

Midwife, Ms B

Midwife, Ms C

Midwife, Ms D

**A Report by the
Health and Disability Commissioner**

(Case 07HDC08615)



Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Parties involved

Mrs A	Complainant
Mr A	Complainant
Baby A	Consumer/Complainants' baby daughter
Ms B	Provider/independent midwife
Ms C	Provider/independent midwife
Ms D	Provider/independent midwife
Ms E	Enrolled nurse
Ms F	Trainee midwife

Complaint

On 18 May 2007 the Health and Disability Commissioner (HDC) received a complaint from Mrs A about the services provided by independent midwives Ms B, Ms C and Ms D. The following issues were identified for investigation:

- *Whether midwife Ms B provided Baby A with appropriate treatment and care on 7 September 2005*
- *Whether midwife Ms B provided Mrs A with appropriate treatment and care on 7 September 2005*
- *Whether midwife Ms C provided Baby A with appropriate treatment and care on 7 September 2005*
- *Whether midwife Ms D provided Mrs A with appropriate treatment and care on 7 September 2005*

An investigation was commenced on 6 September 2007. It has been delayed by challenges by the parties to the provisional opinion, necessitating clarification of some factual issues and further expert advice.

Information reviewed

Information was provided by:

- Mr and Mrs A
- Ms B
- Ms C
- Ms D

Baby A's and Mrs A's clinical records and ACC file were obtained and reviewed. Independent expert advice was obtained from midwife Ms Nimisha Waller.

Overview

Mrs A, aged 34 years, went into labour with her first baby in the early hours of 7 September 2005. She was monitored by independent midwife Ms B, her LMC¹ at a maternity unit. Mrs A initially laboured in the birthing bath. However, when a prolonged episode of bradycardia² was noted at 10.43am, Ms B assisted Mrs A from the bath. At 10.48am, Ms B called for urgent assistance, and midwife Ms C arrived to help. Shortly after arriving in the delivery room, Ms C called for an ambulance because Baby A's heartbeat was still low at 80 beats per minute (bpm). Midwife Ms D, enrolled nurse Ms E and trainee midwife Ms F also arrived to assist.

The ambulance arrived at 11am. The baby's heartbeat had returned to normal, and the ambulance crew were asked to remain on standby because the birth was imminent.

Baby A was delivered at 11.04am, dark grey in colour, floppy and making gasping movements. She was taken to the resuscitation table where Ms C assisted Ms B to provide the baby with oxygen and chest compressions. The chest compressions brought the baby's heart rate up, but this was not sustained and her heart rate dropped to 40bpm. Ms C decided that Baby A needed added assistance to breathe and decided to introduce a tube into her airway. Ms C's first attempt to intubate Baby A at 11.25am was unsuccessful. At 11.27am the public hospital's Neonatal Intensive Care Unit (NICU) was notified of the situation and the retrieval team requested to attend.

¹ A Lead Maternity Carer (LMC) refers to the general practitioner, midwife or obstetric specialist who has been selected by the woman to provide her complete maternity care, including the management of her labour and birth.

² Fetal bradycardia occurs when the fetal heart rate is below 120 beats per minute (bpm) for 10 minutes. A moderate bradycardia of 100–119bpm is not considered serious and is probably due to the fetal head being compressed during labour. Marked bradycardia (under 100bpm) is a sign of hypoxia (oxygen deficiency) and is considered dangerous.

Ms C's second intubation attempt at 11.35am was successful and the baby's heart rate stabilised but her condition did not improve. The Neonatal Retrieval Team arrived at midday.

Midwife Ms D assumed responsibility for Mrs A's care while Ms B and Ms C were resuscitating the baby. Mrs A haemorrhaged following the delivery of the placenta and required resuscitative support. The ambulance was recalled and transferred her urgently to Hospital.

Baby A was admitted to NICU and was found to have sustained a major brain injury presumed to have been the result of the delay in establishing effective resuscitation.

Information gathered during investigation

Antenatal

Mr and Mrs A decided that their baby, due on 4 September 2005, would be delivered at the local maternity unit "on the direct advice" of their midwife, Ms B. Ms B explained to Mr and Mrs A that the maternity unit was unable to provide such procedures as inductions, epidurals and Caesarean sections, but all other maternity needs could be met at the unit. She said that in the unlikely event of a complication, Mrs A would be immediately transferred to the public hospital, about 30 minutes away. Mrs A's pregnancy was uneventful.

Labour

At about 1.20am on 7 September 2005, Mrs A's uterine membranes broke and she immediately began to experience contractions. Mr and Mrs A telephoned Ms B at around 5.45am when the contractions strengthened. Ms B advised Mrs A to stay at home for as long as she was comfortable, and that she would contact her again at 7.30am to check on progress, unless called before that time. At 6.45am Mrs A telephoned Ms B to advise her that the contractions had strengthened and she was no longer comfortable at home. They arranged to meet at the maternity unit at 8am.

Ms B performed a vaginal examination on Mrs A shortly after her admission to the unit. Mrs A was surprised that Ms B performed this investigation. She recalls that Ms B had told her that "internal investigations are not performed unless a suspected problem has arisen".

Ms B recorded:

"0800 — [Mrs A] here at [the] maternity unit with [Mr A]. Doing really well and breathing beautifully through contractions. Bath run and a v.e [vaginal examination] offered before entering."

Ms B recorded the result of her vaginal examination of Mrs A in the labour record.

Ms B noted that Mrs A was 3–4cm dilated and that the baby’s head was at station –2,³ lying in the right lateral position, head down. The baby’s heart rate was 136–145bpm. Ms B noted that she suggested that Mrs A use the birthing bath for relief. Mrs A consented to try Ms B’s suggestion and entered the bath at 8.30am. Ms B did not record the temperature of the water in the bath or assess Mrs A’s temperature either before she got into the bath or while she was in the bath.

Ms B recorded the baby’s heart rate at half-hourly intervals. At 9.30am the baby’s heart rate was assessed at 147–165bpm, but Mrs A was finding the contractions “hard” despite the support her husband was giving her. Ms B suggested that she try nitrous oxide gas for pain relief. Mrs A found the gas effective in controlling her pain.

At 10.30am Mrs A felt an urge to push. Ms B recorded that the baby’s heart rate (which she heard at the top of Mrs A’s pubic bone) was 117–130bpm.

At 10.43am, Mrs A was pushing hard. Ms B assessed the baby’s heartbeat again and found a prolonged episode of bradycardia — 76–82bpm. Mrs A was assisted from the bath, given oxygen and positioned onto her left side to facilitate the blood flow to the baby. Ms B later advised that she applied a CTG⁴ when Mrs A was positioned on her left side on the bed, to monitor the fetal heart rate. Ms B realised that she would need back-up and made an emergency call for support.

Ms B recorded:

“1043 [Mrs A] working hard with some good long strong pushes. Baby ♥ rate heard ↓76 plug pulled and [Mrs A] instructed to leave the bath. O₂ prepared. [Mrs A] onto the bed — (L) side, O₂ mask applied and bell rung for assistance. [Ms C] arrives. Baby ♥ rate remains ↓76–82.”

Mrs A recalls that she was not put onto her left side upon leaving the bath and being positioned on the bed, and that the baby’s heart rate was not listened to as frequently as Ms B recorded.

³ 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).

⁴ Cardiotocograph, electronic monitoring of contractions and fetal heart rate

Documentation

From 10.45am Ms B made a rough record of events on paper towels (which have been produced as evidence). She noted, “10.45 Rang ambulance.” Ms B later transcribed these notes onto the “Labour and Birth Record”. The paper towel record is very scant; for example, a note at 10.50am states “110–120 pushing”. The transcribed notes record additional detail.

Ms C’s arrival

Midwife Ms C responded to Ms B’s emergency call for support. Ms C recalls that when she arrived in the delivery room the baby’s heart rate was “still low at around 80bpm so I called for an ambulance”. Ms C stated, “I called for an ambulance so that we could perform an urgent transfer if the birth was not imminent when the ambulance arrived.” The ambulance records show that the ambulance service logged the call as “Priority: 2P2 Non-Life Threatening” at 10.46am.

Ms B recorded:

“1050 — Ambulance called for [10.45am] to transfer to [the public] Hospital. Baby’s head on view now — peeks. [Mrs A] encouraged to keep pushing with contractions. Heart rate baby remains ↓76–88. Good views of baby’s head now, Ambulance arrives (1100).

1055 — baby’s HR↑ 118–130.”

The ambulance log sheet records the ambulance arriving at the maternity unit at 10.57am and, at 11.07am, “[Officer] standing by at Maternity may not be needed.” According to Ms B and Ms D, the ambulance staff on standby at the maternity unit did not leave the unit.

Ms C insists that she “requested an urgent ambulance in view of bradycardia”:

“I strongly dispute that I requested a non-urgent ambulance. Why would I do that when I was calling for an ambulance for transfer because of a bradycardia? This was an urgent situation. Telling the dispatch person that the ambulance may need to assist in Neonatal resuscitation would have made no difference to who was sent. The ambulance arrived within seven minutes of the call — which for a rural service is a quick response.

Re Paramedic — we are a rural community not a city. All our ambulance drivers (bar one) are volunteers. Sometimes only one person arrives with the ambulance and if we are lucky two come. IF the person on duty is a paramedic then we are lucky, but we do not have a supply of paramedics to call — we get whoever is on duty no matter what the situation.”

I accept that there may have been a misunderstanding as to the urgency of the situation on the part of the ambulance dispatcher who took the call. The ambulance arrived

seven minutes after the call was received and remained on standby at the maternity unit.

Delivery

Baby A was delivered at 11.04am, dark grey in colour, floppy and making gasping movements. Ms B recorded:

“1104 [Mrs A] births her baby into [Mr A’s] hands. Cord loose around neck and slipped down over body. Baby ‘flaccid’. Heart rate good 120bpm. Cord clamped, cut and baby to chio [resuscitation table], rubbed down, O₂ via mask, suction, heart rate ↓ 40bpm. Chest compression commenced by [Ms B], [Ms C], bagging baby. [Ms E] enrolled nurse in to assist with [Mrs A] and [Ms D] in to assist as well.

Apgars⁵ of baby HRate 2
 Colour 1
 No resp
 No reflex
 No muscle tone.”

Mrs A recalls that after Baby A was taken to the resuscitation table, the ambulance crew arrived and entered the room. She said, “I was still in the birthing position. They were asked to wait outside.” Ms B advised that the ambulance team were not paramedics; they did not enter the room and were not involved in the resuscitation of Baby A. Ms C stated, “[The] ambulance crew ... have no more competence in resuscitation than a midwife.”

A photograph provided by Mrs A shows only Ms B and Ms C working on Baby A, with Ms D in the background on the telephone.

Midwife Ms D, enrolled nurse Ms E, and trainee midwife Ms F also answered Ms B’s urgent call for assistance. (Ms D was meeting a client at the maternity unit at the time.) Ms D took responsibility for liaising with the public hospital. Ms E and Ms F assisted by fetching and preparing equipment and keeping records. Ms C notes that Ms F did not enter the delivery room.

Resuscitation

The District Health Board has a policy on “Resuscitation of the Neonatal Baby”.

Ms C, who has undertaken advanced life support courses, took the lead in resuscitating Baby A. Ms B has a certificate in Neonatal Baby Resuscitation (dated

⁵ 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.

July 2006). Ms B has not provided evidence of any recent update in neonatal baby resuscitation and advised that LMCs are not expected to be skilled at intubation.

Ms C reviewed Baby A on the resuscitation table and was assured that she was being oxygenated because her colour started to improve. However, at 11.25am Ms B noted that Baby A's heart rate remained very slow.

Ms C recalls:

“Baby was quickly dried off and bagging with O₂ started. Good chest movements were not obvious, so I suctioned baby and repositioned her head and resealed the mask. Baby's heart rate was down to below 50[bpm], so chest compressions [were] started which assisted the heart rate. I then decided that despite the fact that [Baby A] had pinked up well, there was still a problem with lack of respiratory effort and that I needed to intubate her. This first attempt failed, as I could not visualise the vocal cords to pass the ET [endotracheal tube] so I continued with the ambubag and O₂. [Baby A's] colour remained good but the heart rate continued to fluctuate between 40 to above 100bpm, so I decided to try intubation again — this time successfully and baby's heart rate stabilised. ...

It must be noted that whenever bag or mask is mentioned it is always **bag and mask** that are being used. There is **no** facility for a mask providing free flow oxygen on the Ohio.⁶ [Baby A] was **never** given free flow oxygen.”

Ms B started chest compression while Ms C gave Baby A oxygen via the mask. Ms B noted that Baby A's heart rate was “difficult to maintain” above 100bpm, and was fluctuating down to 40bpm.

Call for specialist back-up

Ms C stated that early in the resuscitation of Baby A, she advised that a call should be made to the public hospital Neonatal Unit to request attendance by the Retrieval Team. Ms B phoned through the request, but did not record the time of her call.

Ms B stated that a follow-up call was made at 11.27am to the Neonatal Baby Unit, to ask about the estimated time for arrival of the Retrieval Team at the maternity unit. She was told that the team was already on its way.

Second intubation attempt

The second intubation attempt was recorded at 11.35am. Ms C's second attempt to introduce the endotracheal tube was successful and Baby A's heart rate stabilised at 100bpm. Ms B noted that Baby A remained “floppy but pink” and her Apgar had risen to 4 (the heart rate being 2 and colour 2).

⁶ Heated resuscitation table.

Ms C recalls that at this time the neonatal specialist telephoned to ask for an update on Baby A's condition. There was discussion about giving Baby A more medication, but the specialist advised against giving adrenalin because of the fluctuating heart rate, and suggested that Ms C withdraw the endotracheal tube slightly in case it was too far down. Ms C stated that she did as instructed "with reservations", because she did not want to pull the tube out. She continued to provide oxygen to Baby A via the endotracheal tube and the ambubag until the Retrieval Team arrived. Baby A's heart rate and colour were good and she was gasping about every minute.

Mrs A stated that she was unaware of what was happening to Baby A at this time. She was told "a little later" that Baby A was not breathing properly and that this was what Ms B and Ms C were working on. Mrs A said that her husband had to tell her that there was a problem getting Baby A to breathe.

Ms B and Ms C dispute this. They say that Ms C moved the Ohio closer to the bed (within one metre) so that Mrs A could see what was going on. Ms C and Ms B recall that they communicated constantly with Mrs A.

The Retrieval Team arrived at midday. Ms B handed over care of Baby A to the team and documented the handover.

