A Public Hospital

Obstetrician and Gynaecologist, Dr C

Midwife, Ms D

Midwife, Ms E

A Report by the

Health and Disability Commissioner

(Case 99HDC09329)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Parties involved

Mr A	Complainant / Father of deceased baby
Mrs B	Consumer / Mother of deceased baby
Dr C	Provider / Obstetrician and Gynaecologist
Ms D	Provider / Midwife, public hospital
Ms E	Provider / Midwife, public hospital
Ms F	Provider / Midwife, public hospital
Ms G	Provider / Consultant Midwife, public hospital
Mr H	Provider / Chief Executive Officer, public hospital
Ms I	Provider / Maternity Services Manager, public hospital
Dr J	Consumer's General Practitioner
Mrs K	Dr J's Practice Nurse

Complaint

On 24 August 1999 the Commissioner received a complaint from Mr A concerning midwifery and obstetric services provided to his wife, Mrs B, at a public hospital. The complaint is that:

- *Midwife Ms D did not document the large size of the baby during Mrs B's pregnancy.*
- *Ms D did not refer Mrs B for an additional ultrasound scan or for a discussion with a specialist, when requested to by Mr A and Mrs B.*
- *Ms D was not available on call when Mrs B's labour began.*
- *On 17 April 1999, specialist Dr C did not assess Mrs B during the delivery of her son, Baby L.*

An investigation was commenced on 28 October 1999.

On 29 November 1999 the Commissioner widened the investigation to include the following:

- *Midwife Ms E did not request the on call consultant obstetrician to assess Mrs B's failure to establish labour.*
- *Ms E did not request specialist assistance from the consultant obstetrician when Mrs B's baby presented with shoulder dystocia.*

Information reviewed

- Relevant medical records
- Mrs B's antenatal records
- Relevant Hospital and Health Services protocols
- Midwifery team information pamphlet
- Expert advice from an independent midwife
- Expert advice from an independent obstetrician, Dr Alastair Haslam
- Information from the ACC Medical Misadventure Unit

Information gathered during investigation

Summary
On 17 April 1999, Baby L died at birth at the public hospital from intra-partum asphyxia due to shoulder dystocia. He weighed 11lb 4oz. His mother, Mrs B, had been under the care of midwives Ms D and Ms E.

Background
In 1998 Mrs B, aged 35 years, was pregnant with her third child. Mrs B was born overseas and is five foot three inches tall, and of small build. Her husband, Mr A, is over six foot tall. Mr A and Mrs B have two daughters, who were aged about 11 and 12 years at the time of Baby L's birth. Mrs B's previous deliveries were normal vaginal deliveries and, at birth, the girls weighed 7lb 14oz and 8lb 2oz respectively. Mr A was present at each birth and informed me that his wife's labour for the birth of their second daughter was about three hours.

KYM midwives
For this pregnancy, Mrs B chose to be cared for by a midwife. She selected the team of midwives at the public hospital. The scheme offers pregnant women a Lead Maternity Carer ("LMC") who is part of a team of midwives based either at the public hospital or another public hospital nearby. Each team member has a contract to care for 50-55 women annually for the hospital. The scheme is similar to other team midwife schemes in New Zealand public hospitals.

Under the scheme, midwives work in pairs with each partner having alternate weekends off (two days off per fortnight). When on days off, or taking annual leave, the partner midwife is responsible for the other midwife's patients including antenatal, labour and delivery care. Partnering midwives carry each other's pager when covering duties. The information pamphlet supplied to women at their first antenatal visit states: "You will meet other members of the midwifery team who work in partnership with your midwife and who will fill in for her if she is unavailable for some reason."

The brochure also states:

> "If you have any problems, or the midwife has any concerns, she will discuss the issues with you and, if necessary, refer you to the Specialist Care Team at the hospital. There are clear guidelines to this free specialist service. You may require a once only visit for a specialist opinion or, because of continuing concern for you and / or your baby, be cared for by the [midwifery team] and the specialist team together."

Mrs B's LMC was Ms D. Ms D is a registered nurse and midwife and had been part of the midwifery team at the public hospital for two years prior to this incident. Ms D's referral rate to a specialist obstetrician was 9%, which was consistent with the referral rates of her peers in the team.

Since January 1999 Ms D's midwife partner had been Ms E, a registered midwife and comprehensive nurse. After working at one public hospital, Ms E worked at another public obstetric hospital 14 months prior to Baby L's birth. During the first nine months she worked as a staff midwife in the delivery unit and on the antenatal / postnatal wards, before joining the midwifery team.

Mrs B's early antenatal care

Ms D's first contact with Mrs B was at an initial booking visit on 23 September 1998. During this visit Ms D said she explained to Mrs B how the scheme functioned in relation to rostered time off and that there was a chance that she might not be available for Mrs B's labour care if this occurred during her time off.

Mrs B had her first ultrasound on 24 September 1998. There had been some uncertainty as to conception dates and hence the correct gestational age of the baby. The ultrasound indicated that the baby's correct gestational age at that time was 11 weeks and one day, plus or minus five days. There was no comment about the size of the baby. A further routine ultrasound was performed on 23 November 1998. This scan was normal and showed the baby was growing appropriately for this gestation (19 weeks and five days).

Ms D saw Mrs B during the early course of her pregnancy on the following dates: 20 October and 17 November 1998; 12 and 25 January 1999; 9 February and 2 March 1999. At these visits Ms D took fundal height measurements by palpation to ascertain the baby's position and measurements by tape measure to determine size.

In their response to my provisional opinion, Mr A and Mrs B informed me that, as far as they could remember, Ms D never used a tape measure for fundal height measurements.

Ms D informed me:

> "A standard method of fundal height assessment is by palpation, this method is used by many practitioners and in fact is the sole method used by some. As well as palpation I used the following technique to measure fundal height. The client was lying down on her back with head supported by one pillow. The symphysis pubis bone was located by

palpation and one end of a standard measuring tape positioned over this bone and under my forefinger, with my left hand I drew the tape over the abdomen to the top of the fundus, the tape was read at the top of the fundus with the left hand in place to keep the tape in position (McDonalds method). I expected the measurement in centimetres to equal the gestation in weeks; my understanding was that there was an accepted variance of 2 centimetres above and below the figure expected of the gestation. Thus I considered that the measurements I obtained were within normal limits."

A vaginal swab taken on 12 January 1999 grew a Group B Streptococcus. At 28 weeks' gestation Mrs B had a routine polycose screen test for diabetes which was normal (6.3mmol/L).

On 27 January and 2 February 1999, Mrs B consulted her general practitioner, Dr J, about a rash on her abdomen. Because she was under the care of an LMC, Dr J did not examine her regarding antenatal matters. As Mrs B was leaving Dr J's room after the consultation on 2 February, Dr J's practice nurse, Mrs K, commented to Mrs B that she thought she looked big. Mrs K then asked Mrs B to get up on the examination couch so that she could palpate her abdomen to check for size. Mrs K said after doing this she considered Mrs B was big for her dates and told Mrs B to go back to her midwife and tell her she needed an ultrasound and would need to see a specialist.

When Mrs K next saw Mrs B (which appears to have been 8 February 1999 according to Dr J's records) Mrs B informed her that the midwife had told her there was nothing to worry about. Mrs K advised me she asked Mrs B if she had had any "green tests" (a reference to the green colour a urinary dipstick turns when positive for glucose). Mrs B told Mrs K she had had one positive glucose test, which the midwife had attributed to Mrs B having just drunk some orange juice. Mrs K thought this was "ludicrous". She said she was really annoyed, as she was a registered nurse (since retired) and has had a lot of experience with the management of pregnancy. She explained she had been a theatre sister at the public hospital from 1961 to 1968 and was "very well experienced in these things".

On 2 March 1999 Ms D recorded that Mrs B had a positive (++) urine polycose glucose test. Ms D attributed this positive test to the fact that Mrs B had just drunk orange juice.

Although a conversation concerning the "green test" may have taken place between Mrs K and Mrs B, this conversation was unlikely to have taken place on 8 February as this visit preceded the positive glucose test recorded by Ms D on 2 March. Subsequent routine glucose tests were negative and there were no other positive glucose tests recorded in Mrs B's antenatal record.

Antenatal care provided by Ms F: 16 March – 5 April 1999

On 16 and 25 March and 1 April, another team midwife, Ms F, examined Mrs B while Ms D was on leave. Ms F covered for Ms D while Ms D went on holiday for four weeks, returning on 5 April 1999.

On 16 March 1999, at 36 weeks' gestation, Ms F made a note on the antenatal record as follows: "BIG BABY". Ms F recalled that she asked Mrs B to get up on the examination table and she palpated her abdomen. She said that straight away she thought, "Wow! This is going to be a big baby." She wrote the comment in the notes to alert Ms D to the possibility that this could be a big baby. Ms F knew Ms D would follow up and either agree or disagree. Ms F said that Mrs B was short in stature and looked big, being "all baby".

