Ms B], including [Mrs A's] antenatal and intrapartum medical records, marked "G" (pages 102–165);
- Information from [Ms G], marked "H" (pages 166–173);
- Information from [Ms E], marked "I" (pages 174–178);
- Information from [Ms F], marked "J" (pages 179–181);
- Report from Tom Pontano, neonatal nurse specialist, marked "K" (pages 182–183);
- Report from Dr Alan Drage, paediatrician, marked "L" (pages 184–185);
- Report from Dr Lindsay Mildenhall, neonatal paediatrician, marked "M" (pages 186–187);
- [Mrs A's] medical records from [the Hospital], marked "N" (pages 188–258);
- Excerpts from [Baby A's] medical records from [the Hospital], marked "O" (pages 259–265).

Dr Fentiman appended the following references to his report:

- ACOG Committee Opinion Number 326, December 2005 (Inappropriate use of the terms fetal distress and birth asphyxia).
- ACOG Committee Opinion Number 348, November 2006 (Umbilical cord blood gas and acid-base analysis).
- ACOG Practice Bulletin Number 49, December 2003 (Clinical management guidelines for dystocia and augmentation of labour).
- ACOG Practice Bulletin Number 40, November 2002 (Clinical management guidelines for shoulder dystocia).
- ACOG Practice Bulletin Number 17, June 2000.
- ACOG Practice Bulletin Number 22, November 2000 (Fetal macrosomia).
- ACOG Practice Bulletin Number 70 December 2005 (Intrapartum fetal heart rate monitoring).

- RANZCOG College Statement C-Obs 16 November 2006 (Statement on instrumental vaginal delivery).
- RANZCOG College Statement C-Gen 2 March 2006 (Guidelines for consent and the provision of information regarding proposed treatment)
- RANZCOG College Statement C-Gen 2 March 2006 (Guidelines for consent and the provision of information regarding proposed treatment).