The Retrieval Team noted that there was muted air entry in Baby A's lungs but air could be heard loudly in her abdomen, indicating that the endotracheal tube had been incorrectly positioned in the oesophagus instead of the trachea. The tube was removed, Baby A's pharynx suctioned of secretions, and she was reintubated. An intravenous line was established. Although Ms C maintained that Baby A had "pinked up" and her oxygen levels were "reasonable" when the Retrieval Team arrived, when Baby A's blood results were initially assessed by the team on an I-Stat machine, her blood pH was 6.82, indicating serious acidosis.⁷ Baby A was moved to an incubator for transfer to the Neonatal Unit.

Management of third stage

While Ms B and Ms C were resuscitating Baby A, midwife Ms D took over the management of Mrs A. Ms D said that she was not officially assigned Mrs A's care, but it "seemed appropriate" to take over because Ms B and Ms C were busy with Baby A.

Ms D stated that at 11.35am, she gave Mrs A the intramuscular ecbolic Syntocinon, with her consent. This contracts the uterus and enables the placenta to separate from the uterine wall. Ms D then applied gentle steady traction on the cord, a procedure to assist delivery of the placenta. She attempted controlled cord traction several times, but each time she applied traction she could feel and hear the cord tearing.

⁷ Cord blood pH gives information about the fetal metabolic state. A pH of 7.4 is considered normal. A finding of acidosis (blood pH below 7.2) is a certain sign that fetal well-being is compromised.

Ms D stated:

“As a result of this [Mrs A] needed to push the placenta out using maternal effort. At about this time [Mrs A] started experiencing a lot of abdominal pain and cramping. This usually is as a result of the uterus contracting to expel the placenta of its own accord. [Mrs A] was asked to push during these cramps to try to birth the placenta. This method too was unsuccessful. At this point I was becoming concerned about the delay in the birth of the placenta and the amount of discomfort [Mrs A] was in, I felt that this third stage was entering the abnormal.”

Ms D made rough notes of her management of the third stage of Mrs A’s labour. These rough notes are confusing, but show that Ms D inserted an intravenous luer into Mrs A’s arm at 11.45am in case she needed intravenous fluids and drugs. The retrospective record provided by Ms B notes the 16 gauge luer being inserted under the “11.45am” heading.

Ms D subsequently advised HDC that she inserted the luer at 11.40am, not 11.45am. (The paper towel record confirms this. It was not provided as part of the documentation originally supplied.)

At around 11.50am Ms D recorded that she introduced a urinary drainage catheter. However, Ms B’s retrospective record notes that the catheter was introduced at 12.10pm.

Between 11.45am and 1.30pm, Ms D recorded that Mrs A’s pulse rate was elevated, ranging between 80 and 120bpm, and her blood pressure was low — 90/60 to 100/60mm/Hg.⁸ Ms B’s retrospective record in the “Labour and Birth Record” notes that Mrs A’s blood pressure at the time was “100/70”. Ms B commented, “Surely it is expected that [Mrs A’s] pulse would be raised when watching her baby being resuscitated.”

Ms D waited another 10 minutes and then decided to follow the DHB “Management of Retained Placenta Protocol”. The protocol recommends that Syntocinon 20 IU diluted in 20ml of normal saline is injected into the umbilical cord proximal to the umbilical clamp. The practitioner is then to wait for 10 to 15 minutes before applying controlled cord traction using the Brandt-Andrews Manoeuvre⁹ and checking via a vaginal examination for placental separation.

⁸ Normal blood pressure for a young adult is considered to be 120/80mm/Hg.

⁹ A technique for expelling the placenta from the uterus. Upward pressure is applied to the uterus through the abdominal wall while holding the umbilical cord taut. When the uterus is elevated in this way, the placenta will be in the cervix or upper vagina and is then expelled by applying pressure below the base of the uterus.

Mrs A stated that Ms D did not perform a vaginal examination, even though it “is protocol in checking for Placental Separation”. She said that Ms D also pulled on the cord and did not use the controlled cord traction technique. Mrs A also stated that her blood loss was not well monitored.

Ms D advised that she was unable to apply traction to the cord because it was very friable. She knew that if she pulled it would break and Mrs A would need to go to theatre to have the placenta removed. She kept a check on Mrs A’s blood loss and considered that it was normal. However, Ms D was aware that an abnormal third stage increases the likelihood of postpartum haemorrhage.

When it became apparent that the Syntocinon injection into the cord had not succeeded in delivering the placenta, Ms D informed Mrs A that she would introduce a urinary drainage catheter. A full bladder can prevent the delivery of the placenta. Ms D encouraged Mrs A to push with her cramps. Mrs A stated that Ms D showed her how to massage her stomach during an after-pain to assist the delivery of the placenta. She said that Ms D “came over periodically to check on my progress”.

Ms D stated:

“[Mr and Mrs A] were never alone in the room; [Baby A] was being stabilised in the same room. I did leave [Mr and Mrs A’s] side for a few minutes at a time, which I now realise, was an added source of trauma to them. I regret that I have added to their trauma in this way. It is however worth noting that during these times of absence I was undertaking other duties relevant to their case.”

Ms D added, “At no stage did I leave the patient.”

I am satisfied that Ms D did not leave the room during the third stage of Mrs A’s labour, but did leave her side to carry out other activities necessary for Mrs A’s care.

Documentation of third stage

Ms D recorded her actions and observations onto a separate sheet of paper as, “[Mrs A’s] sequence of birth events.” These notes reflect Ms D’s recollection of the care she provided. There were also rough notes made on paper towels. These notes were later transcribed in detail onto the “Labour and Birth Record” by Ms B, who recorded that the transcription was a retrospective record.

Delivery of the placenta

Ms B recorded that at 12.25pm:

“[Mrs A] announces that the placenta’s here. Checked by [Ms C]. ?lobe missing and ragged membranes with 1000ml blood loss (measured). ?complete placenta. Gritty and thin placenta with cord almost off.”

Ms C was not involved in the management of the third stage of Mrs A's labour, but confirmed that she checked the placenta and membranes for completeness and documented her findings while Ms D was busy with Mrs A. Ms C recalls that the placenta was found to be gritty and thin, and questioned whether this had caused Baby A's asphyxia, in the antenatal period.

Ms C recalls that Mrs A was lucid throughout the whole procedure and fully aware of what was happening.

Mrs A has a different recollection:

"I delivered the placenta by myself — no medical staff were near me. I had to shout into the room to announce that the placenta was out. At this point someone came and took the placenta away. They said initially that it 'looked good' and said that it was still full of amniotic fluid. Later however, concern was expressed that it was actually 'ragged' and 'full of blood'."

Ms D massaged Mrs A's abdomen to encourage the uterus to contract, and watched for blood loss, which was a trickle from the vagina. Mrs A told Ms D that she could feel a "gushing" and reiterated her concern about this several times, but "no one listened".

Post-partum haemorrhage

At around midday, Ms D noted that she inserted a urinary drainage catheter and that Mrs A's blood pressure was low at 90/60. The next entry, which was incompletely copied, showing the time as a partial number followed by "00", records that Mrs A was feeling faint. She was laid flat and given oxygen, and her abdomen was massaged to make the uterus contract. Ms D also noted at this time, "Estimated blood loss 350mls in bed."

Ms D then recorded on the following page:

"1300 [Mrs A] fainting again. O₂ continues. Synto infusion commenced 40iu [international units] in N/Saline (500mls). Fundus now a bit boggy [non-contracted]. Syntometrine 1ml IM. [Mrs A's] condition rapidly deteriorating. P weak 128. BP 88/60. Further 1000mls N/Saline commenced."

Ms B, Ms C and Ms D subsequently advised that they have no recollection that Mrs A had a 350ml blood loss, and that there is no record of this volume. They stated that there was an estimated blood loss of 1000mls "retroplacentally" and a 400ml "gush" 30 minutes later. However, Ms D's record indicates that this subsequent recollection is incorrect. Ms B's retrospective notes record the 1000ml loss occurring at 12.25pm and a 400ml loss at 1.25pm.

Mrs A was sitting up in bed and lucid when Baby A left in the ambulance with the Retrieval Team. (The time the Retrieval Team left the maternity unit with Baby A was

not recorded.) Ms D discussed with Mr and Mrs A the options for travel to hospital to be with Baby A.

Ms B's retrospective record for Mrs A for 1.06pm notes:

“[Mrs A] faints, looks pale, pulse weak, BP 100/70, Syntometrine¹⁰ IM given. Syntocinon infusion commenced — 400ml brisk bleed. Ambulance on standby activated (1325) and [Mrs A] transferred to [hospital]. 500mls Gelofusion administered en-route to [hospital]. A further 400ml blood loss in ambulance.”

The ambulance that had remained on standby at the maternity unit left for hospital, with Mrs A, at 1.35pm. Ms B recorded that Mrs A was given 900mls of Gelofusin (a blood expander) in the ambulance on the way to hospital.

Postnatal care

Mrs A was admitted to hospital. It was estimated that her blood loss was 1.8–2 litres. She required a blood transfusion of four units of packed cells and was taken to theatre for repair of a second degree perineal tear and removal of clots from the uterus. Mrs A remained at hospital until 29 September when she transferred, with Baby A, to the maternity unit.

Mrs A considers that Ms B failed to provide her with appropriate support during the postnatal period. Throughout her stay she was given contradictory advice and received little support in feeding Baby A. Mrs A complained that she had difficulty contacting Ms B. She would leave messages that were not returned and appointments were not kept. Mrs A said that she was discharged too soon.

The hospital records show that in the postnatal ward Mrs A was supported by a social worker as well as the nursing and medical staff. Mr A was provided with a bed so that he could stay over the first night to support his wife. On 11 September, when Mrs A became anxious and tearful, a referral was made to the neonatal nurse specialist. There is a child health service team of two, the nurse specialist and a counsellor, who provide clinical and emotional support to parents in the couple's situation. The notes show that Ms B visited on 9, 10 and 13 September and spoke at length to Mr and Mrs A.

On 13 September Mrs A and Baby A were moved to accommodation provided for out-of-town parents whose child is a patient at the hospital. The records show that Baby A progressed well and started to breastfeed. She was seen by a physiotherapist and a speech language therapist.

¹⁰ Syntometrine is an oxytocic vasoconstrictor used in the active management of the third stage of labour, for prevention and treatment of postpartum haemorrhage associated with uterine atony.

On 21 September the decision was made to transfer Baby A from the Neonatal Intensive Care Unit (NICU) to the nursery for babies who still require monitoring but are well enough to leave NICU. Mrs A became upset about this decision. A paediatrician was asked to visit to speak with Mrs A about the reason for the transfer. On 30 September, Mrs A and Baby A were considered to be well enough to transfer to the maternity unit for follow-up care and supervision.

Ms B advised that she frequently visited Mrs A and Baby A at the maternity unit. She said, "Outside of these visits [Mrs A] did phone with progress reports and questions." Ms B stated that the hospital provided Mrs A with secondary care because of her blood loss. Before discharging Mrs A from her care, in the week of 10 October 2005 when Baby A was five weeks old, Ms B performed a full health assessment on Mrs A. Mrs A reported feeling well, was eating well and had no symptoms of anaemia. Ms B did not consider that any further blood tests or follow-up was necessary. Mrs A declined to be referred to the Maternal Mental Health Team and Plunket.

Baby A was found to have sustained a major brain injury. At about five months of age Baby A exhibited marked limb spasticity, infantile spasms, and limited social awareness, and was thought to be severely visually impaired. She is under the care of a paediatrician at the public hospital's children's clinic.

Retention of clinical records

Mrs A stated that Ms B took her clinical records, "apparently to send in as official records" and retained them for three months.

Ms B stated that Mrs A should have received her notes before 21 December 2005, because she had sent her three copies of the notes and none of these copies were returned.

Mrs A said that Ms B also did not provide her with a "Consumer Feedback Form". In August 2007, Ms B advised Mrs A:

"I feel I need to clarify your understanding of the Midwifery Consumer Feedback form. This is sent back to the midwife for her annual review, not forwarded to the College of Midwives for review. We must obtain consent from the consumer to discuss the case. It is my standard practice to include a review form and I apologise if you did not receive one with your notes."

However, counsel for Ms B subsequently advised that to the best of Ms B's knowledge, she followed her usual practice and sent Mrs A a copy of the New Zealand College of Midwives (NZCOM) feedback form and a copy of her notes.

NZCOM advised that all Midwifery Feedback forms are returned to NZCOM. The consumer can remain anonymous, but if issues arise and the consumer identifies herself on the form, NZCOM will make contact. The forms are given to the Consumer Reviewer on the review panel and then returned to the midwife after the review of the events is completed.

ACC decision

ACC's advisor, paediatrician Dr Maxwell, advised that the events of the first 21 minutes of Baby A's life were poorly recorded. The decision to intubate was made at 11.25am, but it was unsuccessful. At 11.27am the heart rate remained low and the Neonatal Unit was called. Dr Maxwell advised ACC:

“Whilst it is difficult to determine with absolute certainty the contribution of events prior to delivery and those of resuscitation following delivery it is my opinion given the initial observations immediately following delivery that the most significant hypoxia related to events following delivery most likely secondary to difficulties in establishing oxygenation by bag and mask technique. I think it is unlikely that the relative contribution of difficulties with intubation are a significant factor.”

By decision dated 3 November 2006 (Review No 45829), an ACC reviewer found that Baby A had suffered treatment injury on the basis that, having been severely compromised at birth, there was a delay in adequate oxygenation (due to the failure to establish an adequate airway), resulting in permanent brain damage.

Debriefing meeting — the public hospital

A debriefing meeting regarding the circumstances of Baby A's delivery and resuscitation was held at the hospital on 15 September 2005. Present at the meeting were Ms B, Ms C, Ms D, Ms F, Ms E and a Neonatal Baby Unit nurse practitioner.

The nurse practitioner offered the meeting to the staff involved in these events because there is no provision for a Critical Incident debriefing for self-employed midwives.

Ms B and Ms C outlined the actions they took following the delivery of Baby A. Ms B advised the debriefing meeting:

“[Mrs A] after a long period of infertility, had arrived, in labour, at term, and was in the bath, for pain control, when the first inkling of trouble started. The fetal heart rate was being monitored intermittently, and had been ‘fine’ through contractions, but with this contraction, had dipped from its normal (125 to 135bpm) rate to about 90bpm. [Ms B] expeditiously got [Mrs A] out of the bath, onto the bed and lying on her left side, and onto oxygen by mask, while instructing [Ms E] to call for another midwife.

On vaginal examination, the cervix was fully dilated, [Mrs A] was pushing, as the fetal heart rate was still down. An ambulance was called, and [the public hospital] Delivery Suite was notified to expect transfer of a mother in second stage, with fetal distress. By the time the ambulance had arrived, however, delivery was imminent. [Ms C] was asked to assist, and it was decided that there was no other option but to ‘stand and deliver’.”