Ms D's resumption of Mrs B's antenatal care
When Ms D returned from leave she examined Mrs B on 7, 13 and 15 April 1999. On 7 April 1999 Mrs B thought she might be in labour and was assessed by Ms D in the antenatal clinic but was found not to be in labour. At all visits with Mrs B (except on 15 April 1999), Ms D took fundal height measurements.

The recording of the fundal height (top of the uterus) is a measure of the progression of the pregnancy. Ms D recorded the fundal height measurements in centimetres in Mrs B's antenatal record under the heading "Hgt/Girth". Ms D did not at any time consider the expected baby to be big or too large for a spontaneous vaginal delivery.

Ms D noted the "big baby" comment made by Ms F on 16 March 1999, but on subsequent examinations did not find Mrs B's baby to be so large as to require ultrasound scan or specialist review. Ms D stated that all the antenatal measurements she had taken up to this time indicated foetal growth within normal limits. There is no other recording that this could be a large baby, apart from Ms F's comment on 16 March 1999.

In their response to my provisional opinion, Mr A and Mrs B stated that they considered that Ms D should have discussed Ms F's comments about the baby's size with them.

Ms D said that she considered the fundal height measurements obtained during Mrs B's pregnancy to be within acceptable limits. Ms D said she also had the benefit of being able to refer to Mrs B's previous antenatal records and noted that with her second pregnancy a note was made at 34 weeks that the baby was a "good size", with the fundal height being two weeks greater than dates. As this pregnancy produced an 8lb 2oz baby with an uncomplicated delivery, Ms D felt confident that this baby would also be delivered normally.

Hospital and Health Services' guidelines state that referral for specialist review should occur when uterine size is over four weeks greater than expected. The public hospital informed me that its policy does not anticipate the presence of risk factors unless fundal height is greater than four weeks ahead of due date. The public hospital's policy was based on the Health Funding Authority's "Guidelines for Referral to Obstetric and Related Specialist Medical Services, July 1997".

Mr A said that his wife is exceptionally careful when pregnant and did not smoke or drink and was very particular about diet and exercise. Mr A informed me that the pregnancy was by all accounts normal and without incident. However, Mr A and Mrs B consider that Ms D should have arranged for an additional ultrasound scan or discussed the case with the specialist, as they had requested during antenatal visits.

Mr A stated:

> "Several times we were told by the midwife, [Ms D] of the […] Team, that he's a big baby but nothing was put in writing except once from a fill-in midwife when [Ms D] was on leave. We were never allowed the reassurance of an extra ultrasound scan or discussion with a specialist that was asked for several times. The comment given was always, everything is going very well, there is no need for these extras."

Ms D recalled a discussion with Mr A and Mrs B on 2 March 1999, at 33 weeks, 5 days' gestation, when Mrs B asked if there would be any further scans. Ms D said that, from memory, Mrs B's request for a scan was to make sure all was well with the baby. From her antenatal measurements and observations Ms D felt confident in reassuring Mr A and Mrs B that all was going well. There is no record in the notes that Mr A and Mrs B requested a scan.

Ms D had no recollection of specific requests for further scans or specialist advice. Ms D informed me:

> "In the routine care of a normal pregnant woman, referral for specialist review is not necessary. I considered [Mrs B] to be a normal pregnant woman and I had earlier explained that if at any time during her pregnancy anything appeared not normal, I would not hesitate to refer her to the appropriate specialist. At my assessment of [Mrs B] on Friday the 16th of April I booked an appointment for [Mrs B] to see a specialist the following Tuesday, which was also my clinic day. This appointment was to discuss induction of labour options as [Mrs B] did not wish to prolong her pregnancy. [Mrs B] was already at term and her baby was delivered over that weekend."

Early labour
Ms D was on her rostered weekend off when Mrs B went into labour on 17 April 1999.

Ms D said she had informed Mr A and Mrs B that she would be on leave that weekend and alternative contact arrangements were in place. Ms D carries a pager 24 hours a day and her clients are given the pager number to call if they require her care. On her weekends off, if women call her pager they are referred by a message to her team partner, Ms E. Ms D said that during her pregnancy Mrs B had contacted her a number of times through the pager and was familiar with the system. That weekend, Ms D took her rostered time off and left a message on the pager, and Ms E covered her caseload.

Mrs B's labour began about 4.30am. Mr A made several unsuccessful attempts to locate Ms D from this time and eventually got hold of Ms E. At 5:30am Mrs B was admitted to the public hospital. Her waters had already broken by this time.

Ms E was in attendance for the labour and birth of Baby L.

Ms E

On 17 April 1999 Ms E was called by the hospital when Mrs B was admitted to the delivery unit at 5:25am. Ms E read through Mrs B's antenatal record and noted two previous spontaneous vaginal deliveries of babies weighing 7lb 14oz and 8lb 2oz. Ms E questioned Mr A and Mrs B about these previous deliveries and Mr A informed her that once the baby's head had delivered the body slid out easily. Ms E said Mrs B agreed with this comment about her previous deliveries. Ms E stated: "Not once did they express concern to me about the size of this baby." Ms E said that she palpated Mrs B and there were no clinical signs that this was a big baby.

Ms E said Mrs B was concerned that a high vaginal swab taken on 12 January 1999 grew Streptococcus B. Ms E reassured her that she would observe her and the baby for signs of infection and that she would treat her with intravenous antibiotics 12–18 hours after the spontaneous rupture of her membranes in accordance with hospital protocols. Ms E said Mrs B's other antenatal tests were all in the acceptable range.

At 9.15am Mrs B's contractions were one in four and varying in length and strength. Foetal Heart Rate ("FHR") by Sonicaid (device for measuring FHR) was 140-148 beats per minute and Mrs B was coping well. At this point Ms E was concerned about the slow progression of labour and spoke with the consultant obstetrician, Dr C, in the ward office.

Dr C

Another obstetrician was on call when Mrs B was admitted and finished his shift about 8.00am. This obstetrician had not been contacted regarding Mrs B's admission prior to Dr C commencing his duties at about 8.00am. Dr C started his ward round in another ward and at approximately 8:30am went to the Ward, where he met Ms E.

Ms E informed Dr C that Mrs B was 39 weeks plus one day by her dates and 40 weeks plus three days by her early ultrasound. He was told this was Mrs B's third pregnancy; it had been normal and uneventful; and she did not have any risk factors. Ms E informed him that Mrs B had had two normal vaginal deliveries in the past with the largest baby weighing 8lb 2oz. Dr C said Mrs B's membranes had ruptured an hour before her admission and that Ms E was concerned that Mrs B's contractions were infrequent and irregular (only one in four), with labour never being well established since that time. At the time of Dr C's discussion with Ms E, Mrs B had already had two vaginal examinations. The first, at 6.15am, showed her cervix to be 3cm dilated. At this time the baby was a cephalic presentation and there were no indications to suggest an obstructed labour. The results of the second vaginal examination at 7.45am were the same. Ms E was concerned about a positive vaginal swab showing Group B Streptococci during Mrs B's pregnancy. By regulating Mrs B's uterine contractions Dr C and Ms E hoped to avoid unnecessary prolonged rupture of the membranes and thereby reduce the risk of infection to mother and baby.

Dr C said that at no stage during Mrs B's pregnancy was he told that she could be carrying a large baby or that Mr A and Mrs B were keen to see a specialist or that they had requested an ultrasound.

Hospital and Health Services' protocols require that Syntocinon (used to augment labour) must be approved by a consultant obstetrician. Dr C verbally approved the use of Syntocinon to augment Mrs B's labour. Dr C did not visit Mrs B at the time of giving approval.

Dr C informed me:

> "My standard practice when using Syntocinon infusion to augment labour is to assess every patient with previous history of caesarean section; high parity patients (para 4 or more); low parity patients (para 3 or less) with good frequency uterine contractions but not progressing in labour; low parity patients who have secondary arrest of labour (patients have good contractions and initially good progress but later on in labour progress has stopped).
>
> For women with low parity early in their labour, with their only problem being that the uterine contractions are irregular and infrequent (labour not being well established from its start), I may commence, on this group of patients, Syntocinon infusion without necessarily having to assess them as long as they have an experienced midwife that I have worked with before, and they are low risk patients with normal pregnancy. The maximum allowed dose is 6mU/min, they have continuous CTG, assessed 2 hourly and for me to be notified if any problem or concern arises."

Dr C told Ms E he would be very happy to see Mrs B and talk to her about the Syntocinon infusion. Ms E told him that Mrs B was in the bath and did not wish to get out of it. Ms E stated that she was happy to speak to Mrs B herself about the Syntocinon infusion. Dr C told Ms E that he was worried about infection, given that Mrs B was a carrier of haemolytic Streptococci group B and was to have a water birth.