At the meeting Ms B stated that Baby A was born blue and floppy. The baby initially took a couple of gasps, but then “not much more after birthing”. Ms B said she recognised that the baby was “more than just stunned” and started “ambubagging via a mask”. When she and Ms C were unable to establish good chest movement and Baby A’s heart rate started falling, she was suctioned, her head repositioned and the face mask resealed. Chest compressions brought the heart rate up, but it did not stay up. Ms B stated, “In view of the problems with establishing ventilation (presumed to be an airway problem), the decision was made to intubate, and Newborn Unit was called to assist.”

The conclusions reached at the meeting were that “the resuscitation was well managed, the airway difficulties were appropriately actioned and the ET tube, though imperfect, probably saved [Baby A’s] life”.

Mr and Mrs A’s summary comments

Mr and Mrs A felt unsupported by Ms B in the aftermath of Baby A’s birth. Mrs A stated:

“I had ... felt a level of unprofessionalism at various stages throughout our aftercare ... and so ... had serious concerns regarding the standard of care we received. I feel that the services were provided without reasonable care and skill. ...

[Ms B] has indicated condescendingly that perhaps my memory of events is clouded and unreliable. On the contrary, vivid details of many of the events in this traumatic experience are forever ingrained in our memories.”

Mrs A also indicated that “if [Ms B] had put her hand up in the beginning and taken responsibility it is unlikely” she and her husband would have made a complaint.

Independent advice to Commissioner

Expert advice was obtained from independent midwife Nimisha Waller and is attached as Appendix 1.

Responses to Provisional Opinion

The majority of the parties' comments have been reflected through amendments to the above text. Some of their other key comments are outlined below.

Ms B, Ms C and Ms D

Ms B and Ms D advised that a number of the facts contained in the report are "strongly disputed".

Ms B stated that she adequately co-ordinated back-up care and secondary services. She also believes that she provided Mrs A with an NZCOM feedback form and was given three opportunities to advise Ms B of her concerns via the consumer advocacy services. Ms B stated:

"In hindsight, the retrospective notes may have been more comprehensive but due to the nature of this incident we have since set up a new form at [the maternity unit] for recording the times/procedures/telephone calls in emergency situations to standardise record keeping. I would like it to be noted that documentation was as accurate as it could be under the circumstances."

Mr and Mrs A

Mr and Mrs A stated:

"For the most part, we agree with the independent expert midwife, Nimisha Waller, and do not comment on what we feel may be insignificant differences in opinion or fact. However, there are some points that we feel need to be either clarified or reiterated."

They believe that "contradictions persist throughout the midwives' information".

Mrs A stated that the Flat Baby Flow Chart that Ms B referred to in her response to HDC was developed as the result of a suggestion made by Mrs A. This flow chart now forms part of the obstetric emergency procedures at all DHB rural delivery units. On 9 May 2007, the DHB Clinical Director Obstetric and Gynaecology, wrote to Mrs A acknowledging the part she played in the development of this protocol.

Mr and Mrs A stated:

"Ms Waller has stated throughout her report that peers would look at various findings of the investigation with mild to moderate concern. However, the actions or inactions of the people we trusted that day have concluded in a truly severe outcome. I cannot stress this enough. I can give you but a glimpse of what this has done to our family. They took away our baby's chance for an ordinary life, full and normal interaction with her family, our hopes and dreams for her future. We won't see [her] playing happily with her [baby brother], or watch her unwrap a birthday present, or get excited on Christmas

morning. We won't get the chance to tell her to tidy her room. She won't travel or get a job or drive a car. They took her abilities, her personality, and even her smile. Dead or alive, we've lost [Baby A]. They took away the little girl that she was meant to be.

In replacement they have left us with a lifetime of uncertainty. They've given [Baby A] extreme health issues, pain, and suffering. At just two years old she has already had a major hip reconstruction. There are many more surgeries to come, no matter how hard we work to avoid them. Due to her extreme scoliosis she must now wear a back brace 23 hours a day. I wanted to be her Mum, but instead I feel like her nurse. We have to deal daily with seizures, suctioning, physiotherapy, health professionals, as well as government departments such as ACC. We have had to learn about medical procedures and drug regimes, points of law and advocacy. Because she cannot move, we have to reposition her every 2–3 hours through the night just to keep her skin intact. Logistically, we can't go on family vacations like other people can. I can't take my children to the supermarket like other people can. This will all only worsen as time goes by. There is no hope of improvement. We are imprisoned in a life that is forever different to that which we had planned, one that we did nothing to bring about.

[Baby A] is a beautiful little girl. She has the most gorgeous deep brown eyes, and the longest blackest eyelashes that frame them beautifully. Her olive skin is smooth and perfect, and her silky brown hair falls in soft curls. We love her dearly and are totally dedicated to her. We will always do our utmost to provide for her every need. However, on every level, this affects each one of us, every minute of every day.

The midwives did this. Then they lied about it.

... The consequence to our family has been severe and permanent.”

Code of Health and Disability Services Consumers' Rights

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

RIGHT 4

Right to Services of an Appropriate Standard

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

Other relevant standards

New Zealand College of Midwives, *Midwives Handbook for Practice* (2005).

Standard three

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

Criteria

The midwife: ...

- documents her assessments and uses them as the basis for on-going midwifery practice.

...

Standard six

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

Criteria

The midwife: ...

- *demonstrates competency to act effectively in any maternity emergency situation.*

Opinion: Breach — Ms B

Early labour

Mr and Mrs A contacted their LMC, Ms B, in the early hours of 7 September 2005 to advise her that Mrs A's labour had started. At that time the contractions were mild, the baby was moving well and the liquor draining was clear. Ms B suggested that Mrs A stay at home and call her again at about 7.30am. My independent midwife expert, Nimisha Waller, advised that this was a reasonable suggestion given the information provided by Mr and Mrs A at that time.

However, at 6.45am Mrs A was becoming distressed by her contractions and telephoned Ms B again. They agreed to meet at the maternity unit at 8.30am. Shortly after Mrs A was admitted, Ms B performed a vaginal examination on Mrs A to assess progress of the labour and to assess the baby's well-being. Ms B recorded the result of her assessment.

Ms B listened to the baby's heart rate half hourly until 10.43am. Ms Waller advised that this was reasonable because, until 10.43am, the labour was progressing normally and there were no concerns or indications that the baby was distressed.

Maternal assessments

Ms B's documentation records the care she provided during Mrs A's labour but lacks any assessments of maternal well-being, such as temperature, pulse and blood pressure either at her admission to the unit or during the labour. Ms Waller stated that Ms B's lack of maternal well-being assessment could be viewed as reasonable because, initially, Mrs A's labour was low risk. However, Mrs A was labouring in the maternity unit's bath. The College statement on the use of water in labour and birth as pain relief states that a baseline assessment of the mother and baby should be done before the mother enters the bath. The water temperature should be recorded as the woman gets into the bath, and regularly during the time she is in the water. Ms B did not assess the water temperature or Mrs A's temperature at any stage.

Ms Waller advised that Ms B's peers would view her lack of assessment of maternal well-being with mild to moderate disapproval. I accept Ms Waller's advice. In my opinion, Ms B breached Right 4(1) of the Code by failing to assess Mrs A's well-being with reasonable care and skill.

Abnormal fetal heart rate

At 10.30am, Mrs A felt an urge to push and was actively pushing at 10.43am when Ms B detected that the baby's heart rate had fallen to 76bpm. There is discrepancy in the actions Ms B took at this time. Ms B states that she immediately assisted Mrs A from the water and positioned her on the bed on her left side, administered oxygen and called for assistance, which is the appropriate action in these circumstances. Ms B documented this action and that Ms C arrived in the delivery room at this time to assist. However, Mrs A insists that she was not turned onto her left side. Ms C has not

provided any information about how Mrs A was positioned when she entered the room.

When Ms C responded to Ms B's call for assistance, the baby's heart rate was still concerning. Ms Waller advised that it would be anticipated that a baby who had prolonged bradycardia in second stage would be asphyxiated at birth, but the baby would "hopefully" recover well with basic resuscitation. Ms B commented that this cannot be guaranteed and, because it cannot be assumed that the baby will recover, she called for back-up.

Ms C called for an ambulance at 10.50am. This was the appropriate response to the situation. The call received by the ambulance service was recorded in the despatch log as a "Non-Life Threatening" request. Ms B understood that Ms C had conveyed a sense of urgency when she requested that an ambulance attend for transfer to hospital. Ms B denies that the request for the ambulance was specified as being non-urgent. This was an urgent situation and the ambulance arrived in seven minutes.

When the ambulance arrived at 11am, Mrs A was pushing effectively, delivery was imminent and the baby's heart rate was normal. Baby A was delivered at 11.04am — 21 minutes after the fall in her heart rate.

Ms Waller advised that Ms B's decision to remain at the maternity unit and not to transfer Mrs A to hospital was reasonable. However, there was the potential for this first-time labour not to progress rapidly.

Ms B challenged Ms Waller's understanding of rural maternity practice when she advised that an urgent request may have ensured that a paramedic was included in the ambulance team, to assist with resuscitation. Ms B said that all the ambulance drivers in the town are volunteers except for one, and the crews have "no more competence in resuscitation than the midwives".

I sought Ms Waller's response to Ms B's challenge about her suitability to provide expert advice on this rural midwifery case. Ms Waller advised that her current caseload consists of women who reside in the city, in semi-rural areas and in rural areas of Counties Manukau. In addition, Ms Waller has also assisted with homebirths in rural and semi-rural areas. On the basis of this information, and my knowledge of Ms Waller's general midwifery experience, I am satisfied that she is qualified to provide expert advice on the standard of care expected of a rural midwife.

Resuscitation

At the time of registration a midwife has to demonstrate the competencies required by the Midwifery Council of New Zealand. The Council expects all registered practising midwives to update their skills in basic neonatal resuscitation annually, and to be able to perform basic resuscitation of the neonatal baby. This is supported by the NZCOM and the New Zealand Resuscitation Council. Basic resuscitation includes IPPV (intermittent positive pressure ventilation, with a bag and mask) and external cardiac

massage (chest compressions). Advanced resuscitation of the neonatal baby consists of intubation (passing a tube into the larynx) and the administration of medication. The LMC is not expected to be skilled in advanced resuscitation unless that is her choice. Ms B had undertaken training in neonatal baby resuscitation.

Once Ms B and Ms C established that Baby A was not breathing, they took her to the resuscitation table and started the routine resuscitation treatment of a rub down, suctioning and oxygen by mask. Baby A's heart rate was found to be 40bpm, she was not breathing and was floppy. Ms B started chest compressions while Ms C provided oxygen via a bag and mask.

Ms Waller stated that it was appropriate to rub Baby A down once she was born, as tactile stimulation within the first few seconds can stimulate the baby to breathe. It also dries the baby and prevents heat loss. The recommended sequence of events following a rubdown is to establish and open the airway by positioning and suctioning the baby if necessary. Breathing is then initiated by tactile stimulation such as slapping the soles of the baby's feet, flicking the heel or rubbing the baby's back. If this is ineffective, then breathing is initiated by the assistance of a bag and mask or bag and endotracheal tube. Chest compressions are used to stimulate and maintain circulation. Medication may be necessary to stimulate circulation.

Ms B's documentation of the resuscitation of Baby A shows that initial ventilation of Baby A was by oxygen via a mask. Ms Waller advised that this would not have helped improve pulmonary blood flow for proper oxygenation. Oxygen via a mask is usually given when there is central cyanosis but the baby is breathing spontaneously. The record of Baby A's resuscitation was inconsistent.

Ms Waller stated, "This inconsistency in documentation does not give the confidence to say with certainty that effective bag and mask ventilation (IPPV) was being given at the time of Baby A's resuscitation." The main reason for collapse in babies is respiratory rather than cardiac. For the majority of babies, well applied bag and mask ventilation should be adequate to effectively resuscitate.

Ms Waller agrees with ACC's paediatrician, Dr Thorsten Stanley, who noted that it appears that the bag and mask ventilation was not effective because Baby A's heart rate was still depressed at 11.25am. Ms Waller noted that maintaining a heart rate by chest compression when there is poor ventilation is not going to improve the outcome for a baby who is asphyxiated.

Ms B challenged Ms Waller's advice that "in [the] vast majority of babies suffering birth asphyxia well applied bag and mask ventilation should be adequate to effectively resuscitate". Ms B stated that this implies that a minority of babies will not be adequately ventilated even with an effective bag/mask technique. Ms B stated that the bag and masking "greatly improved" Baby A's colour from grey to a healthy pink, and therefore the bag and masking was effective.

Although the Retrieval Team noted that Baby A was “pink” with a heart rate of 130bpm when they arrived, she had “muted” air entry in her lungs with loud air sounds in her abdomen. The team removed the endotracheal tube inserted by Ms C, cleared Baby A’s pharynx of secretions and re-intubated her. Baby A’s colour was then noted to be “good”. However, Baby A had marked acidosis at that time, which indicates that the midwives’ resuscitation efforts had not been as effective as they believed.

Ms Waller stated:

“[Baby A] did not receive adequate ventilation in the first twenty-three minutes of her life. This would have contributed to her outcome as adequate ventilation is required to correct any effect on the brain from prolonged bradycardia and prevent further damage.

Peers would view this departure from reasonable care with moderate disapproval.”

I accept Ms Waller’s advice that Ms B did not exercise reasonable care and skill when attempting to resuscitate Baby A. Accordingly, Ms B breached Right 4(1) of the Code.

Referral to secondary services

Baby A was delivered at 11.04am. Her Apgar score at birth was 3. She was dark grey in colour and floppy. Initially her heart rate was 120bpm, but it soon dropped to 40bpm. Ms B started chest compressions and, as noted above, assisted Ms C to resuscitate the baby. Baby A was flaccid and not breathing and Ms B and Ms C’s efforts over the next 21 minutes were unsuccessful in establishing a satisfactory heart and respiration rate.

Section 88 of the New Zealand Public Health and Disability Act 2000 guidelines for consultation with obstetric and related specialist medical services recommends that when the baby has an Apgar score of 6 or less five minutes after birth, or shows little improvement within 10 minutes, the LMC must recommend to the woman/parents that the responsibility for her care be transferred.

The records appear to indicate that at 11.27am Ms B requested that a call be placed with the Neonatal Retrieval Team. Ms B stated that this call was to check that the Retrieval Team was on the way and that the call to request the specialist team had been made earlier. Ms B pointed out that the drive from the hospital to the maternity unit takes 30 minutes and that the team would have had to prepare before setting out. I accept Ms B’s reasoning on this matter.

Postnatal care

Mrs A complained that Ms B did not adequately support her in feeding Baby A during the postnatal period, and that she had to “organise everything” for herself and received

contradictory advice. Mrs A said that Ms B did not keep appointments and did not return calls. Mrs A considered that Ms B discharged her too early.

Mrs A was provided with secondary care by the hospital between 7 and 13 September, the initial postnatal period, because of her postpartum blood loss. During this time Ms B visited twice. Ms B resumed responsibility for Mrs A's care on 13 September, visiting her at her accommodation and the maternity unit. Ms B performed a full health assessment on Mrs A before discharge. Mrs A reported feeling well and had no symptoms of anaemia.

Mrs A was not discharged until Baby A was five weeks old, and during that time received visits from Ms B and was supported by a social worker, a paediatrician and hospital nursing and medical staff, the neonatal grief counselling support team and the maternity unit staff. Despite Mrs A's feeling of inadequate support, it appears that her postnatal care was reasonable. In my view, Ms B did not breach Right 4(1) of the Code in relation to her postnatal care of Mrs A.

Documentation

Standard three of the NZCOM *Midwives Handbook for Practice* (2005) requires that “[t]he midwife collates and documents comprehensive assessments of the woman and/or baby’s health and wellbeing”. One of the criteria is that “the midwife documents her assessments and uses them as the basis for on-going midwifery practice”.

Mr and Mrs A believe the assessments and records of the events of Baby A's delivery and resuscitation are inaccurate because the staff recorded details of events onto paper towels. This in itself is not unacceptable if necessitated by urgency and if proper records are written up soon afterwards.

Ms B provided a written record of Mrs A's labour and delivery. The record is annotated as retrospective. Retrospective recording of clinical records is acceptable, but must be made as soon as practicable after the events occur and clearly identified as retrospective. In her response to the provisional opinion, Ms B disputed a number of matters in the facts gathered. However, there is a discrepancy between Ms B's statements about the treatment and care provided to Mrs A and the documentation provided. There are also discrepancies between Ms B's contemporaneous notes on the paper towels and her retrospective notes. For example:

- At the debrief meeting on 15 September, Ms B advised that she performed a vaginal examination on Mrs A at 10.43am to assess dilatation of the cervix, when the bradycardia was detected. This is not recorded in the notes.
- Ms B also advised that CTG was used to continuously monitor Baby A's heartbeat from 10.43am onwards. However, there is no record in the notes that this was the case.

- Ms B recorded that Ms D introduced a urinary drainage catheter at 12.10pm, to assist the expulsion of the placenta. However, Ms D’s rough notes record that this occurred at 11.50am.
- There is considerable discrepancy in the recording of the time that Mrs A was started on intravenous fluids and administered the ecbolic Syntocinon to contract her uterus. The paper towels show that the intravenous line (luer) was sited at 11.40am and the ecbolic given at 11.35am. Ms D’s rough notes show that the luer was introduced at 11.45am and the ecbolic given at 11.35am, although this was overwritten to show 11.45am. Ms B’s retrospective record indicates that the luer was sited and the ecbolic given at 11.45am.
- In response to the provisional opinion, Ms B stated that she cannot find any record of Mrs A having a 350ml blood loss. Ms D’s rough notes clearly state a blood loss of this amount.
- In response to the provisional opinion, Ms B and Ms D advised that the IV Syntocinon was started at 1pm as confirmed by the paper towel notes, rather than 1.06pm as recorded in Ms B’s retrospective notes.

My expert advised that “retrospective documentation is acceptable if there is no time to document during the procedure but [it] needs to be comprehensive and consistent so there is confidence that the actions taken were appropriate”. I appreciate that this was a busy and stressful situation. Ms Waller advised that the gap in the documentation between 11.04am and 11.25am was reasonable as the midwives’ priority at that time was to resuscitate Baby A. However, an accurate, consistent and comprehensive clinical record is vital for ongoing management. If, as the midwives asserted, the paper towel documentation was an accurate record of the events that took place, the retrospective documentation should not have altered the record of what happened. This meant that the formal clinical record was incorrect. In my view Ms B failed to comply with standard three of the NZCOM *Midwives Handbook for Practice* (2005) and breached Right 4(2) of the Code.

Furthermore, I note that discrepancies in clinical notes may also cast doubt on a practitioner’s veracity. I agree with the following statement of Commissioner Robyn Stent:¹¹

“When I encounter sketchy consultation notes, not only does it become difficult to confirm the facts of a case but it tends to throw suspicion on any supplemental information provided.

...

¹¹ “For the Record” (NZGP, 12 December 1998).

In the end, whatever is remembered at a later date, the written record is the most significant witness of your actions. It is important for your sake as well as your patient's, that this is clear and complete."

Summary

As Mrs A's LMC, Ms B had overall responsibility for the maternity care provided to Mrs A. Ms B's care of Mrs A and Baby A was deficient in several respects. Her assessment of Mrs A and resuscitation of Baby A were not of an appropriate standard, in breach of Right 4(1) of the Code. Ms B also failed to comply with professional midwifery standards in relation to her documentation of events and breached Right 4(2) of the Code.

Opinion: Breach — Ms C

Ms C was the emergency on-call midwife for the maternity unit on 7 September 2005. She answered Ms B's call for assistance when Baby A's episode of bradycardia was detected at 10.43am.

Actions taken in relation to Baby A's abnormal heart rate

Ms C called for an ambulance at 10.53am in response to Ms B's concerns about Baby A's well-being. This was the appropriate response to a fetal bradycardia with no indication that the birth was imminent.

Ms C recalls that she placed an urgent call to the ambulance service. However, the ambulance dispatch log recorded that the priority was "Non-Life Threatening". Ms Waller commented that if the call had been specified as urgent, a paramedic might have been assigned to the ambulance and could have assisted the midwives with Baby A's resuscitation. However, Ms B and Ms C advised that the ambulance service in their area is voluntary and does not have a readily available pool of paramedics.

In my view, Ms C's decision to call for an ambulance at the time she did was appropriate. I agree with my expert that an urgent call for an ambulance was required. I accept that there may have been a misunderstanding on the part of the ambulance dispatcher who took the call as to the urgency of the situation and I am unable to establish why the call was not logged as a high priority. However, on the basis of the information provided to me, I am satisfied that Ms C appropriately communicated the urgency of the situation to the ambulance dispatcher. Accordingly, in relation to her call to the ambulance, Ms C complied with standard six of the NZCOM *Midwives Handbook for Practice* (2005), which states that "[m]idwifery actions are prioritised and implemented appropriately with no midwifery action or omission placing the woman at risk". Accordingly, in this respect, Ms C did not breach the Code.

Call for back-up

There is no record of when the call was made to the Neonatal Baby Unit to request the attendance of the Retrieval Team. Ms C stated that the call was made early in the resuscitation and that the note at 11.27am in the retrospective records referred to a call to check that the Retrieval Team was on its way. I note Ms B's comment that the arrival time of the Retrieval Team, at around midday, indicates that an earlier call was made because the team would have needed preparation time before leaving for the maternity unit, which is a 30-minute drive from the hospital. However, I am left with some doubt about when the initial call was made. Once again this emphasises the need for accurate record-keeping.

Resuscitation procedure

Ms C as the second midwife took over the resuscitation of Baby A, which I am advised was appropriate. Ms C stated that LMCs are not expected to be skilled at intubation. In fact she has undertaken regular neonatal resuscitation training at the Neonatal Baby Unit. Ms Waller advised that all registered practising midwives are required to be skilled in basic neonatal resuscitation (including IPPV¹² and external cardiac massage), but are not expected to be skilled in advanced resuscitation (intubation and administration of medication). Some midwives choose to undertake training in advanced resuscitation.

I accept that a midwife is not currently expected to be competent in advanced neonatal resuscitation. I intend to discuss with the New Zealand College of Midwives whether midwives practising in a rural setting would benefit from additional neonatal resuscitation training, given that there is more likely to be a delay in transferring the baby to secondary services for advanced resuscitation.

The public hospital protocol "Resuscitation of the Neonatal Baby" states that a flat baby should be given oxygen via positive pressure ventilation for five inflation breaths, and then for 30 seconds of normal breaths. The heart rate is then to be checked and, if below 60bpm, chest compressions should be started. If the heart rate stays low, medication should be given and intubation considered.

Ms C provided Baby A with oxygen via a mask and bag when the baby failed to respond appropriately to tactile stimulation. Ms C suctioned Baby A, repositioned her head and resealed the mask when she found that Baby A's chest was not moving. Ms Waller advised that Ms C's initial resuscitation measures, the mask and bag delivery of oxygen following tactile stimulation, suction, repositioning Baby A's head and resealing the mask, were appropriate.

When Ms C found that Baby A's heart rate was 50bpm, Ms B started chest compressions. Baby A's colour improved but she still was not breathing well, and her

¹² Intermittent positive pressure ventilation.

heart rate was fluctuating. At 11.25am, Ms C decided to introduce an endotracheal tube with the aim of stabilising Baby A's heart rate. This initial attempt to introduce the tube failed, so she continued to provide oxygen to Baby A with a mask and bag.

Ms C stated that Baby A's colour remained satisfactory but her heart rate was fluctuating between 40 and 100bpm and, at 11.35am, she decided to try to introduce the endotracheal tube again. This time she was successful and Baby A's heart rate stabilised.

Ms Waller advised that Baby A was not adequately ventilated from 11.04am to 11.27am (23 minutes). When Ms C performed the chest compressions, she initially assisted the heart rate but this had no effect on the ventilation and did not increase pulmonary blood flow and oxygenation because she was not providing Baby A with adequate ventilation.

Ms Waller stated that the lack of adequate ventilation contributed to Baby A's unstable heart rate. If adequate ventilation had been provided to Baby A before the chest compressions were started there may have been a different outcome. Adequate ventilation is required to correct any effect on the baby's brain from prolonged bradycardia and prevent further damage.

Ms C did not record the size of the endotracheal tube she used or the length that was inserted. Had this information been available, it may have mitigated Ms C's anxiety when advised to withdraw the tube. Ms Waller stated:

“The resuscitation provided by [Ms C] is not of a reasonable standard as chest compressions were commenced before good ventilation was achieved. ... The decision to intubate to maintain an airway needed to occur earlier than at 23 minutes when it was first attempted, particularly if suctioning, repositioning the head and resealing the mask was not effective. The peers would view this departure with moderate disapproval.”

I accept my expert's advice that Ms C did not resuscitate Baby A with reasonable care and skill. Accordingly, Ms C breached Right 4(1) of the Code.

Documentation

Ms Waller also noted that Ms C, as the lead practitioner for the resuscitation, had an obligation to comprehensively document the resuscitation provided to Baby A. There is no evidence that Ms C documented any of her actions. By failing to collate and document “comprehensive assessments of the ... baby's health and wellbeing”, Ms C did not comply with standard three of the NZCOM *Midwives Handbook for Practice* (2005) and breached Right 4(2) of the Code.

Opinion: Breach — Ms D

Ms D had met Mrs A during her pregnancy and provided some antenatal care to her. On 7 September 2005 she was visiting a client at the maternity unit and responded to Ms B's call for assistance.

Management of third stage

The District Health Board protocol for the management of retained placenta includes a flow-chart to guide maternity staff in active management procedure when a placenta has not delivered within 30 minutes. The risk of postpartum haemorrhage is greater when third stage becomes abnormal.

While Ms B and Ms C were engaged in Baby A's resuscitation, Ms D took over the management of Mrs A and the delivery of the placenta — the third stage of labour. Ms D followed the District Health Board protocol for management of a retained placenta when she started intravenous fluids and commenced active management of the third stage at 11.25am with 10 units of Syntocinon, 21 minutes after Baby A's birth.

Delivery of placenta

Mrs A believes that Ms D tugged on the cord several times. However, Ms D stated that she was unable to sustain downwards traction on the cord because it was friable and she was concerned that it would break.

Mrs A voiced her concerns about a gushing sensation but felt that no one listened to her. Ms D stated that there was no excessive blood loss at this stage.

Ms Waller advised that when the placenta separates from the wall of the uterus there is sometimes a gush of blood through the vagina. This settles quickly and is usually less than 500mls. However, Ms D recorded at 11.50am that Mrs A's blood pressure was low and pulse rate high, an indication that some bleeding was occurring internally.

Ms D introduced a urinary drainage catheter to empty Mrs A's bladder, which is accepted practice to assist delivery of the placenta. The placenta was delivered 15 minutes later.

I accept Ms Waller's advice that the procedures undertaken by Ms D to deliver the placenta were appropriate.

Postpartum haemorrhage

At 1.06pm Mrs A fainted, her pulse was weak and rapid at 128bpm, and her blood pressure was low at 88/60mmHg. Ms Waller commented that Ms D had not monitored Mrs A's blood loss between 12.25pm and 1.06pm when she fainted. The retrospective notes provided by Ms B record that at 12.25pm Mrs A had a 1,000ml blood loss and at 1.06pm she lost another 400mls in a "brisk bleed". However, Ms D's notes do not record any blood loss other than 350mls "in bed" at 1pm. Mrs A's abdomen was

massaged, a Syntocinon infusion was started to contract the uterus, and the ambulance that was waiting at the maternity unit transferred her to hospital.

Ms Waller stated that Ms D's actions overall were appropriate, but she expressed some concern that Mrs A had been left unattended after a significant blood loss and had to call out to staff to gain their attention when the placenta was delivered. Ms D stated that during the times she was absent from Mrs A's bedside she was still in the room and involved in the care being provided to Mrs A and Baby A.

Ms Waller stated that Ms D had anticipated that postpartum haemorrhage might result from the prolonged third stage. Although midwives do occasionally have to leave their patients to get relevant equipment, drugs and fluids, this should be done only when it is safe to do so. Mrs A's third stage was being actively managed and Ms D should have been more vigilant given that Mrs A had lost a considerable amount of blood. Ms D's peers would view her leaving Mrs A during this time, albeit briefly, with mild disapproval.

Ms D concedes that she left Mrs A for a few minutes at a time to undertake other duties related to her care. She stated, "I now realise that this was an added trauma to them. I regret that I have added to their trauma in this way."

In my view, having assumed responsibility for Mrs A's care, Ms D should have been more vigilant. By failing to remain with Mrs A during the third stage of her labour when she was at risk of a postpartum haemorrhage, Ms D did not provide midwifery services with reasonable care and skill. Accordingly, Ms D breached Right 4(1) of the Code.