At that stage Dr C left the unit. At 9.35am Dr C received a phone call from Ms E saying that Mrs B was out of the bath. Ms E was still not happy with Mrs B's contractions and told Dr C that Mrs B was not doing very much and her contractions were still irregular and infrequent, being one in four, but otherwise everything else was normal. Mrs B had no fever, there was clear liquor and the baby had a normal foetal heart rate (FHR).

Dr C advised Ms E to start the Syntocinon infusion as per the guidelines but instructed that the maximum allowed dose was 6mU/min to avoid hyper-stimulation of uterine contractions (the maximum dose for multiparous woman and the Unit Guideline is 10mU/min). Dr C said he also instructed her to give Mrs B a vaginal examination and then to assess her every two hours, but more frequently if it was deemed necessary.

Dr C considered that Mrs B would need continuous electronic monitoring of the FHR for the rest of her labour and asked Ms E to notify him if there was any further concern regarding her progress or condition of labour.

Progression of labour
At 10:15am vaginal examination showed Mrs B's cervix to be 4cm dilated, but her progress was still slow. Ms E informed consultant midwife Ms G of the plan to commence augmentation of labour. A CTG taken prior to augmentation showed a tracing that was reactive with variability of 10 beats per minute with no decelerations. The baseline was 140-150 beats per minute with one contraction every three to four minutes. Moderately strong, pink liquor was draining and Mrs B was coping.

At 11.15am the Syntocinon infusion was commenced at a rate of 3mU/minute. At 12 noon Mrs B expressed an urge to push. Syntocinon remained at 3mU/minute. Ms E performed a vaginal examination to assess progress and found Mrs B 5cm dilated.

Ms E said she encouraged Mrs B to breathe away the contraction and to change position, and that this had good effect. Contractions were two to three every ten minutes and moderately strong. The CTG tracing was reactive with FHR 140-150 beats per minute. Mrs B did not request pain relief. At 1.15pm Mrs B experienced a strong urge to push accompanied by two shallow early decelerations which recovered quickly to the baseline of 140 beats per minute. Prior to this Mrs B had changed position from semi-reclined to up on her knees, facing the head of the bed, which was slanted on an upright angle. At 1.20pm Mrs B returned to a semi-reclined position. FHR was 130-140 beats per minute and early decelerations continued.

Mrs B made steady progress in labour and Syntocinon was administered at a rate of 5mU/minute. Ms E increased the dose to 6mU/minute at 1.50pm to create more regular contractions, as there were now two to three moderately contractions every ten minutes. At 2.50pm Mrs B had the urge to push during her contractions. Ms E again encouraged her to breathe away the contraction and to try to resist the urge to push. Mr A was also encouraging his wife to breathe through the contractions.

Ms E said some loss of contact with the FHR occurred while Mrs B was pushing and variability was 100-180 beats per minute. This settled to 150-155 beats per minute with accelerations and no decelerations present. Mrs B was told not to push as there was a risk of tearing and bleeding.

At 3.35pm Mrs B was fully dilated. Ms E said Mrs B had started pushing ten minutes previously and although not pushing effectively, was doing her best. Contractions were one every two to four minutes and strong early decelerations were present down to 100 beats per minute, with recovery to baseline within 60 seconds. At 4.00pm a peep of the vertex (top of the head) was visible with contractions. The FHR was 145-147 beats per minute.

At 4.10pm as the head was crowning Ms E rang the bell to request a second midwife for the delivery. Another midwife, Ms M, answered the call. The FHR was 140-150 beats per minute. Mrs B pushed with the next contraction and the top of the head advanced a little to show the baby's forehead. Ms E briefly thought of performing an episiotomy but the perineum was too snug against the baby's chin and she felt her fingers would not have been able to fit inside. The FHR was regular and contractions were one every two minutes. Ms

E said that Mrs B seemed to want to push constantly and was able to give three hard pushes with each contraction. The baby's face and mentum (chin) delivered slowly over the perineum which remained intact. Meanwhile Ms E said there was great joy among the family with the birth so near and Mr A told his wife that it would all be over soon.

When the baby's head appeared it was full and round. Ms E anticipated a large infant and requested Ms M to ring the bell for more assistance. Meanwhile Mrs B had another contraction.

Shoulder dystocia
Ms E described the shoulder dystocia (obstruction of delivery due to impaction of the baby's shoulder on the pelvis) that occurred:

> "I requested [Mrs B] to give a hard push while I pulled on the baby but the shoulders did not move. I said to RM [Ms M] to 'pull out the bell', as I wanted the assistance of the consultant midwife (by pulling out the bell the emergency alarm rings). I was aware that the consultant midwife would probably have to be located on […] (the other maternity ward) therefore it could be a few minutes before she would arrive.
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> I again urged [Mrs B] to push 'as hard as you can' while I pulled on the baby but the shoulders remained lodged. Midwife [Ms N] entered the room. I advised her that I wanted the consultant midwife as the shoulders were stuck. I asked for [Mrs B's] legs to be lifted and abducted fully to open the pelvis more.
>
> [Ms N] moved to the right of the bed while midwife [Ms M] remained on the left. I also requested fundal and suprapubic pressure by the midwives when [Mrs B] was pushing with contractions. Meanwhile I continued to try to release the shoulders under the pubic arch. I then inserted my fingers per vagina to ascertain the position of the shoulders to try to deliver the posterior shoulder first. I was unable to determine the position. Again I briefly thought about performing an episiotomy but realised it would be unsafe to do this because it was impossible to clearly determine any landmarks. The baby's colour was purple.
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> [Ms N] was preparing the bed for delivery in the lithotomy [patient reclining on back with hips and knees flexed and abducted] position. I had meanwhile requested [Mrs B] to be changed to lateral position [patient on side with thigh and knee drawn up] hoping the change would dislodge the shoulder from under the pubic bone or change the position of the shoulders enough to enable some flexibility within the pelvis with traction.
>
> Midwives [Ms M] and [Ms N] turned [Mrs B] to the right lateral. As I was about to walk around the left side of the bed midwife consultant [Ms G] entered the room. I said '[Ms G], shoulder dystocia, I haven't done an episiotomy' and motioned to a pair of gloves on the trolley for her. I quickly gave her a brief summary of labour events. Consultant midwife [Ms G] had walked around to the left side of the bed. She spoke to [Mrs B] and prepared to pull the baby out while [Mrs B] was pushing at the same time

> as midwife [Ms M] and [Ms N] were applying fundal and suprapubic pressure. The baby was delivered after 3-4 pulls from consultant midwife [Ms G]. He was pale and floppy. I quickly clamped and cut the cord and handed the baby to consultant midwife [Ms G]."

Mrs B gave birth to a boy, Baby L. His birth weight was 5050gms (11lb 4oz). Mr A said that:

> "To me the labour seemed unusually long and hard (I was present for the duration of all three births of our children). At no time did the resident specialist make an appearance be it even a brief hello how are you."

Dr O, anaesthetist, recorded that he was "Called to baby for breathing problems post shoulder dystocia at 1617hrs. Arrived 1620hrs."

Dr C got a call from the hospital switchboard informing him there was a patient who had a shoulder dystocia in the delivery suite. Dr C was staying at a motel where most of the specialists doing on call duties for the public hospital stay. Dr C informed me this was the first time that he had heard about Mrs B's progression of labour since Ms E had contacted him earlier that morning requesting augmentation of Mrs B's labour by Syntocinon.

Dr C said he left immediately and drove himself to the hospital. Dr C described the events as follows:

> "I got another phone call from a midwife on [the ward] that the baby had developed shoulder dystocia, had just been delivered and was being resuscitated and they were waiting the arrival of a paediatrician. I continued my way to the hospital. I have no record of the time that I was called nor my arrival at [Mrs B's] room but it usually takes about 4-5 minutes from the [motel] to the Unit. When I arrived at [Mrs B's] room the consultant anaesthetist, [Dr O], was in charge of the process of resuscitating the baby. I helped in the resuscitation process while we were waiting for the consultant paediatrician to arrive."

Baby L was unable to be resuscitated and died.

Dr C said that after Baby L's birth, Ms G checked Mrs B and told him there was no need for him to examine her. Dr C introduced himself to Mr and Mrs B and expressed his condolences and sorrow on the death of their son. Dr C said it was a very short period of time after the birth and Mr A and Mrs B were very upset, as would be expected. Two hours later Dr C went to the ward and asked if Mr A and Mrs B wished to see him and was told by a midwife that they wished to be by themselves. Dr C said he respected their privacy and grief and left the ward.

Dr C said that during Mrs B's management there was no misuse of Syntocinon infusion. Dr C reviewed Mrs B's clinical notes and considered that there was no hyper-stimulation of the uterine activity by Syntocinon. Dr C stated that unfortunately clinical assessment is a poor

predictor of foetal weight and that the occurrence of shoulder dystocia is difficult to predict and typically appears unexpectedly.