Other comment

Consumer feedback

NZCOM encourages midwives to continuously involve women in the evaluation of their practice. The NZCOM Consumer Feedback form is a good tool for evaluation of a midwife's practice. Mrs A alleges that Ms B did not provide a feedback form. Ms B advised that to the best of her knowledge, she followed her usual practice and sent Mrs A a copy of the NZCOM feedback form. However, she has also acknowledged that Mrs A may not have received a feedback form. I would encourage all midwives to use the feedback form. In this case, the form may have allowed Mrs A to communicate her concerns informally at an early stage.

Recommendations

I recommend that Ms B:

- Apologise for her breaches of the Code. The apology should be sent to HDC by **30 September 2008** for forwarding to Mr and Mrs A.
- Review her practice in relation to her documentation and the use of water in labour and delivery, and confirm that she has done so by **30 September 2008**.

I recommend that Ms C:

- Apologise for her breaches of the Code. The apology should be sent to HDC by **30 September 2008** for forwarding to Mr and Mrs A.

I recommend that Ms D:

- Apologise for her breach of the Code. The apology should be sent to HDC by **30 September 2008** for forwarding to Mr and Mrs A.
-

Follow-up actions

- A copy of this report will be sent to the Midwifery Council of New Zealand.
- A copy of this report, with details identifying the parties removed except the names of Ms B, Ms C, Ms D and the maternity unit, will be sent to the New Zealand College of Midwives and the District Health Board.
- A copy of this report, with details identifying the parties removed except the name of my expert, will be sent to the Maternity Services Consumer Council and the Federation of Women's Health Councils Aotearoa, and placed on the Health and Disability Commissioner Website, www.hdc.org.nz, for educational purposes.

Appendix 1 — Expert midwifery advice

“I have been asked to provide an opinion to the Commissioner on case number 07/08615, and that I have read and agree to follow the Commissioner’s guidelines for Independent Advisors.

My qualifications are RN (includes General and Obstetrics), RM, ADM, Dip Ed (UK) and Master in Midwifery (VUW, 2006). I have been a midwife for 23 years, the last 11 years in New Zealand. I have worked in community and hospital tertiary settings as well as in education both here and in the UK. I am currently a Senior Lecturer in Midwifery at Auckland University of Technology and take a small caseload of women as a Lead Maternity Carer.

The following sources of information that were sent have been reviewed prior to the advice being given:

- Letter of complaint to the Commissioner from [Mr and Mrs A], dated 16 May 2007, marked with an ‘A’. (Pages 1 to 88)
- Independent paediatric advice provided to ACC by Dr T Stanley and Dr David Knight, received 11 July 2007, marked with a ‘B’. (Pages 89 to 98)
- Clinical records provided by [the] District Health Board on 19 July 2007, marked with a ‘C’. (Pages 99 to 178)
- Response received from midwife [Ms B], dated 7 August 2007, marked with a ‘D’. (Pages 179 to 233)
- Notes taken during a telephone conversation with [Mrs A] on 14 August 2007, marked with an ‘E’. (Pages 234 to 236)
- Response received from midwife [Ms D], dated 24 September 2007, marked with an ‘F’. (Pages 237 to 248)
- Responses received from [Ms B], [Ms C] and [Ms D] via [NZCOM’s legal advisor] on 12 November 2007, marked with a ‘G’. (Pages 249 to 277)

I have been asked to provide expert advice to the following:

To advise the Commissioner whether, in my opinion, midwives [Ms B], [Ms C] and [Ms D] provided services to [Mrs A] and [Baby A] of an appropriate standard.

- 1) Please discuss the expectation regarding an LMC’s ability to intubate/resuscitate a neonate.

Additionally, if not already addressed above please comment on the following:

[Ms B]

- i) Did [Ms B's] management and documentation of [Mrs A's] labour meet the accepted standards? Please comment.
- ii) Was [Ms B's] management of [Baby A's] delivery reasonable? If not, what else should she have done?
- iii) Was [Ms B's] resuscitation of [Baby A] reasonable? Please comment.
- iv) Please comment on adequacy of the postnatal care [Ms B] provided to [Mrs A].

[Ms C]

- i) Was [Ms C's] resuscitation of [Baby A] adequate? If not what else should have been done in these circumstances?

[Ms D]

- i) Did [Ms D's] management of [Mrs A's] third stage meet the accepted standard? Please comment?

Are there any aspects of the care provided by [Ms B], [Ms C], and [Ms D] that you consider warrant additional comment?

Factual Summary/background

[Mrs A] went into labour at home at 5.35am on 7 September 2005 and was admitted to [the maternity unit] at 8am.

LMC [Ms B] monitored the FHR intermittently while [Mrs A] laboured in the birthing pool.

At 10.43am there was a prolonged episode of bradycardia — 76 to 82bpm. [Mrs A] was assisted from the pool and positioned onto her left side. A non-urgent call was made to the ambulance service at 10.48am. The ambulance arrived at 11am but left shortly after.

[Baby A] was delivered at 11.04am, dark grey in colour, floppy and making gasping movements. Her heart rate was 120bpm and Apgar score 2 at one minute. [Ms B] took [Baby A] to the resuscitation table. [Baby A] was dried, rubbed and given oxygen via a mask. Assistance was called and midwives [Ms C] and [Ms D] arrived in the room. Chest compressions were administered which brought the heart rate up, but this was not sustained and it dropped to 40bpm. [Ms C] assisted [Ms B] with the resuscitation.

The decision to intubate was made and [the] Hospital NICU was called for advice. The first attempt to intubate was made at 11.25am. This was unsuccessful and a

second attempt was made at 11.35am. The baby's heart rate stabilised but her condition did not improve.

The [public] Hospital Neonatal Retrieval Team arrived at midday. The Neonatal Nurse Specialist noted that there was muted air entry in the lungs but air could be heard loudly in the abdomen, indicating that the endotracheal tube had been incorrectly positioned in the oesophagus instead of the trachea.

[Mrs A's] third stage was managed by midwife [Ms D]. [Mrs A] required resuscitative support with a Syntocinon infusion following delivery of the placenta. The ambulance was recalled and transferred her urgently to [public] Hospital.

[Baby A] was transferred to [public] Hospital and found to have sustained a major brain injury. At about five months of age [Baby A] was found to have marked limb spasticity, infantile spasms, limited social awareness and was thought to be severely visually impaired.

My response to the advice required is as follows:

1) Please discuss the expectation regarding an LMC's ability to intubate/resuscitate a neonate.

At the time of registration the midwife has to demonstrate the four competencies set out by the regulatory body. These four competencies with the relevant performance criteria are on the Midwifery Council website (www.midwiferycouncil.org.nz). Prior to 2004 the regulatory body for midwives was the Nursing Council of New Zealand and since the Health Practitioners Competence Assurance Act (2003) it is the Midwifery Council of New Zealand. The performance criteria 2.9 of the Competency Two states:

'assesses the health and the wellbeing of the Neonatal [Baby A]nd takes all initiatives, including resuscitation, which may be necessary to stabilise the baby/tamaiti'.

The recertification programme for the midwives commenced in April 2005 and the Midwifery Council expects all registered practising midwives who apply for the Annual Practising Certificate (APC) to update their skill in basic neonatal resuscitation annually.

Dr Knight has mentioned in his report of the 25th September 2006 (p97, point 25 and 26) that the midwifery Lead Maternity Carer (LMC) is required to have the skills to perform basic resuscitation of the Neonatal Baby. This is supported by the Midwifery Council, the New Zealand College of Midwives and the New Zealand Resuscitation Council. Basic resuscitation includes ventilation with bag and mask (intermittent positive pressure ventilation — IPPV) and external cardiac massage (chest compression). Advanced resuscitation of the Neonatal Baby consists of intubation and the administration of drugs. The midwifery LMC is not expected to be skilled in

advanced resuscitation unless he/she chooses to do this and maintain these skills. Midwifery LMCs that work in rural or remote areas may choose to maintain skills in advanced resuscitation. Paediatricians such as Dr Knight have regularly suggested and recommended the importance of maintaining good ventilation in an asphyxiated baby by use of bag and mask ventilation (IPPV) rather than intubating the baby unless the practitioner experienced in this is available. The aim of the resuscitation is to increase pulmonary blood flow for proper oxygenation and this can be achieved by use of bag and mask ventilation (IPPV) and chest compression if the heart rate is 60bpm or below. Within the file Dr Stanley in his report and Dr Fraser Maxwell in his letter have also mentioned the importance of bag and mask ventilation to correct respiratory distress in the neonate. The scope of midwifery practice is in the normal and maintaining advanced resuscitation skills can be a challenge. Failed attempts at intubation are likely to lead to further problems for an asphyxiated baby.

[Ms B]

- i) *Did [Ms B's] management and documentation of [Mrs A's] labour meet the accepted standards? Please comment.*

The management of [Mrs A's] labour is detailed by [Ms B] in the Labour and Birth Record (p107–110). [Ms B] was initially contacted at 05.35hrs on the 7th September 2005 following spontaneous rupture of membranes at 01.20hrs and commencement of contractions soon after. A plan was made for [Ms B] to be in touch with [Mrs A] at 08.30hrs (the digit “8” has been changed to “7” indicating 07.30hrs rather than 08.30hrs). A plan to see [Mrs A] later that morning is reasonable as from the history taken the contractions appeared to be mild, clear liquor was draining and the baby was moving well at this stage.

At 06.45hrs [Mrs A] contacted [Ms B] as contractions were getting uncomfortable and were close together. A plan was made to meet at [the maternity unit] at 08.30hrs. [Mrs A] arrived to [the maternity unit] at 08.00hrs. The documentation shows the care provided to [Mrs A] during the labour but lacks any assessments done in relation to maternal wellbeing (maternal temperature, pulse and blood pressure) either on admission to [the maternity unit] or during first or second stage of labour. The baby's heart rate was auscultated initially an hour later (ie at 08.00hrs and then 09.00hrs) and then every half an hour and is within normal limits of 110–160bpm. The intermittent auscultation of the baby's heart rate is reasonable until 10.43hrs as labour was progressing normally and there were no concerns or indication that the baby was distressed. There are no antenatal records provided in the file but there is documentation in the file that the pregnancy was normal.

At 10.30hrs [Mrs A] was beginning to feel the urge to push and by 10.43hrs it appears she was bearing down well. The baby's heart rate at this stage is documented as 76bpm. Appropriate action was taken to pull the plug and [Mrs A] instructed to leave the bath. [Mrs A] was put on her left side, given oxygen by mask and assistance called by [Ms B]. These are appropriate actions by [Ms B]. However, [Mrs A] states that the

position she was in was on her back rather than her left side as she was bearing down with the contractions (p29). The rationale for being on the left side is to prevent supine hypotension in the mother that has the potential to cause further bradycardia in the baby. Prevention of supine hypotension can also be achieved when the woman is on her back by slightly tilting the woman on to her left side to prevent pressure on the major vessels. The clinical records (p108) do not mention a CTG being applied however, [Ms B's] letter to HDC (p250) states that a CTG to continuously monitor the baby's heart rate was applied. [Mr A] states that on the big monitor he could see the baby's heart rate to be 115bpm. No CTG trace has been included in the file. There is no mention in clinical records (p108) of a vaginal examination to confirm full dilatation when bradycardia was first noted however in the Debriefing meeting on 15th September 2005 [Ms B] mentions that a vaginal examination was done (p267).

[Ms C] arrived in response to call for assistance. The baby's heart rate remained at 76–82bpm. For 10.50hrs it is documented that the ambulance was called however, there is no documentation to say that this was not an urgent call. Apparently ambulance record has shown that a non urgent call was made at this time (p74). Usually when an ambulance is contacted in this situation one would assume that an urgent call was placed as the baby's heart rate had remained bradycardic (heart rate below 110bpm). The time of 10.45hrs has been added — however it is unclear whether this was done at the time of documentation at 10.50hrs or later. Occasionally the time the action is taken is added a little later. This doesn't always reflect poor standard of care as priority is given to stabilise mother or baby's condition. However, it is best practice to add that the particular documentation has occurred in retrospect. At 10.50hrs a peek of the baby's head could be seen. [Mrs A] was encouraged to continue pushing as the baby's heart rate remained at 76–88bpm. It is documented that there was good view of the baby's head later in that paragraph but unclear what time this was however it must be between 10.50hrs and 11.04hrs when [Baby A] was born. The ambulance arrived at 11.00hrs (15 minutes after being called). At the time of the ambulance arrival the baby's head was on the perineum. Baby's heart rate is documented as 128–135bpm. [Baby A] was born at 11.04hrs into [Mr A's] hand. The cord was loosely round the neck and was slipped down over the baby's body. The documentation on the side of page 109 is added at 10.55hrs by [Ms B] about the baby's heart rate being 118–130bpm.

Should the ambulance have been called as an urgent and should the transfer to [public] Hospital have occurred?

It was appropriate for [Ms C] to have called an ambulance. This was [Mrs A's] first labour and birth and it can sometimes take up to an hour for the baby to be born. However, [Mrs A] was pushing very effectively from 10.43hrs and the baby was born within 23 minutes. It appears that the baby's heart rate in the last 9 minutes had improved to 118–135bpm. If the ambulance had arrived within 4–5 minutes of placing the call, the decision that would have needed to be made was of whether it was reasonable to transfer [Mrs A] to [the public] Hospital. I understand that it takes at

least 30 minutes to get [there from the maternity unit]. There is a strong likelihood that [Mrs A] would have given birth in the ambulance.

Some practitioners could argue that transferring to [public] Hospital would have been better by placing an urgent call for the ambulance. Though [Mrs A] most likely would have birthed in the ambulance they would have been nearer the tertiary hospital for support with resuscitation of [Baby A]. It needs to be noted that though there was prolonged bradycardia from 10.43hrs the baby had normal heart rate prior to this, was at term and well grown, the heart rate had increased to 118–135bpm in the last 9 minutes of second stage of labour and the descent of the baby with effective pushing was good. [An ACC staff member] has apparently commented in the ACC review that as the delivery was imminent at the time of prolonged bradycardia such decelerations are less significant than in the earlier stages of labour. That has been my understanding and obstetricians that Dr Knight discussed with supported [the ACC staff member's] comment. One would anticipate the baby to be asphyxiated due to prolonged bradycardia in second stage when birth is imminent but also anticipate that the baby would hopefully recover well with basic resuscitation.

The decision to remain at [the maternity unit] and not transfer to [the public] Hospital in second stage of labour is reasonable however, an urgent call needed to be placed regarding the ambulance. The rationale for making the ambulance call urgent is that at the time of placing the call only heavy shows and possibly a peek of the baby's head was visible. There was potential for progress in second stage to be slower as this was [Mrs A's] first baby or for bradycardia to reoccur. The second stage of labour can take up to an hour in a primigravida (woman having her first baby). It is not clear from the documentation whether there was a paramedic in the ambulance crew that arrived at 11.00hrs. An urgent call for the ambulance may have ensured a paramedic as part of the ambulance crew. The midwives would have then had an option of utilising the paramedic's skills if necessary.

Documentation

When any changes or additions are made to the original documentation in the clinical records it is important to date, time and sign the change or an addition. This helps to minimise the perception that the documentation has been altered to suit the practitioner. There is no documentation of [Mrs A] using Entonox in labour ([Mrs A] started using this for pain relief at 09.30hrs) and as stated previously no maternal monitoring has been documented in the clinical records throughout the first and second stage of labour. Maternal pulse is of particular relevance as it enables practitioner to differentiate between maternal and baby's heart rates and provide a baseline for any changes that may result in relation to maternal wellbeing. Maternal temperature and blood pressure should also be monitored in labour to provide baseline and to help in identification of any change to maternal wellbeing.

It appears from [Ms D's] letter to HDC (p238) that an obstetric registrar at [the public] Hospital had been contacted by [Ms C] when there was prolonged bradycardia. This is

not documented in the clinical records. Calling the hospital and discussing the situation with the obstetric team was an appropriate action as they were aware of the possibility of [Mrs A's] transfer.

It is not clear whether [Mrs A] was in a deep bath or a pool but recording the temperature of the water in the bath/pool and maternal temperature is considered to be best practice when water is used for pain relief or water birth is chosen as an option. The New Zealand College of Midwives Consensus statement on 'Use of water in labour and birth' state that baseline assessment of both mother and baby should be done prior to entering the bath/pool and these assessments should be carried out throughout the time in water as per normal labour. The statement also states that the water temperature should be recorded as the woman enters the bath/pool and regularly during the time she remains in the bath/pool. I have attached the Consensus statement with the report.

Some practitioners could argue that as [Mrs A's] labour was low risk until 10.43hrs not undertaking maternal wellbeing assessments is reasonable. It needs to be noted that these assessments were not undertaken when the bath/pool was used for pain relief or when there was deviation from normal in the second stage of labour.

The NZCOM (2005) standards of practice of relevance are:

- Standard two, Criteria 10 'documents decisions and her midwifery actions' — calling the ambulance, consulting with the obstetric registrar, use of Entonox for pain relief and using a CTG monitor
- Standard Three 'the midwife collates and documents comprehensive assessments of the woman and/or baby's health and wellbeing' — lack of maternal wellbeing assessments.

The peers would view not calling an ambulance urgently and lack of assessment of maternal wellbeing with mild to moderate disapproval. Some practitioners would consider that as birth was imminent the possibility of transfer to [public] Hospital was less likely and hence not putting out an urgent call for the ambulance is reasonable. However, [Mrs A] was having her first baby and there was potential for second stage of labour to be delayed and prolonged bradycardia to reoccur. As [Mrs A's] labour was low risk until 10.43hrs some practitioners would again consider it to be reasonable not to have taken maternal wellbeing assessments. It needs to be noted that the maternal assessments were not undertaken prior to entering the bath/pool and when there was prolonged bradycardia. The NZCOM consensus statement on 'Fetal Monitoring in Labour' (2005) state:

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

The copy of the consensus statement is attached.

ii) Was [Ms B's] management of [Baby A's] delivery reasonable? If not, what else should she have done?

[Ms B] encouraged [Mrs A] to push as effectively as she could so that the baby could be birthed. Once the decision was made to remain at [the maternity unit] the second stage of labour needed to be expedited in view of prolonged bradycardia which was beginning to recover after about 7 minutes. Effective pushing is the only way to get a good descent of the baby's head and [Mrs A] did push extremely effectively to birth the first baby in 23 minutes.

[Mrs A] (33, point 8.3) asks why an episiotomy was not done to expedite the baby's birth. The baby's head was visible as peeks at 10.50hrs and the heart rate was still bradycardic at 76–88bpm. This was possibly the time to consider an episiotomy. However, if the baby's head is not on the perineum then the perineal tissues haven't had the opportunity to thin out and this can contribute to heavy bleeding from the episiotomy. If birth needs to be expedited due to baby being distressed then an episiotomy has to be done. The heart rate did improve at 10.55hrs when it is charted as 118–130bpm and at 11.00hrs as 128–135bpm. [Baby A] was born at 11.04hrs. Good descent of the baby during pushing and the reassurance that the baby's heart rate was improving may have contributed to the decision to not do an episiotomy. If an episiotomy had been done it may have lessened some degree of asphyxia due to prolonged bradycardia but it is unlikely to have altered the final outcome for [Baby A].

The actions of [Baby A] birthing into [Mr A's] hands, cord being slipped over the body, clamping and cutting the cord and baby taken to the resuscitation table (Ohio) are appropriate.

iii) Was [Ms B's] resuscitation of [Baby A] reasonable? Please comment.

From the documentation on p109 it appears that once it was established that [Baby A] was not breathing the cord was clamped and cut. [Baby A] was taken to the resuscitation table (ohio). She was rubbed down, oxygen was given by mask, suctioned, and heart rate was assessed and found to be 40bpm. Chest compressions were commenced by [Ms B] while [Ms C] was bagging the baby. At this stage [Ms E] the enrolled nurse and [Ms D] (midwife) were asked to come and assist. The Apgar score allocated at one minute after birth is charted as "3" — Heart rate was given "2" indicating that the heart rate was >100bpm, colour was allocated "1" — indicating baby had good colour apart from peripheral circulation being poor and respiratory effort, reflexes and muscle tone were allocated "0" indicating baby was not breathing and was floppy. [Ms B] has documented the baby as "flaccid" at birth indicating the baby was apnoeic and gasping.

It was appropriate to rub down [Baby A] once she was born. This tactile stimulation in the first few seconds can sometimes stimulate the baby to breathe and helps in drying the baby so that heat is not lost by evaporation.

Following tactile stimulation the recommended sequence of events when baby is in need of resuscitation are as follows:

A — Airway — establish an open airway.

This is done by positioning the baby and suctioning if necessary. The infant is placed on his/her back or side with neck slightly extended. The mouth, nose and in some instances the trachea are suctioned. Inserting an endotracheal tube (ET) can also ensure an open airway. Positioning the baby can occur before or after suctioning.

B — Breathing — initiate breathing.

This is done by using tactile stimulation such as rubbing the baby down, slapping the soles of feet or flicking the heel or rubbing the infant's back to initiate respirations, by giving IPPV with bag and mask or with bag and ET tube.

C — circulation — maintain circulation.

Chest compressions are used to stimulate and maintain circulation and/or medications if chest compressions fail.

[Baby A] therefore needed to be suctioned if necessary and put in position with neck slightly extended to establish an open airway. This is usually done but not documented in the clinical records. In absence of respiratory effort or baby gasping ([Baby A's] case) IPPV with bag and mask ventilation needs to be commenced soon after tactile stimulation. The bag has an oxygen inlet where 100% oxygen is able to enter the bag so that when bag and mask ventilation is provided oxygen is released to the baby. To ensure that the mask is well applied and there is a good seal initially IPPV is given 2–3 times to observe the rise of the chest. If there is no evidence of rise of the chest then the seal on the mask or the position of the baby needs to be corrected or the baby needs to be suctioned. The rise or fall of the chest is the best indication of adequate ventilation (that the lungs are being inflated). The IPPV is given at the rate of 40–60 breaths per minute. This helps to improve pulmonary blood flow for proper oxygenation. After 30 seconds of IPPV the heart rate is evaluated. If heart rate is equal to or less than 60bpm then chest compressions are started in ratio of 3 chest compressions to 1 IPPV. Thirty seconds later the baby is reassessed for breathing and heart rate. If the heart rate is equal or greater than 100bpm or there is evidence that heart rate is rising chest compressions are discontinued and IPPV at the rate of 40–60 breaths per minute is continued until spontaneous respirations are present or help/assistance arrives. There is continual assessment of the baby every 30 seconds during resuscitation to determine the next action. Following successful resuscitation oxygen by mask (free flow oxygen) should be used to support the baby's initial spontaneous respirations. The free flow oxygen is withdrawn slowly if the baby remains pink. From [Ms B's] documentation (p109) it appears that initial ventilation of the lungs was by use of oxygen via mask. This would not have helped to improve

pulmonary blood flow for proper oxygenation. The Apgar score is not determined until 1 minute after birth. Resuscitation in majority of the cases is started before this time. From the documentation it appears that resuscitation was started before the Apgar score was determined.

There is no documentation until 11.25hrs by [Ms B]. This is reasonable as the priority was to resuscitate [Baby A]. However, it is important to retrospectively document the resuscitation given and the baby's response to the procedure. The documentation between 11.25hrs to 11.35hrs mention 2 attempts at intubation, heart rate fluctuating between 100–40bpm and stabilising to 100bpm following second attempt at intubation. There is documentation of continuation of oxygen by mask and chest compression. At 11.35hrs Apgar score is charted as "4". The colour of the baby had improved but respirations, muscle tone and reflexes were absent. Between 11.39hrs and 12midday the baby's temperature was taken and was low at 35.3 degrees. It is documented that 100% oxygen was continued and the heart rate was stable at 100–120bpm. The NBU retrieval team arrived at 12 midday when resuscitation was handed over to the team.

On page 139 documentation states that the baby was bagged (IPPV) at birth. It is not clear from the documentation at what time this was documented and by whom. However, [Ms B] in her letter to [her advocate], on 2 February 2006 (p00185) under point 2 says that as [Baby A] was not breathing [Ms C] assisted by giving her some oxygen via the mask. Oxygen by mask is usually given in presence of central cyanosis (baby is blue in colour) but the baby is spontaneously breathing.

Unfortunately documentation regarding application of ventilation to [Baby A] is not consistently recorded as being with bag and mask (IPPV) but that oxygen was applied via a mask which, as Dr Stanley states is a totally different therapy. This inconsistency in documentation does not give the confidence to say with certainty that effective bag and mask ventilation (IPPV) was being given at the time of [Baby A's] resuscitation. There is also poor documentation over the first 21 minutes of [Baby A's] life and it is unclear whether chest compressions were initially necessary. [Ms B] has documented that heart rate was 40bpm and chest compression were commenced. My understanding is that even if heart rate is low initially the first line of action after suctioning and positioning the baby is to commence IPPV (bag and mask ventilation) for 30 seconds at 40–60 breaths per minute. The [public] Hospital protocol on Resuscitation of the Neonatal Baby attached by [Ms B] (p 251) supports my understanding of the sequence of events. In babies the main reason for collapse is respiratory rather than cardiac while in adults it is cardiac rather than respiratory. In the vast majority of babies suffering birth asphyxia well applied bag and mask ventilation should be adequate to effectively resuscitate. Dr Stanley supports this by stating that with heart rate still depressed at 11.25hrs it appears that bag and mask ventilation was not being effectively given (p92). As [Baby A's] heart rate at birth was adequate it is unlikely that severe depression had already occurred with prolonged bradycardia.

[Ms B] at the Debrief meeting on 15th September 2005 mentioned that good chest movements could not be obtained. Both Dr Knight and Dr Stanley have commented on this in their reports. As stated it shows that [Baby A] did not receive adequate ventilation in the first twenty three minutes of her life. This would have contributed to her outcome as adequate ventilation is required to correct any effect on the brain from prolonged bradycardia and prevent further damage.

Peers would view this departure from reasonable care with moderate disapproval. It is important that correct sequences of resuscitative measures are taken to ensure adequate ventilation. Maintaining a heart rate by chest compression when there is poor ventilation is not going to help in improving the outcome of a baby that is asphyxiated. Retrospective documentation is acceptable if there is no time to document during the procedure but needs to be comprehensive and consistent so there is confidence that the actions taken were appropriate.

The NZCOM (2005) standard of practice of relevance is:

- Standard Six, criteria 4 ‘demonstrate competency to act effectively in any maternity emergency situation’ — the inconsistency in the documentation raises doubts regarding actions taken during resuscitation.

iv) Please comment on adequacy of the postnatal care [Ms B] provided to [Mrs A].

[Ms B] visited [Mrs A] twice in the hospital following birth of [Baby A] (marked ‘G’ p120 & 122). There are no records about subsequent postnatal care provided to [Mrs A] in the file sent. Between 7 September 2005 and 13 September 2005 [Mrs A] was under secondary care so majority of the care would have been provided by the hospital staff. However, [Mrs A’s] care was transferred back to LMC [Ms B] on the 13th September 2005.

In [Ms B’s] letter to [her advocate] dated 2nd February 2006 under point 8 (p187) she states that visits to hospital and [Mrs A’s accommodation] were frequent and outside of the visits [Mrs A] did phone with progress reports and questions. Apparently for urgent matters [Ms B] needed to be paged which [Mrs A] was aware about and other contacts were returned but not immediately. [Ms B] discouraged texting due to time delay and in area she resides in the cell phone is out of range.

It is reasonable for [Ms B] to ask the women she provides care to page her for urgent matters and not responding to non-urgent matters immediately. No records of visits following discharge have been included in the file sent making it difficult to comment on the adequacy of subsequent postnatal care.

[Ms C]

v Was [Ms C's] resuscitation of [Baby A] adequate? If not what else should have been done in these circumstances?

In the clinical records there is no documentation by [Ms C] about the resuscitation procedure. All documentation related to resuscitation has been done by [Ms B]. It appears from [Ms D's] letter (page 262) that each midwife documented actions quickly on paper and these were pooled together to be documented in [Mrs A's] clinical record.

[Ms C] in her letter to HDC on 20th September 2007 outlines her role and involvement in resuscitation of [Baby A]. According to [Ms C] she was an emergency on call midwife for [the maternity unit] on the day of [Baby A's] birth. She was called to assist at the birth due to bradycardia in the second stage of labour at approximately 10.45hrs. [Baby A] was given bag and mask ventilation which was started soon after tactile stimulation. As good chest movements were not obvious [Baby A] was suctioned, her head repositioned and mask resealed. Baby's heart rate was down to 50bpm so chest compressions were commenced which assisted the heart rate. [Ms C] decided to intubate despite the fact that [Baby A] had pinked up well as there was a problem with respiratory effort. When the first attempt at intubation failed [Ms C] continued with bag and mask ventilation. [Baby A's] colour remained good but the heart rate continued to fluctuate between 40–100bpm so she decided to re-intubate again. This time the intubation was successful and baby's heart rate stabilised. NBU phoned at this time for an update and it was suggested that the ET tube get withdrawn in case it was too far — this was done with reservation as [Ms C] did not want to pull it out too far. Bag and ET tube ventilation was continued until NBU retrieval team arrived when care was handed over to [them]. At this stage colour and heart rate were good and [Baby A] was gasping about every minute.