The pathologist did a post-mortem on 19 April 1999. The post-mortem findings were as follows:

> "Post mortem findings including histology are consistent with terminal anoxia. Positive cultures of *Streptococcus agalacticae* from both lungs could suggest foetal infection but on the basis of other findings and circumferential evidence this is unlikely to be the immediate cause of death of the infant. In my opinion this resulted from severe intra-partum asphyxia."

Mr H, Chief Executive Officer, of the public hospital, advised me:

> "In summary, [the hospital] has ascertained its staff complied with policies and protocols that guide the care of women receiving antenatal and labour and delivery services from [the hospital]. We believe our staff acted appropriately based on the clinical information they evaluated when caring for [Mrs B] in her pregnancy. We sincerely regret the death of [Baby L] but have not identified how we could have prevented his death."

Ms D said that she believes the care she provided Mrs B was of the same high standard that she provides for all her clients. Ms D said she shares in the sadness and pain felt by Mr A and Mrs B at the loss of their son, Baby L. Ms D said:

> "I would like the Commissioner and [Mr A] and [Mrs B] to know that at no time did I withhold investigation or referral knowing that their baby was macrosomic (large baby) and that his birth might be complicated by shoulder dystocia. I have never hesitated to refer for specialist review. I have done so with other clients both before and since [Mrs B's] baby's birth and I will continue to do so."

Ms D stated:

> "I was very sure of the accuracy of my measurements while caring for [Mrs B]. Since this complaint I continue to use the McDonalds method of measurement and after reading several articles on fundal height measurement my practice has developed to include the use of a Baeyertz tape as it gives me extra information on which to base my clinical decisions."

Ms D advised me:

> "My technique of calculating fundal height was learned from set midwifery text books, tutors at [an institute of technology] where my midwifery training was done, midwives at [the public hospital] antenatal clinic, midwives with whom I was placed for practical experience during my midwifery training, obstetricians I have observed during antenatal consultations."

ACC Medical Misadventure Unit

Mrs B's claim to the ACC Medical Misadventure Unit in relation to the pelvic injury she suffered during the birth was accepted as medical mishap. The Committee declined a claim that Baby L's death was a result of medical error and was satisfied that the midwives involved in Mrs B's care exercised a standard of care and skill reasonably to be expected in the circumstances.

Independent advice to Commissioner

During this investigation, my policy on the use of, and naming of, expert advisors changed. The College of Midwives were asked to supply me with a list of recommended advisors. As my first midwife advisor was not included among those recommended by the College of Midwives, I sought independent expert advice from a second midwife, Ms Sue Lennox. I have relied upon Ms Lennox's advice.

Independent midwife Ms Sue Lennox provided the following expert advice:

"**Documents viewed**

I have viewed and referred to all of the documents 'A' to 'L' provided as supporting information and, in addition a report on phone discussions held at my request between [the investigation officer] and [Mrs K] and [Dr J].

Structure of this report

I have structured this report around the specific questions where my decision is requested.

[Ms D]

In my opinion, [Ms D] failed in one aspect of her antenatal care in that she misinterpreted the measurements that she took of fundal height and thereby failed to detect the presence of a very large baby. Interpretation of these measurements is either correct or not and it appears [Ms D] consistently did not interpret them correctly at any stage in the pregnancy. This is a clear failure of skill and knowledge that leads to my severe disapproval and would, in my opinion, be similarly viewed by other peers.

[Ms D] persisted in her misinterpretation in the face of the finding of another midwife that the baby was large (the comment from the practice nurse does not seem to have made much impact when mentioned to her by [Mrs B] since she cannot recall this conversation). She rechecked the size (again using her own misinterpretation) and disagreed with the other midwife's finding. In my opinion, she should have at least discussed her findings with the other midwife and might then have discovered her own mistake. Her failure to do so is something that I mildly disapprove of (since it is

understandable that she believed her own tape measurements) and I think that other peers would agree.

It is worth noting that failure to interpret fundal height measurements correctly in the way that [Ms D] did will only lead to missing large babies (she may over-diagnose small ones). Detection of large babies during pregnancy and subsequent interventions have not been shown to lead to improved outcomes in large studies – though it may not be accurate to apply such overall findings to each individual case.

1. How is a baby's size determined antenatally?

A baby's size is determined clinically by palpation. At 20 weeks (halfway through a pregnancy) the fundal height or apex of the uterus is at the level of the umbilicus. After 20 weeks the traditional method of estimating size is that one finger width above the umbilicus is equal to two weeks of growth. For example, at 26 weeks the baby's size would be judged normal if the height of the fundus was three fingers above the umbilicus.

Judgement is called for from about 34 weeks until delivery, as the measurements become less accurate because the presenting part may descend into the pelvis or the body may be either flexed, or extended.

The other means many of us use to determine a baby's size is a tape measure. This appears to be what [Ms D] used. Measurements of fundal height in centimetres, however, do not correspond to weeks of gestation – and interpretation is needed with reference to expected height at different gestation, in order to convert from centimetres to weeks of gestation.

Some use (as I do) a Baeyertz tape which an obstetrician from [the area] designed. This tape was constructed using the average of fundal height measurements for pregnant New Zealand women. (Baeyertz, 1983). [This article is attached as Appendix B.] It shows measurements in estimated weeks of gestation on one side and centimetres on the other.

In the last ten years, ultrasound scanning of the baby has been used to accurately determine the gestational age and check foetal morphology at 18-20 weeks gestation. It has almost become routine, because it adds an information baseline against which last menstrual periods and conception dates can be checked against the baby's size. Estimation of expected size of a baby using scans later in pregnancy varies between 300 to 500 gms from actual birth weight. (Zamorski & Biggs, 2001). Routine late scanning does not improve outcomes but a scan is appropriate when a large baby is suspected clinically. (Enkin et al., 2000, pg 56.)

2. Comment on palpation technique used by [Ms D]

From the pregnancy record it appears that [Ms D] has palpated the mother's abdomen and made a statement about the position of the baby on each occasion from 30 weeks onwards – this is appropriate.

She does not state an estimation of size by palpation except for the first visit at 14 weeks. She records a fundal height measurement on each other occasion she saw the mother but she does not record size by palpation. The only time this is mentioned is in the comment about the 'big baby' finding by [Ms F]. [Ms D] says that on the next visit she found the baby's size by palpation to accord with her fundal measurement.

However, the next recorded measurement (42 cms) is one that would be found in very few mothers (except for twins). (Baeyertz, 1983). See below for further comment about how [Ms D] interprets fundal height measurements.

3. Are the steps [Ms D] took to determine the size of the baby in accord with good professional standards?

[Ms D] appears to have measured fundal height using an ordinary tape measure, which, if interpreted correctly, is fine. An ordinary tape, a Baeyertz tape, or palpation using finger widths are acceptable ways of clinically monitoring growth and baby size. [Ms D] has not written anything in the column on the records to indicate her clinical estimation of maturity based on these centimetre measurements. She appears to have interpreted centimetres of fundal height as being exactly equivalent to weeks of gestation.

If, as appears, [Ms D] is using centimetres as an equivalent to gestational age, then this does not accord with good professional standards. I note that in [Ms D's] comments on this case and her own records she makes no comment about the apparent discrepancy. [Ms D] appears to have a significant knowledge and skill deficit here – and this may still be a part of her practice.

4. During the antenatal period, did [Ms D] document the size of the baby in accordance with the required professional standard?

As mentioned [Ms D] did not record her estimation of the baby's size in the appropriate column on the records ('maturity/clinical') but only recorded her fundal height measurements in centimetres (in the 'height/girth' column). It is interesting that the other midwife, [Ms F], continued to write her estimation of the baby's size in the same column for fundal height – but she does not write centimetres.

5. Were there any indicators during the antenatal period that would have alerted [Ms D] that this was a large baby?

Yes, there were clear indicators of the size being large by tape measurements had these measurements been correctly interpreted.

As explained above, one of the striking features of the records for [Mrs B] is the use of centimetres for clinical measurement as if they equalled weeks of gestation. In fact,

using the Baeyertz tape to convert these centimetres into equivalent gestational weeks, the fundal height indicated a big baby from 25 January onwards.

On that date the expected gestation was 28 weeks and four days but the measurement of 29 cm actually converts to 31 weeks. At 30 weeks (9 February) centimetre size was 32 cm and this converts to 36 weeks size by the Baeyertz tape. At 33 weeks and five days (2 March) she was measuring 34 cms, which is equivalent to 38 weeks. This was therefore a very large baby at that stage. The later measurement by [Ms D] was 42 cms which is off the Baeyertz tape completely (40 weeks = 35.5 cms).

(It is unclear whether [Ms F] used a tape at her visit on 16 March at 35 weeks and six days. She did know and wrote down 38 weeks size and commented 'big baby'. She saw [Mrs B] three times and on two visits recorded a bigger baby than expected by gestational date.)

6. Given the 'big baby' comment on 16 March were the actions [Ms D] took thereafter in accord with good professional standards? In particular should [Ms D] have ordered further tests on the basis of this comment?