[Ms C] in her letter does not mention oxygen by the mask but bag and mask ventilation with oxygen to resuscitate [Baby A]. It was appropriate for [Ms C] to have given bag and mask ventilation following tactile stimulation. However, the baby wasn't ventilated at that stage as good chest movements were not obvious. Appropriately [Ms C] suctioned [Baby A], repositioned her head and resealed the mask. As the baby's heart rate at this stage was 50bpm chest compression were commenced without adequate ventilation. This assisted the heart rate initially but had no effect on the ventilation and did not increase pulmonary blood flow and oxygenation for the baby. Hence [Baby A] pinked up but there was a problem with lack of respiratory effort. Lack of adequate ventilation contributed to unstable heart rate. If adequate bag and mask ventilation had been provided prior to commencement of chest compression the resuscitation may have had a different outcome. As mentioned under '[Ms B] point iii' my understanding is that even if heart rate is low initially the first line of action after suctioning and positioning the baby is to commence IPPV (bag and mask ventilation) for 30 seconds at 40–60 breaths per

minute. The [public] Hospital protocol on Resuscitation of the Neonatal Baby attached by [Ms B] (p251) supports my understanding of the sequence of events.

From 11.04hrs to 11.27hrs (for 23 minutes) when first attempt at intubation was made there was no adequate ventilation provided to [Baby A]. This would have contributed to her outcome as adequate ventilation is required to correct any effect on the brain from prolonged bradycardia and prevent further damage.

There is conflicting information regarding whether the endotracheal tube (ET) was in the correct place. The letter by David Bouchier (p143) states that the endotracheal tube was in place with the heart rate of 130bpm when retrieval team arrived. Documentation by Neonatal Nurse practitioner (p147) states 'air entry muted in lungs, louder in the abdomen. Unable to visualise the tube so was removed, pharynx cleared of secretions and re-intubated with size 3.5EYT 10cm at the lips'. Once this was done the baby had good colour, good heart rate and was breathing. Dr Knight feels that the endotracheal tube was not in the right place till [Baby A] was reintubated by the retrieval team. It needs to be noted that the intubation did not occur till [Baby A] was 30 minutes of age and by this time the inadequate ventilation would have contributed to her outcome.

[Ms C] has not mentioned in her letter the size of the ET tube she used for intubation nor the length that had been inserted. Though this is a minor omission knowing the length that had been inserted would have diminished her reservation of pulling it out completely when [the paediatrician] phoned and suggested that ET tube get withdrawn in case it was too far. There is no mention in the letter or documentation in clinical records of the length and frequency of chest compressions provided to [Baby A] or of whether air entry was checked following intubation. However, checking of air entry on both sides was mentioned by [Ms C] at the Debriefing meeting on the 15th September 2005.

The NBU retrieval team was not contacted till 11.27hrs. It is not clear why an earlier call had not been made as it takes 30 minutes for the team to arrive from [the] Hospital.

The resuscitation provided by [Ms C] is not of reasonable standard as chest compressions were commenced before good ventilation was achieved. Further attempts at suctioning, repositioning the head and resealing the mask may have resulted in better ventilation. The decision to intubate to maintain an airway needed to occur earlier than at 23 minutes when it was first attempted, particularly if suctioning, repositioning the head and resealing the mask was not effective. The peers would view this departure with moderate disapproval.

The NZCOM (2005) standard of practice of relevance is:

- Standard Six, criteria 4 ‘demonstrate competency to act effectively in any maternity emergency situation’ — appropriate and timely actions are taken at the time of resuscitation.

[Ms D]

vii Did [Ms D’s] management of [Mrs A’s] third stage meet the accepted standard? Please comment?

[Ms D] had provided some antenatal care to [Mrs A]. Therefore when she noticed that [Ms B] and [Ms C] were busy with resuscitation of [Baby A] she asked the two midwives what she could do to help.

The sequence of events relating to the third stage of labour are documented on pages 104–105. When and who documented the events is not clear as there is no date and no signature.

[Ms B] has documented in clinical records at 11.45hrs that [Ms D] was giving 10IU of syntocinon IM to aid birth of the placenta and membranes.

[Ms D] has described the management of third stage (p238–240). There are no times in the description to HDC but [Ms B] has documented the times in clinical records (p110). When the placenta was not separating following an injection of 10IU of syntocinon at 11.45hrs IV cannula size 16G was inserted in [Mrs A’s] right arm. A litre of Normal saline was commenced. This is reasonable practice. [Ms D’s] rationale for inserting the IV cannula as risk of PPH is higher when the third stage has become abnormal is sound. At the time of insertion of cannula blood is also taken for group and hold. There is no mention of whether this was done. However, blood for group and hold was taken from [Mrs A] at time of admission to [the] Hospital.

When placenta still remained adherent [Ms D] followed the [the] District Health Board retained placenta protocol which involved injecting 20IU of syntocinon diluted in 20mls of saline into the umbilical cord to assist separation. This was done at 11.50hrs which is five minutes after the administration of 10IU of syntocinon IM. There is first documentation of maternal pulse at 11.50hrs of 80 and Blood Pressure (BP) of 90/60. There is discrepancy about the pulse rate and BP between pages 104 and 110. [Ms D] was unable to apply steady traction to the cord as it was friable. It appears that blood loss during this stage was monitored and found not to be excessive. However, with a high pulse rate and low BP one would conclude that there was some bleeding occurring internally. Blood pressure reading at 12.04hrs is documented as 98/54 and on page 104 as 100/60. A urinary catheter was inserted at 12.10hrs to ensure that the bladder was empty. Clear urine draining is documented in clinical records. The procedures undertaken are appropriate. The placenta birthed 15 minutes after the insertion of urinary catheter (12.25hrs) and 50 minutes after administration of syntocinon (There is discrepancy about the time Syntocinon was administered — 11.35hrs or at 11.45hrs as documented. This could be due to each midwife using her

own watch to document the time the actions occurred.) The uterus was checked to ensure it was contracted and massaged to expel any clots. The documentation in clinical records of the measured blood loss is 1000mls at 12.26hrs which is considered to be postpartum haemorrhage (PPH).

[Mrs A] on page 14 mentions that she was gushing and this was attributed to the separation of the placenta. When the placenta separates from the wall of the uterus there is sometimes a gush of blood through the vagina. The blood loss then settles quickly and usually is less than 500mls. The total blood loss at the time of completion of third stage is documented as 1000mls.

At 13.06hrs [Mrs A] faints, looks pale, has a weak pulse (128) and her blood pressure is 100/70 (88/60 on page 105). Syntometrine IM was given. Uterine fundus on palpation was found to be boggy and massaged. This is appropriate action. A brisk bleed of 400mls is documented. Syntocinon infusion was commenced and an ambulance called to transfer [Mrs A] to [the] Hospital. Enroute to [the] hospital 500mls of Gelofusion was administered. A further 400mls of blood loss was noted in the ambulance. A total of 1800mls of blood loss had resulted from the 3rd stage of labour prior to arriving at [the] Hospital.

[Ms D] (p239–240) states that she believes that [Mrs A] was haemodynamically stable during third stage of labour and that when [Mrs A] birthed her placenta and membranes she was not in a compromised state. [Mrs A's] pulse was tachycardic (102) at 11.50hrs and her blood pressure was low (98/50). This was the first recording of [Mrs A's] pulse and blood pressure so they could be normal values for her and [Ms D's] assessment of [Mrs A] may be reasonable. However, high pulse rate and low blood pressure is usually associated with bleeding. If the bleeding is not obvious externally then it needs to be anticipated that internal bleeding may be occurring.

The actions taken by [Ms D] of administering Syntocinon 10IU IM to birth the placenta and membranes, of inserting a cannula in [Mrs A's] arm, of commencing intravenous infusion of normal saline, of inserting a urinary catheter and undertaking [Mrs A's] vital signs (pulse and blood pressure) are reasonable. In relation to [the] DHB protocol of retained placenta [Ms D] followed the protocol by injecting 20IU of syntocinon diluted in 20mls of Normal saline into the umbilical cord as placenta and membranes had not birthed for 30 minutes.

[Ms D] states in her letter that she did leave [Mrs A] for few minutes at a time and apologises that she added further stress. Midwives do have to occasionally leave to get relevant equipment, drugs and fluid to administer care when it is safe to do so.

There is no documentation of the monitoring of blood loss between 12.26hrs and 13.06hrs when [Mrs A] fainted/crashed. [Ms D] was not near [Mrs A] when the placenta birthed as [Mrs A] had to shout out to inform them of the appearance of third stage. [Mrs A's] third stage was being actively managed and a practitioner needs to be vigilant when there is a blood loss of 1000mls.

The peers would view this departure with mild disapproval as [Ms D] had anticipated that postpartum haemorrhage may result from prolonged third stage and overall had taken appropriate actions even when [Mrs A] fainted/crashed. It needs to be noted that [Ms D] had gone to help her colleagues and was only there because she had a woman at [the maternity unit] that she was responsible for. It leaves one wondering what would have happened if [Ms D] had not volunteered to help her two colleagues who were busy with resuscitation. Usually if there are only 2 midwives available then one who came to assist is responsible for the baby's care and the other (LMC usually) is responsible for the mother and completion of the third stage of labour. However, when chest compressions are required as well as bag and mask ventilation then two practitioners providing resuscitation enables the procedure to occur with ease than doing it on your own.

vii Are there any aspects of the care provided by [Ms B], [Ms C], and [Ms D] that you consider warrant additional comment?

Vaginal Examinations

The issue of vaginal examination in labour is usually discussed during the antenatal period. This was apparently done by [Ms B]. However, it appears that it may not have been rediscussed at the time of admission to [the maternity unit] at 08.00hrs.

Use of water

The bath/pool helps to relax and save energy during early phase of labour, and also soothes the back. If the contractions seem to become less strong, women could get out of the pool for a while until they intensify again, and then get back in when they want some help with the pain.

Hospitals often have a policy which states that women should not get into the bath/pool until the cervix (neck of your womb) is five centimetres dilated. This is because getting into the bath/pool sometimes causes labour to slow down. This was the intention of [Ms B] so [Mrs A] could save energy and have some rest. Getting into the pool before the cervix has been opened up much by the contractions might mean that the labour goes on for longer. Once the woman gets in, she might find either that her contractions are less intense for a while, or that they suddenly become more frequent and stronger. Either way, she will benefit. In the first case, she will have an opportunity to rest, and in the second, her labour will progress rapidly. This is what happened in [Mrs A's] case.

Perineal tear, repeating blood tests and confidentiality

On page 11 [Mrs A] mentions lack of regular assessments by [Ms B] to the perineal tear, blood checks and issues relating to confidentiality. It is difficult to comment on these due to lack of postnatal records following [Mrs A's] discharge from secondary care.

The usual practice is to visualise any perineal damage/repairs regularly during the postnatal period to ensure healing is occurring. [Mrs A] had blood transfusion following [Baby A's] birth. The haemoglobin would have been checked prior to discharge from secondary care as [Mrs A] required blood transfusion. A plan to re-check the haemoglobin level at approximately four weeks is often discussed and can be organised by the LMC as [Mrs A] would be on iron supplements. Sometimes following discussion with the woman this may even get organised by the GP. However, it needs to be checked at some point between 4–6 weeks in view to discontinuing iron supplements.

Issues of confidentiality are hard to comment on as not all discussions between woman and the practitioner are documented.

Communication

[Mrs A] in phone conversation with HDC (p234–236) mentions communication regarding putting [Baby A] in foster care as well as other aspects of communication between [Ms B] and herself. These are again difficult to comment on as they are not always documented.

Changes to Documentation

[Mrs A] (p32, point 8.1) states that the copy of notes sent by [Ms B] prior to ACC were different in relation to timing of the fetal heart rate recordings (p69 & p70). If this is the case then it is not acceptable practice. Such changes can be perceived as being not competent as a practitioner.

As mentioned previously in this report (page 6 of the report) if changes or additions are made to the documentation it is important to date, time and sign the changes. If involved in administering care then documenting in retrospect is acceptable as long as there is consistency and accuracy in the documentation. These may help to reassure women/whanau that notes are not altered to suit the practitioner.

Competency regarding Neonatal resuscitation

It appears that all three midwives have maintained their skills in resuscitation including intubation by attending study days. [Ms B] has included the certificate of attending the Advanced CPR refresher course on 5th July 2006. [Ms C] has included her annual certificates (2004–2006) as well as her advanced CPR certificate (2006–2007) and the ALSO course undertaken in 2003. [Ms C] has also attended Retrieval seminar days. However, at the time of [Baby A's] resuscitation unfortunately the documentation does not reflect the appropriate actions necessary to ventilate the baby. Without good ventilation stabilising the heart rate became a challenge for [Ms B] and [Ms C].

Focus of care on [Baby A]

For the midwives the priority was [Baby A] once she was born as she had severe asphyxia and this is reasonable. The challenge of achieving good ventilation kept both midwives with [Baby A]. The enrolled nurse was called to come and assist but there is limited role she would have been able to take. Until [Ms D] arrived to help which I believe was about 11.23hrs [Mrs A] would have felt being left alone. As [Ms D] stated there were people in the room so [Ms B] was not alone however, the feeling of being alone has to be acknowledged.

Consumer feedback

The Standard eight states the midwife evaluates her practice (NZCOM, 2005). The NZCOM encourages midwives to continuously involve women in the evaluation of their practice. Feedback forms from NZCOM are available for consumers. Midwives usually give out consumer feedback forms to women they have provided care for and [Mrs A] should have been given one to complete. [Ms B] is better placed to respond in relation to when she distributes the feedback forms to women.

It needs to be noted that [Ms B] has participated in mediation process in 2005 and 2006.

Further comments

[Ms C] has commented on the changes that have been made to aspects of practice since [Baby A's] birth (p265). It would be useful for all staff to be familiar with changing the oxygen cylinders as I believe this was the issue at the time of [Baby A's] birth. It probably had very little impact on [Baby A's] outcome but it can be perceived as lack of familiarity with the equipment.

It is pleasing to note that one person is allocated for the job of documenting on the form that has been developed in the unit. This will ensure accuracy and consistency that is important when documenting in an emergency situation.

Summary

The information provided in the file shows that ventilating [Baby A] became a challenge for the practitioners and adequate ventilation was not established in the first 23 minutes and probably not accomplished for a good hour following birth. This would not have helped in correcting asphyxia and would have contributed to [Baby A's] outcome.