[Ms D] noted the covering midwife's comment but she says she knew her client had delivered a largish baby last time and, by her palpation and measurements, she did not think the size was unusual. Again the error appears to have been in her clinical skills in interpreting whether the baby was larger than expected from her fundal height measurements.

The warning about a big baby from the general practice surgery was based on the opinion of the practice nurse, [Mrs K], following her palpation of [Mrs B's] abdomen. [Mrs K] is a nurse with theatre experience but apparently no specific qualifications in midwifery. However she states she is 'very well experienced in these things'. Her palpation did not include fundal height measurement. However, she made a correct observation that the baby was large for dates. [Mrs B] mentioned this finding to [Ms D] at her next visit though [Ms D] cannot recall that discussion.

If she had thought the baby was large then a scan would have been an appropriate investigation. A glucose tolerance test would be another useful test to check for maternal diabetes, which predisposes to large babies. However, the Polycose challenge test on 29 January was normal so diabetes was unlikely.

7. In your opinion, was there anything during [Mrs B's] antenatal care that would warrant [Ms D] discussing the case with the consultant obstetrician?

I do not think it is reasonable to expect her to seek an obstetric opinion when she did not perceive a problem. My concerns are whether she missed warnings from her own measurements and two separate sources, the practice nurse and the covering midwife. I think this amounts to a serious error. Had she been interpreting her own findings correctly she should have ordered a confirmatory scan and sought an obstetrical opinion.

8. Any other issues raised by the supporting documentation.

If [Ms D] had consulted an obstetrician there is no evidence that this would have significantly changed the outcome. 'Available evidence suggests that planned interventions based on estimated foetal weight do not reduce the incidence of shoulder dystocia and do not decrease adverse outcomes attributable to foetal macrosomia.' (Sacks & Chen, 2000.)

Had suspicion been aroused prior to delivery then the subsequent management may have been different but it is still quite likely, given the evidence about dystocia, that the outcome would have been the same."

I sought further information from my midwifery advisor concerning the method of fundal height calculation used by [Ms D].

"**Questions**

1. Whether the method of calculation of fundal height used by [Ms D] is appropriate?

As I previously stated, I do not think that [Ms D's] calculation of fundal height is appropriate. I note that the palpation method (as used by the second midwife at 36 weeks) signalled that the baby was large for dates and certainly the Baeyertz tape method that I discussed indicated that the baby compared to other New Zealand babies in Baeyertz's sample (Baeyertz 1983).

Personally it also seems obvious that uterine sizes must vary according to physical differences. In this case we had a […] woman at the same gestation as centimetres until she was term and measuring 42 cms. This is an unusually high centimetre measure for anyone's pregnant uterus let alone a woman from […]. This way of measuring is only a very rough guide and must be supported by how big this baby feels to the practitioner's hands and in comparison with other pregnant bellies and how the woman feels about the size compared to her other pregnancies.

2. Comment on [Ms D's] response concerning where she acquired her knowledge for calculating fundal heights?

I have made enquiries at the teaching school in [another city] and read the textbooks used by student midwives (Williams 1996) and find they are taught that measuring the height in centimetres from the pubic bone to the fundus is equivalent to weeks of gestation give or take two centimetres. This surprised me. However, I have had a look at international teaching and it seems that a similar approach has been followed in other places overseas.

The international evidence, however, is that this method is likely to be quite unreliable. Indeed, the original McDonald's Rule (derived from an article by McDonald (McDonald 1906) published in 1906 in the Journal of the American Medical Association) was

somewhat more complicated than the simple interpretation that now seems to be taught. McDonald estimated that gestation in weeks = fundal height (cms) x 4 / 3.5. Using this the height of 32 cms at 30 weeks would be equivalent to 36.5 weeks size.

I thus must conclude that [Ms D] followed her teaching (and she says common practice among midwives and obstetricians) when she assumed the gestation to be equivalent to the fundal height. I believe this practice is considerably less accurate than the Baeyertz tape method and I note that [Ms D] appears to have come to the same conclusion.

I should also note that there is no evidence that any measurements of fundal height have been shown to make a difference to outcomes so it may be that this discussion is somewhat academic.

3. Whether [Ms D] provided services to [Mrs B] with reasonable care and skill, and that comply with legal, professional, ethical and other relevant standards?

In respect to the issue of fundal height measurements and their interpretation I now acknowledge that [Ms D] provided services with reasonable care and skill in line with her teaching.

I would qualify this by noting that several of [Ms D's] measurements were large even by her own interpretation method (32 cms at 30 weeks and 42 cms at term are large by anyone's standards). Given these large measurements I still find it surprising that she did not pay more attention to the comments by the other midwife and by the practice nurse that the baby was large for dates. Thus, even allowing that she was reassured by her own measurements, she would have displayed a higher standard of care had she paid more attention to these concerns expressed by professional colleagues."

My midwifery advisor also provided advice to me about Ms E.

"[Ms E]

In my opinion, [Ms E's] conduct during the labour was appropriate and I do not think that she should have requested a consultant obstetrician to see her client earlier. Her discussions with the consultant during the labour were appropriate.

In respect of the management of the shoulder dystocia when it did occur, I note that [Ms E] behaved in accordance with her training and with the hospital protocols and therefore I do not disapprove of her actions.

I do, however, note that fundal pressure was used and, in my opinion, this is not appropriate management. I assume this was part of the training [Ms E] (and the consultant midwife, [Ms G]) received. I think that a standard training package and protocol based on current evidence (e.g. the ALSO programme mentioned below) should be in place throughout New Zealand. The failure here is a national systems failure in training for such emergencies.

1. In your opinion, should [Ms E] have requested specialist opinion from the specialist obstetrician to assess [Mrs B's] failure to establish labour?

I think it was reasonable for [Ms E] to discuss management of [Mrs B] with the consultant obstetrician. She had to resolve a clinical dilemma: [Mrs B] had ruptured membranes and had a positive vaginal streptococcal swab, and therefore infection was a real risk to the baby and the mother. The midwife knew that with prompt delivery there was less chance of this happening but she felt that the labour was not establishing quickly enough. The advice given by the obstetrician and subsequent action to augment labour with Syntocinon was appropriate given these concerns – and in fact was successful in establishing labour.

The baby's size does not appear to have been an issue in these discussions. Given the fact that an unusually large baby was not recorded by [Ms D] antenatally on the pregnancy record, it is understandable that [Ms E] did not recognise this potential problem during labour.

2. Can you describe what shoulder dystocia is? How common is it and what are the risks associated with it?

Definitions of shoulder dystocia have been numerous and disagreement abounds but one, which works in practice, is: 'Mean head-to-body delivery time exceeds 60 seconds'. (Spong, Beall, Rodrigues, & Ross, 1995.)

However, as Spong notes, the incidence of shoulder dystocia using this definition is higher than using many other definitions. I think this definition works as a warning for any delay more than one minute, but action is only needed where the delivery is clearly obstructed. I can think of many births taking over 60 seconds which were uncomplicated but entailed waiting for the shoulders to deliver with the next contraction. In these cases the neck was clearly visible whereas with shoulder dystocia the baby assumes the 'turtle neck appearance' with very little neck being visible since the shoulders are clearly held up.

The reason shoulder dystocia occurs is because both shoulders enter the pelvis at the same time. The posterior shoulder should lead and when this does not happen the anterior shoulder becomes trapped behind the symphysis bone.

The statistics show an incidence of shoulder dystocia between 0.15% and 1.7% of all vaginal births (Piper & McDonald, 1994). Morbidity and mortality rates are high, with perinatal mortality estimates ranging from 21 to 290 per 1000 births. (Meenan, Gaskin, Hunt, & Ball, 1996.)

The neonatal risks associated with shoulder dystocia are numerous: brachial plexus injury, neonatal asphyxia, learning difficulties and skeletal injury such as fractured humerus and clavicle and of course death. The maternal complications include vaginal

and cervical lacerations, vaginal haematomas and uterine rupture or atony resulting in post-partum haemorrhage. (Mace, 1996.)

3. Is the risk of shoulder dystocia occurring greater in a large-size baby?

Yes. The clinical term for a large baby (usually defined as greater than 4000 gms) is macrosomia. 'Shoulder dystocia … occur more often in macrosomic than in non-macrosomic neonates. However, 26 to 58 percent of shoulder dystocias … occur to babies weighing less than 4000 gm. Persistence of impairment is extremely rare.' (Sacks & Chen, 2000.)

The important point to note is that shoulder dystocia is not predictable and that, moreover, planned interventions based on estimates of increased risk do not reduce the incidence of the condition. 'Available evidence suggests that planned interventions based on estimates of foetal weight do not reduce the incidence of shoulder dystocia and do not decrease adverse outcomes attributable to foetal macrosomia'. (Sacks & Chen, 2000.) The attached article (Zamorski & Biggs, 2001) gives an excellent survey of the available evidence that supports this statement.