Postpartum haemorrhage is unpredictable and there was awareness that it had a potential to occur as third stage had been long. Overall appropriate actions were taken but there appears to be a lack of awareness that internal bleeding may be occurring as maternal pulse was high and blood pressure was low.

References:

New Zealand College of Midwives (2002) *NZCOM Consensus Statement: The use of water in labour and birth*. NZCOM.

New Zealand College of Midwives (2005) *NZCOM Consensus Statement: Fetal monitoring in labour*. NZCOM.

New Zealand College of Midwives (2005) *Handbook for Practice*. NZCOM.”

NZCOM CONSENSUS STATEMENT

Fetal monitoring in labour

This Consensus Statement was ratified at NZCOM AGM 2005

The New Zealand College of Midwives (Inc) considers that one to one midwifery care and intermittent auscultation of the fetal heart is the most appropriate method of assessing fetal wellbeing in an uncomplicated labour. The New Zealand College of Midwives does not support the routine use of continuous electronic fetal monitoring on admission or in labour for women who have uncomplicated pregnancies.

Rationale:

- Continuous electronic fetal heart rate monitoring compared with intermittent auscultation has not been shown to improve fetal or neonatal outcomes as measured by a decrease in morbidity or mortality.
- Electronic fetal monitoring is associated with an increase in inappropriate interventions including augmentation of labour, epidural anaesthesia, vaginal operative delivery, and caesarean section.
- There is no evidence to support the routine use of continuous electronic fetal monitoring on admission to hospital.
- The routine admission cardiotocograph significantly increases inappropriate interventions for low risk women, with no improvement to neonatal outcomes.
- Evidence suggests that the ongoing support of a trained person (midwife) during labour and birth should be a priority because it reduces the likelihood of operative delivery, the use of analgesia; the likelihood of 5-minute Apgar scores less than 7.0 and increases the mother's satisfaction.

Recommendations:

Midwives caring for women in labour provide continuous close support and monitoring. The assessment of fetal wellbeing is one component of this intrapartum care and consideration must be given to the woman's preferences and priorities in light of potential risk factors to both mother and baby. The following recommendations are made:

- Women must be able to make informed decisions regarding their care with access to evidence-based information.
- Prior to any form of fetal monitoring, the maternal pulse should be palpated simultaneously with FHR auscultation in order to differentiate between maternal and fetal heart rates.

- For a woman who is healthy and has had an uncomplicated pregnancy, intermittent auscultation with a Pinard stethoscope or hand held Doppler, is the recommended method of monitoring fetal wellbeing in labour.
- Continuous electronic fetal monitoring is recommended for high-risk pregnancies where there is an increased risk to the baby.
- Continuous electronic fetal monitoring should be used where oxytocin is being used for induction or augmentation of labour.
- Commencement of continuous fetal monitoring needs to be considered if any fetal heart rate abnormalities are detected in labour.

References:

Title: Fetal health surveillance in labour. Clinical practice guideline

Authors: Society of Obstetricians and Gynaecologist of Canada, Clinical Practice Guidelines No. 112. Fetal health surveillance in labour.

Source: Journal of Obstetrics and Gynaecology Canada, 24 (3) March 2002 pp 250–262.

Title: The use of electronic fetal monitoring. The use and interpretation of cardiotocography in intrapartum fetal surveillance. Evidence-based clinical guideline no 8

Authors: Royal College of Obstetricians and Gynaecologists, 2001.

Title: The use of electronic fetal monitoring: The use and interpretation of cardiotocography in intrapartum fetal surveillance (Guideline C).

Authors: National Institute of Clinical Excellence.

Source: www.nice.org.uk

Title: Randomised controlled trial of cardiotocography versus Doppler auscultation of fetal heart at admission in labour in low risk obstetric populations

Author: Mires, G Williams, F and Howie, P.

Source: British Medical Journal, vol. 322, No. 7300, June 2001, pp 1457–1450.

Title: Appropriate perinatal technology: a World Health Organisation perspective

Author: Chalmers, B and Mangiaterra, V

Source: Journal of Obstetrics & Gynaecology Canada, Vol 23, No 7, July 2001, pp574–575.

Title: Midwives Handbook for Practice

Author: New Zealand College of Midwives, 2005.

Title: Admission cardiotocography: a randomised controlled trial

Author: Impey L, Reynolds M, MacQuillan K et al.

Source: Lancet, vol 361, no 9356, Feb 8, 2003, pp 465- 470.

Fetal monitoring in labour 2005 Original Statement ratified 2002.

The purpose of New Zealand College of Midwives Consensus Statements is to provide women, midwives and the maternity services with the profession's position on any given situation. The guidelines are designed to educate and support best practice.

All position statements are regularly reviewed and updated in line with evidence-based practice.

NZCOM CONSENSUS STATEMENT

The use of water in labour and birth

This Consensus Statement was ratified at NZCOM AGM July 2002

The New Zealand College of Midwives (Inc) supports immersion of women in warm water during labour as a method of pain management. There is no evidence that remaining in water for the birth of the baby leads to adverse outcomes for the mother or baby where the labour has been within normal parameters.

Definition:

Water birth means where a baby is born fully submerged into water.

Rationale:

- Evidence supports immersion in warm water as an effective form of pain relief that reduces the use of narcotics.
- There is no evidence to suggest that immersion in water during labour or birth in water leads to any detrimental effects for either the mother or her baby.
- Evidence that immersion in water during labour reduces the length of active labour is inconclusive.
- Evidence that birth in water reduces perineal trauma or blood loss is inconclusive.

Guidelines:

Midwives offering water immersion for labour and for birth are responsible for ensuring the information given to women is accurate and up to date. The following guidelines are recommended:

- There are no adverse factors noted in fetal or maternal wellbeing during labour.
- Baseline assessments of both maternal and baby wellbeing should be done prior to entering the bath/pool and assessments continued throughout the time in water as for any normal labour.
- Vaginal examinations can be performed with the woman in water.
- Pethidine should not be given to women labouring in water.

- The water temperature should be kept as cool as the woman finds comfortable during the first stage of labour (around 35 °C) and increased to no more than 37 °C for the baby's birth.
- If maternal temperature rises more than 1 °C above the baseline temperature then the water should be cooled or the woman encouraged to leave the bath/pool. Women need to be aware of this in advance.
- Water temperature should be recorded as the woman enters the bath/pool and regularly during the time she remains in the pool.
- Careful documentation should be kept of maternal and water temperatures, FHR and the approximate surface area of the woman's body submerged.
- The cord should not be clamped and cut until after the birth of the baby's body.
- The baby should be brought to the surface immediately, with the head facing down to assist the drainage of water from the baby's mouth and nose.
- The baby's body can remain in the water to maintain warmth, unless the baby's condition dictates otherwise. (Note: babies born in water may take slightly longer to establish respirations than those born into air. Maintain close observation of colour, heart rate and respirations.)
- Third stage should be managed physiologically as for any other low risk birth. If oxytocin is required or third stage is prolonged the woman is assisted to leave the bath/pool.
- Midwives must ensure that baths and pipes are thoroughly cleaned after use.

References:

Title: Labour and delivery in the birthing pool

Author: Forde, C, Creighton, S, Batty, A, Howden, J, Summers-Ma, S, and Ridgeway, G.

Title: Warm tub bathing during labour: maternal and neonatal effects

Authors: Ohlsson, G, Buchave, P, Leandersson, U, Nordstrom, L, Rydhstrom, H, and Sjolin, I.

Source: Acta Obstetricia et Gynecologica Scandinavica, Vol 80, pp 311–314, 2001.

Title: Immersion in water in the first stage of labour: a randomised controlled trial.

Authors: Eckert, K, Turnbull, D, and MacLennan, A.

Source: Birth, Volume 28, No 2, pp 84–93, June 2001.

Title: Immersion in water during first stage of labour

Author: Homer, C.

Source: Letter to the editor, Birth, Vol. 29, No 1, March, 2002.

Title: Waterbirths: a comparative study. A prospective study on more than 2000 waterbirths.

Authors: Geissbuhler, V and Eberhard, J.

Source: Fetal Diagnosis Therapy, Vol. 15, pp. 291–300, 2000.

Title: Immersion in water in pregnancy, labour and birth

Author: Nikodem, VC.

Source: Cochrane Database Systematic Review, 2000.

Title: Perinatal mortality and morbidity among babies delivered in water: surveillance study and postal survey

Authors: Gilbert, R and Tookey, P.

Source: British Medical Journal, 319 (7208), pp. 483–487, 1999.

Title: Birth under water—to breathe or not to breath

Author: Johnson, P

Source: British Journal of Obstetrics and Gynaecology, 103, 202-208, 1996.

Title: Labour and birth in water: temperature of pool is important

Authors: Deans, AC and Steer, PJ.

Source: British Medical Journal. 311:390–391, 1995.

Title: Waterbirth—An attitude to care

Author: Garland, D.

Source: Books for Midwives, 1995. Cheshire.

Title: Fetal hypothermia risk from warm water immersion

Author: Charles, C.

Source: British Journal of Midwifery

Additional advice on complaint

“I have been asked to provide further advice to the Commissioner on case number 07/08615, and that I have read and agree to follow the Commissioner’s guidelines for Independent Advisors.

The following sources of information that were sent have been reviewed prior to the further advice being given:

1. Provisional opinion by the Health and Disability Commissioner
2. The initial advice provided by Nimisha Waller
3. The fax of responses by [Mrs A] and [Ms B] from the NZCOM
4. The letter from HDC investigator dated 16th June following an email on 10th June 2008

I have been asked to respond to the four questions below:

1) On page 2 under the heading ‘Page five’ [Ms C] commented on your advice regarding chest compressions. I note that when the Retrieval Team assessed [Baby A’s] blood pH level on the I-stat machine shortly after their arrival at about midday, her pH was 6.82. In light of that recording, are [Ms C’s] comments reasonable?

There was no sign of fetal distress until the second stage of labour. These babies do well if they are ventilated without delay following birth. The documentation by [Ms B] does not give one confidence to say with certainty that adequate resuscitation was being provided to [Baby A].

2) On page 4 under the heading ‘page 14’, second bullet point, [Ms C] contends that LMCs are not expected to be skilled at intubation. Could you please comment on what would be expected of a midwife in a rural setting in regards to training?

Irrespective of where the midwife LMC works the LMC is required to have the skills to perform basic resuscitation of the Neonatal Baby. This is supported by the Midwifery Council, the New Zealand College of Midwives and the New Zealand Resuscitation Council. Basic resuscitation includes ventilation with bag and mask (intermittent positive pressure ventilation — IPPV) and external cardiac massage (chest compression).

Advanced resuscitation of the Neonatal Baby consists of intubation and the administration of drugs. The rural midwifery LMC is not expected to be skilled in advanced resuscitation unless he/she chooses to do this and maintain these skills. Paediatricians such as Dr Knight have regularly suggested and recommended the importance of maintaining good ventilation in an asphyxiated baby by use of bag and

mask ventilation (IPPV) rather than intubating the baby unless the practitioner experienced in this is available.

3) Again on page 4 under the heading 'page 15', third bullet point refers again to bag/mask ventilation. Could you clarify if as, [legal counsel for the midwives] suggests that bag/mask ventilation will not be effective in ventilating a minority of babies and whether this has any relevance to [this] case?

In my original opinion I had mentioned that majority of the babies will be effectively ventilated by use of bag and mask. There are some babies that may not be successfully ventilated by bag and mask. These are babies with Pierre Robin syndrome where the jaw is short and getting a tight seal on the mask can be a challenge or babies with diaphragmatic hernia where bag and mask ventilation may not be effective as abdominal contents are in the chest preventing lung expansion or babies with congenital abnormality such as choanal atresia where the nostrils are not patent. None of these were applicable to [Baby A] as she was not diagnosed with any abnormalities.

4) On page 5, third bullet point under the heading page 19, comment is made that the NGT nasogastric tube was introduced with the aim to stabilise ([Baby A's]) heart rate. (I imagine this actually refers to a ET tube). Would the introduction of the ET tube stabilize the baby's heart rate? Please comment.

I believe the midwives mean the introduction of endotracheal (ET) tube and not the Nasogastric tube (NGT). If the heart rate does not stabilise by bag and mask ventilation then a ET tube can be introduced and attached to the bag with 100% oxygen so that ventilation administered are effective as the tube is in the trachea and near the bronchus. This has the effect of stabilising the baby's heart rate as respiration gets established.

Further comments

- 1) I apologise for stating the maternity unit as [the Birthing Unit] throughout my initial report.
- 2) The midwives question whether I as an expert advisor am familiar with rural midwifery practice. My caseload consists of women who reside in the city, in semi rural area and in rural area of the Counties Manukau. I have had homebirths in semi-rural and rural areas.
- 3) I have discussed with midwives who practice predominately in rural and remote areas in regard to calling the ambulance and a requirement for having a paramedic on the team. They have all confirmed my understanding that when making a call to an ambulance centre you are able to ask if a paramedic would be available. If the paramedic is not available immediately they have been able to meet one en-route to the tertiary unit. I acknowledge that the ambulance crew who are volunteers may have less skill than a midwife.

- 4) In April 2008 I had contacted the NZCOM National office to clarify the consensus statement relating to 'use of water in labour'. I wanted to confirm that the undertaking of maternal vital signs particularly temperature and documenting water temperature hourly was applicable to women who used baths as well as a pool. I was informed that if the woman uses water in labour (bath or pool) she should have hourly maternal temperatures and hourly water temperature documented on partogram or clinical records.
- 5) [Ms C] states that when a bag **or** a mask is mentioned it always means bag and mask. I disagree. I have asked numerous colleagues how they would interpret 'oxygen by mask' or 'by mask'. They all confirmed that they would think that free flow oxygen was being administered by the mask. Practitioners do use the mask on the Laerdal¹³ bag to give free flow oxygen by holding the mask couple of centimeters away from the face and the nose. The terms 'bagging', 'positive pressure', 'ventilating' always meant bag and a mask to the colleagues I discussed this with.

...

Under Question 1 the following sentence has been deleted by mistake

[Ms C] was the second midwife and therefore I agree should be in charge of the resuscitation. My apologies if it was not evident in my first opinion. However, the documentation regarding resuscitation has been done by [Ms B]. [Ms C] has an obligation as a lead practitioner in that procedure to do a comprehensive documentation of the resuscitation provided to [Baby A]. I couldn't see any documentation in the clinical records from [Ms C]. [Ms B's] document and verbal information at meetings is inconsistent and one cannot say with certainty that adequate ventilation was provided to [Baby A]."

¹³ Part of the oxygen delivery system used in resuscitation.