4. Were the actions [Ms E] took during the birth in accord with good professional practice?

The actions [Ms E] took were an adequate response to this case of shoulder dystocia and were presumably informed by the recent lecture she had received on the subject. I have attached an article that gives a good account of how to manage shoulder dystocia. (Mace, 1996.)

She recognised the problem at an early stage as soon as the head was delivered and immediately called for assistance from the consultant midwife.

She used the McRoberts manoeuvre (flexing and abducting the legs). She 'tried to release the shoulders under the pubic arch'. Working on the anterior shoulder after the McRoberts manoeuvre is appropriate since that manoeuvre is an attempt to release the anterior shoulder.

She then tried to ascertain the position of the posterior shoulder presumably in order to try to release it. This is part of the next commonly recommended manoeuvre: Wood's screw manoeuvre – which involves rotating the anterior shoulder by supra-pubic pressure while rotating the posterior shoulder internally. At this stage the other midwife was applying supra-pubic pressure. However, [Ms E] was unable to determine the position of the shoulders per vagina. In my experience this inability is not to be considered as a failure of expertise. This baby was severely impacted and that makes it very difficult to delineate the shoulder from the rest of the baby's trunk.

She next mentions considering an episiotomy but deciding this was unsafe. While it might have been possible to carry out an episiotomy without significant damage to the

baby in my opinion this was a very reasonable decision to make. The baby was eventually delivered without an episiotomy and most opinion about the appropriate manoeuvres is that episiotomy is not very important. This is because the shoulders are impacted by the bony structures of the pelvis rather than the soft tissues of the perineum.

The next manoeuvre used was to move the mother to the lateral position hoping to dislodge the shoulder. This is another recognised manoeuvre – and is in fact the first manoeuvre mentioned in the attached article.

At this point in the report the consultant midwife, [Ms G], took over. She carried out traction assisted with 'extreme abduction of the legs and fundal pressure' and on the third attempt felt the shoulders 'give' and the baby was delivered. She too had attempted to free the shoulders per vagina without success.

In assessing the adequacy of these actions I have referred to various references. A useful and clear set of recommendations comes from the training that is part of the Advanced Life Support in Obstetrics (ALSO) course that it is hoped will be widely available in New Zealand soon. The acronym HELPERR is used in that course as a mnemonic for appropriate practice (see attachment). [Ms E] carried out (or attempted) all of these actions apart from rolling the woman to all fours.

However, I note that throughout the account fundal pressure was used – sometimes in combination with suprapubic pressure but fundal pressure alone was used after the mother was moved to the lateral position. At least one study has shown that fundal pressure is associated with high levels of complications (77 percent). (Gross, Shime, & Farine, 1987) The ALSO course which is based on recent opinion advises not to use fundal pressure (see attached slide from the course). This is a recent recommendation and one that is not yet widely followed.

Thus I conclude that [Ms E's] actions were an adequate response in line with at least some professional advice (presumably part of the recent lecture she attended) – and were clearly supported by the other clinicians in her unit (including [Ms G] who also used fundal pressure).

5. In your opinion should [Ms E] have requested specialist assistance from the consultant obstetrician when [Baby L] presented with shoulder dystocia?

No, I think that it was completely appropriate for [Ms E] to call for help first from the consultant midwife and then to proceed to attempt to deliver the baby as she did.

The consultant midwife called the obstetrician when she arrived. At this point she knew that many of the available manoeuvres had already been attempted and there was the possibility that cleidectomy (deliberate fracture of the collar bone) or the Zavanelli manoeuvre (reinsertion of the head followed by Caesarean section) would be needed. Both of these actions would have required an obstetrician.

I note that the midwives both followed the agreed procedures in [the public hospital] for this sort of emergency situation. In my opinion these are appropriate procedures.

6. Are there any other issues raised by the supporting documents?

As noted above, there are some aspects of the management of shoulder dystocia in this case that might be improved. There should be a standard set of protocols to follow when shoulder dystocia is detected – and these should be based on the most recent evidence about best practice. The ALSO course appears to be suitable for this purpose. Since evidence from Britain shows that midwives more often manage shoulder dystocia than any other professional group (Hope et al., 1998) it is important that all midwives receive this training."

An independent obstetrician and gynaecologist, Dr Alastair Haslam, provided the following expert advice:

"…

CLINICAL STORY

3. [Mrs B] was under pregnancy care of [team] midwife [Ms D]. This describes a system of care (known elsewhere as caseload) where [the hospital] employed midwives care for patients, usually in teams of two. This allows for regular time off for the midwives, and the institution provides administrative and other support. In return for this midwives are paid a salary rather than making claims directly on the maternity benefit scheme.

4. [Mrs B] […] was aged 34. This was her third pregnancy. In 1988 she had a term delivery of a girl and in 1990 a delivery at 37 weeks of another girl. Baby weights were recorded as 7lb 14 oz (3570 gm) and 8 lb 2 oz (3690 gm).

5. From the records supplied [Mrs B] appears to have had a normal pregnancy. She had two scans in the early part of her pregnancy, the first to check dates and the second a foetal anatomy screen in mid pregnancy.

6. An antenatal swab was done on 12.01.99 and this was positive for Group B streptococcus. On 21.01.99 at around 26 weeks gestation she had a polycose screen for diabetes and this was normal at 6.3 mmol/L., the limit of normality being 7.8 mmol/L. This test being negative makes diabetes unlikely although not impossible.

7. There was another observation by midwife [Ms F] on 16.03.99 that this was a 'big baby'.

8. Midwife [Ms D] reports in a letter of 20.12.99 that she 'considered the comment and on examination did not find [Mrs B's] baby to be so large as to require ultrasound scan or specialist review'.

CONDUCT OF LABOUR

9. Labour began spontaneously on 17.04.99 at 40 weeks 3 days gestation. Midwifery care was provided by midwife [Ms E], [Ms D] having a weekend off. A brief summary follows:

0450 hrs	Spontaneous rupture of membranes
0525 hrs	Admitted, assessed by [Ms E]
0615 hrs	Vaginal examination showed patient to be 3 cm dilated. The early vaginal bacterial swab was noted and in accordance with the protocols of [the hospital] antibiotics were to be given 18 hours following rupture of membranes.
0745 hrs	3 cm
0935 hrs	Discussion 'Cons Gad for Syntocinon augmentation maximum to 6 mU/minute. Contractions irregular and strong.'

10. [Dr C] had been in Delivery Suite but had not been asked to see [Mrs B] although discussion took place about her case.

1000 hrs	Discussion of Syntocinon augmentation.
1115 hrs	Syntocinon augmentation commenced 1.200 hrs Feeling foot pushy
1230 hrs	Partogram 5 cm dilated station – 1
1350 hrs	Partogram 8 cm station 0
1450 hrs	Notes 9 cm pushing strongly
1550 hrs	Anterior lip
1600 hrs	Vertex visible
1610 hrs	Rang for assistance
1614 hrs	Delivery of infant, male 5050 gm who sadly did not respond to resuscitation

11. I shall return to the conduct at delivery as in part of my general comments. The efforts of various personnel in resuscitation are recorded and are not particularly at issue.

DECISION REQUIRED

12. In answer to the questions raised at page 2 of your letter 29 November 2000:

    In one sense, [Dr C] having initiated augmentation of labour must accept responsibility for the outcome. In former times that would have involved his own clinical assessment. However increasingly with changes to the Nurses Amendment Act in 1990 and the growth and development of midwifery as a profession in its own right and the evolution of the New Zealand concept of lead maternity carer, obstetricians or their delegates will increasingly rely on clinical assessment and information given by midwives. This is common practice throughout many New Zealand hospitals. It would depend very much on the particular relationship

between midwife and obstetrician but it is usual to accept clinical judgements and assessments made by midwifery colleagues and to advise or initiate treatment or therapy on that basis. However treatment having been initiated, there is an ongoing responsibility of both midwife and doctor to see what the outcome is and there appears to be no further communication after 0900 or 0930 hrs with [Dr C], until he was called at the time the staff were realising they were having difficulty with the delivery.

13. In answer to both the first two questions it is reasonable and common practice for [Dr C] to accept midwife [Ms E's] assessments and to have authorised the Syntocinon infusion. The [hospital] Maternity Services Guidelines for Best Practice July 1998 Drug Protocol relating to the management of Syntocinon says

> 'the use of Syntocinon must be initiated only in liaison with the O&G consultant and must be clearly documented in the clinical notes signed by the consultant or registrar involved'.

14. I see no signature but it appears to have been verbally authorised. A prerequisite of Syntocinon infusion also at page 3 – A-7 indicates 'a recent CTG sighted, signed and dated by the O&G Consultant', although there is no evidence of that in the material supplied to me. There is no drug chart where the Syntocinon is formally charted in the material supplied.

15. Apart from these apparent departures from the hospital protocol, which may have been attended to in papers not supplied, the authorisation of Syntocinon appears to have been appropriate without the personal examination of [Dr C] based on midwife [Ms E's] findings.

16. The advice [Dr C] gave concerning Syntocinon restricting it to 6 mu/minute was within the hospital guidelines and in his letter of 18 November 1999 he indicates his recollection of what matters were considered. His standard practice appears to be good professional practice as to his restriction on dosage.

17. His only involvement prior to [Mrs B's] delivery was the discussion around 0935 hrs concerning the use of Syntocinon. His only other involvement appears to be when called at the time of delivery and by the time he did arrive delivery had been accomplished. I do not know what arrangements are made for on call obstetricians at [the public hospital] but there is reference to the obstetrician staying in a motel a few minutes distance from the hospital. One would expect his physical presence at least once a day or possibly more often if clinical situation is warranted. Similarly one would expect some form of interchange over the telephone as to the progress of patients in labour, particularly where his involvement or advice had been sought concerning the Syntocinon infusion.

18. His next involvement appears only to have been at the time of delivery and by the time he arrived delivery had been accomplished.

Other Issues

19. [[Ms G], Midwife Consultant, writes in her own notes on sheets 14 and 15 (as numbered at the bottom right hand side of the clinical notes) describing fundal pressure and delivery of the baby with traction to the posterior arm and did not proceed to an episiotomy. Fundal pressure is not usually advised in case of shoulder dystocia. Episiotomy is usually necessary, although it may have been difficult to perform an episiotomy in this particular situation.

20. There is a hand written note from [Mrs K], Practice Nurse, to [Dr J] in response to a report requested by […] of ACC on 27.09.99. The practice nurse comments 'I noted that she was too large for dates and suggested she see a specialist and have a U/S'. I can find no documentation of that in her hospital records although it may not be there. It does beg the question as to whether a general practitioner should have a greater input where they see pregnant patients, initiate investigation where appropriate and not leave all decision making to the LMC.

SHOULDER DYSTOCIA

21. This involves shoulder dystocia. There is an incidence varying from 0.23% to 1.1% of vaginal vertex deliveries. There is no universally accepted definition. Risk factors include maternal diabetes, a large baby, a short stature and post term gestation and tripartum factors include prolonged first and second stage or arrest at the second stage. However many cases occur in the absence of identifiable risk factors and shoulder dystocia is not easily predicted. It occurs when there is a large baby and the limb and shoulder girdles are trying to traverse the internal pelvis. A British survey of 56 fatal cases (P Hope 1998 et al Br. J. Obst. Gynaecology Vol. 105 pages 1256-1261) indicate that fatal cases are rare but even a brief delay may be associated with a fatal outcome and they speculate as to the reasons for this. The only risk factor in this case was the large baby and this was considered although it was not thought to be significant by the attending midwife or midwife antenatally, or by the midwife in labour. The only question then is whether that diagnosis would be made by [Dr C]. Of course that is possible but he did not make the opportunity to undertake a clinical examination. It should be said that clinical estimation of foetal weight is not always reliable, and indeed ultrasound particularly with large babies may be associated with errors of 15% or greater. Slow progress in a multiparous patient does raise the question of disproportion either because the baby is in a bad position e.g. posterior or is larger than previous babies.

22. Hope and colleagues in their article go on to make some pertinent observations 'When a large baby is suspected clinically the case sheet should be clearly marked'. Had that been identified, then an obstetrician should have been in attendance when delivery was anticipated, as indeed could paediatric attendance. They comment on the review of notes suggesting care was suboptimal in some cases. The unit should reflect upon whether the conduct of those involved is within accordance with

accepted guidelines including undoubtedly their own Guidelines for Best Practice of Shoulder Dystocia.

Group B Streptococcus

23. The baby's lungs were colonised with the organism and although it was not the cause of death it might well have been a complicating factor had he survived. Having identified the mother as a carrier, consideration should be given to intrapartum antibiotics to reduce the risk of the baby acquiring the organism. This is not the [hospital] Protocol. There are differing protocols around this particular clinical issue which perhaps reflects the uncertainty of it. However the baby's lungs were at post-mortem colonised with the organism.

24. In summary big babies are difficult to identify. Ultrasound only gives an estimate of weight. If the professionals had realised this was a 5 kg baby being born to a woman of some 55 kg then potential difficulties at delivery may have been anticipated. It is unlikely caesarean section would necessarily be advised but as most practitioners would proceed to trial of labour but with the heightened sense of awareness. Shoulder dystocia is a poorly predicted emergency and all practitioners must have an understanding of how they may deal with it. Unhappily at times this may be fatal for the baby.

25. [Dr C's] prescribing of Syntocinon, (apart from to be minor breaches of hospital protocol) on the clinical findings of the midwife is common practice. His clinical assessment may have picked that it was a large baby, or it may not; had he done so care and supervision during the labour and presence at the delivery may have been different.

I am happy to amplify on these matters and make further comment if necessary."

Code of Health and Disability Services Consumers' Rights

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

RIGHT 4
Right to Services of an Appropriate Standard

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

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

…

RIGHT 6
Right to be Fully Informed

3) Every consumer has the right to honest and accurate answers to questions relating to services, including questions about –

…

c) How to obtain an opinion from another provider ….

Other relevant standards

[The hospital], Maternity Services, Guidelines for Best Practice, July 1998

Drug Protocol: Management of Syntocinon

…

Important	This is a prescription protocol and must be followed. Any deviations must be discussed with the Consultant Obstetrician on call and documented prior to being actioned.
Policy	In ALL CIRCUMSTANCES the use of Syntocinon must be initiated only in liaison with O&G Consultant and must be clearly documented in the clinical notes, signed by the Consultant or Registrar involved.

Indications – Enhancement of slow progress in labour in the active phase, ie., cervical dilation <1cm/hour once the cervix is fully effaced and at least 3cm dilated.

– Induction of labour.

Contraindications Contraindications of a Syntocinon infusion are:

– foetal distress
– frequent contractions less than 2 minutes apart
– prolonged contractions last > 70 seconds

Cautions – Absolute disproportion.

– Multiparous women (inco-ordinate uterine action is less common in this group and if progress slow, suspect malpresentation or disproportion especially if there is secondary labour arrest).

– Breech (augmentation of women with a breech presentation is contentious, but may be used in the first stage if contractions are poor, eg., after pre-labour rupture of membranes. Beware late first stage augmentation).

– Previous caesarean section or uterine surgery.

Note: The maximum dose expressed in this protocol may be an excessive dose for some women. For this reason it is imperative that the Consultant Obstetrician be involved in the discussion, decision and ongoing management of augmentation of labour.

Pre-requisites Pre requisites of Syntocinon infusion are:

– recent CTG sighted, signed and dated by the O&G Consultant
– longitudinal lie
– ruptured membranes
– healthy foetus, and
– normal maternal observations.

…

Opinion: No Breach – Midwife, Ms D

Right 4(1)

Documentation of large size of baby during pregnancy
The allegation made in the letter of complaint was that Ms D failed to document, during Mrs B's pregnancy, the large size of the baby. Baby L weighed 11lb 4oz when he was born.

It appears to me that one of the issues arising from the allegation is that if the large size of the baby had been detected during pregnancy, some action could have been taken to prevent the shoulder dystocia and the death of Baby L. However, my investigation has revealed that the alleged failure to document the large size of the baby was not an oversight on the part of Ms D, since it was her clinical opinion that the baby was not overly large.

Ms D, as Mrs B's LMC, was primarily responsible for Mrs B's antenatal and delivery care. Ms D first met Mrs B at her booking visit on 23 September 1998 and examined Mrs B ten times during her pregnancy. Early in her pregnancy (at 11 weeks) Ms D arranged for Mrs B to have an ultrasound to ascertain the correct gestational age of the baby. A further ultrasound at 19 weeks showed the baby was growing appropriately for its gestation. During Mrs B's antenatal visits, Ms D determined the baby's size by palpation and by using a tape measure.

In their response to my provisional opinion, Mr A and Mrs B informed me that "as far as they could remember" Ms D did not use a tape measure to measure fundal height. However, the midwifery notes record measurement of fundal height in centimetres, so I accept Ms D's advice that she calculated fundal height using palpation and a tape measure.

Advice provided to me by my midwifery advisor confirms that two methods are used to measure fundal height. One method is palpation and the other is calculation by a tape measure. An ordinary tape measure may be used. There is also a specialised tape measure (Baeyertz tape) which measures the estimated weeks of gestation on one side and centimetres on the other. In addition, in the last ten years, ultrasound scanning of the baby has been used to accurately determine the gestational age.

Mrs B's antenatal record shows that Ms D palpitated Mrs B's abdomen and estimated and recorded the size of the baby at the first visit at 14 weeks. At every other visit Ms D recorded a fundal height measurement, but she did not record the baby's size by palpation. The recording of fundal height was made in the 'Presn' (presentation) and 'Posn' (position) columns of Mrs B's antenatal record. Ms D did not make any comments recording that the baby was big, or big for dates.

On 16 March 1999 Ms F, the midwife covering for Ms D while she was on leave, saw Mrs B. She recorded in the 'remarks' column on Mrs B's antenatal record that the foetus was a "big baby". Ms F saw Mrs B on two subsequent visits, 25 March and 1 April 1999. She did not make a comment about the size of the baby on the two subsequent visits.

In her initial advice to me, Ms Lennox, midwifery advisor, stated that Ms D appears to have interpreted centimetres of fundal height as being exactly equivalent to weeks of gestation. She stated that if that was the case, Ms D's practice did not accord with good professional standards and that Ms D appeared to have a significant knowledge and skill deficit. My advisor informed me that measurements of fundal height in centimetres do not correspond to weeks of gestation and that interpretation is needed with reference to expected height at different gestation, in order to convert from centimetres to weeks of gestation. My advisor further commented that using an ordinary tape measure is appropriate if the measurements are interpreted correctly.

Further information was sought from Ms D to clarify how she calculated her fundal height measurements. Ms D informed me that she expected the measurement in centimetres to equal the gestation in weeks and she understood that there was an accepted variance of 2cms above and below the figure expected of the gestation. Ms D also informed me she learnt her technique of calculating fundal heights from midwifery textbooks, tutors at an institute of technology where she did her midwifery training, midwives at the public hospital antenatal clinic, and midwives with whom she was placed for practical experience during her midwifery training. Ms D also referred to the practice of obstetricians she had observed during antenatal consultations. This information was provided to my midwifery advisor for comment.

My advisor informed me that she did not consider Ms D's calculation of fundal height to be appropriate. She said that this way of measuring is only a very rough guide and must be supported by how big the baby feels to the practitioner's hands and in comparison with other "pregnant bellies".

With regard to where Ms D obtained her knowledge for calculating fundal heights, my advisor informed me that she had made enquiries at the teaching school in the city and had reviewed the textbooks used by student midwives concerning the measuring of height in centimetres. She informed me that she was surprised to find student midwives are taught that measuring the height in centimetres from the pubic bone to the fundus is equivalent to weeks of gestation give or take 2cms. Based on the further information provided to her concerning Ms D's technique, my advisor acknowledged that Ms D provided services with reasonable care and skill and in line with her teaching. However, my advisor qualified her comments by noting that several of Ms D's measurements were large even by her own interpretation. She stated that given the large measurements she was surprised Ms D did not pay more attention to the comments by the other midwife and by the practice nurse that the baby was large for dates.

Ms D informed me that she did take note of the "big baby" comments in Mrs B's antenatal record. She checked Mrs B's size by palpation and measured the fundal height. However, she did not consider the baby to be big. Given her measurements of Mrs B, she did not believe that Mrs B was carrying a big baby. In earlier advice to me Ms D informed me that she had the benefit of being able to refer to antenatal records from Mrs B's previous pregnancies. With her second pregnancy a note had been made that the baby was a "good size" at 34 weeks, with the fundal height two weeks greater than the date. This pregnancy

produced an 8lb 2oz baby. The delivery was uncomplicated. With that clinical history, Ms D felt confident that Mrs B's third baby would also deliver normally.

The hospital has provided to me a copy of Mrs B's antenatal record for her second child. I note in the 'remarks' column the comment that the baby was "larger clinically than by dates".

I have considered the comments made by Ms E, the midwife who delivered Mrs B's baby. She stated that her clinical assessment of Mrs B when she first met her was that neither the baby nor Mrs B looked unduly "big". She also stated that she was surprised when she saw the size of the baby, as she did not expect it. She thought Mr A and Mrs B were also surprised at the size of the baby.

Ms D informed me that she visited Mr A and Mrs B at their home after the birth and that they said they had thought the baby would be the same size as the girls.

With regard to the comment made to Mrs B by the practice nurse, Mrs K, that Mrs B was big for her dates, it is not apparent that Ms D was aware of this. I have not received any information that Ms D was told about the comment made by Mrs K.

Ms F, the midwife who made the note on the antenatal record, recalled that she asked Mrs B to get up on the examination table and she palpated her abdomen. She thought straightaway, "Wow! This is going to be a big baby." She informed me that she wrote the comment in the notes to alert Ms D to the possibility that this could be a big baby. Ms F stated that she knew Ms D would follow up on this comment and would either agree or disagree. The "big baby" comment written by Ms F was not highlighted in any way. It was written in the same colour pen as the other comments made in the 'remarks' column. Ms F did not make reference to the size of the baby on the two subsequent visits of Mrs B.

The hospital also provided me with a copy of its Guidelines for Best Practice dated July 1998. The policy clearly indicates that referral is not required unless variation (in size for dates) is greater than four weeks.

Ms D advised that she followed the technique she was taught during her training. Although providers have an obligation to remain up to date in their practice, Ms D was practising the method that is currently taught to training midwives. Using a Baeyertz tape appears to result in more precise fundal height measurements, but it is not a practice currently taught. I am satisfied that in the circumstances Ms D provided appropriate services to Mrs B, with reasonable care and skill. Accordingly, Ms D did not breach Right 4(1) of the Code in this respect.

With regard to the shoulder dystocia which developed during Mrs B's labour, I note the comments made by both my midwifery and my gynaecology advisors. There is no evidence that measurements of fundal height have been shown to make a difference to outcome. My midwifery advisor stated that available evidence suggests that planned interventions based on estimated foetal weight do not reduce the incidence of shoulder dystocia and do not

decrease adverse outcomes attributable to foetal macrosomia (large baby). My gynaecology advisor stated that "big babies are difficult to identify". He further stated that shoulder dystocia is a poorly predicted emergency and that unhappily at times it may be fatal for the baby.

Right 6(3)(c)

Failure to refer Mrs B for an additional ultrasound scan or for a discussion with a specialist when requested to

Routine late scanning does not improve outcomes, but a scan is appropriate when a large baby is suspected clinically. Apart from the ultrasounds at 11 and 19 weeks, Mrs B did not have any further ultrasounds during her pregnancy.

Both Mr A and Mrs B allege that on a few occasions they requested further ultrasounds and referral to an obstetrician, but Ms D insisted there were no problems and did not arrange a referral. The midwifery information brochure informs consumers that if they have any concerns the LMC will discuss the issues and, if necessary, refer the woman to the specialist care team.

Ms D has informed me that there was no specific question or request for a scan by Mr A and Mrs B. Ms D had earlier informed me she could recall a discussion with Mr A and Mrs B on 2 March 1999 at 33 weeks 5 days' gestation, when Mrs B asked if there would be any further scans. Ms D recalled that the request by Mrs B for a scan was to make sure "all is well with the baby". From her antenatal measurements and observations, Ms D felt confident in reassuring Mr A and Mrs B that all was going well. Ms D could not recall any other instance of Mr A and Mrs B requesting further ultrasounds or referral to a specialist. There is no record in the antenatal notes of Mr A and Mrs B asking for further ultrasounds or referral for specialist advice.

Under Right 6(3)(c) of the Code Mrs B had the right to request a second opinion from an obstetrician, and to be appropriately referred, irrespective of whether Ms D considered it necessary. However, that right is only triggered when a request has been made. Mr A has informed me that he and his wife made several requests for a referral to an obstetrician. I have received no other information during my investigation to substantiate that a request for referral to an obstetrician was made. It has therefore not been possible to establish that such a request was made. Accordingly, in my opinion no breach can be established in relation to this matter.

It does appear, however, that a request was made to Ms D on 2 March 1999 for a further scan. Ms D reassured Mr A and Mrs B that all was going well.

Ms D informed me she reassured Mr A and Mrs B that all was well. It is not clear that in providing that reassurance, Ms D refused the request. Even if she did refuse the request, that is not a breach of Right 6(3)(c), since this right applies only to answers about how to obtain another provider's opinion.

Right 4(1)

Failure to be available on call
Team midwives work in pairs with the partner midwife covering on days off. This is explained in the information pamphlet given to patients at their first antenatal visit. In this case in the early hours of Saturday 17 April 1999, when Mrs B went into labour, Ms D had a weekend off and her partner midwife, Ms E, covered for her. Ms D was available 24 hours a day, seven days a week by cellphone. On her days off her pager message directed callers to the partner midwife. Ms D said she informed Mrs B of this at her first antenatal visit. Mrs B was used to the system and had contacted Ms D previously by cellphone prior to her labour.

When Mrs B went into labour, Mr A said he had trouble getting hold of Ms D and eventually contacted Ms E. However, I could find no evidence that Ms D was unavailable. A midwife cannot be expected to be available 24 hours a day, seven days a week. Where a partnership system operates, such as the team scheme, there is always a chance that the LMC may not be the person who attends the birth.

By leaving contact details for her partner midwife while she was on leave, in my opinion Ms D provided services to Mrs B with reasonable care and skill. Accordingly Ms D did not breach Right 4(1) of the Code in relation to this matter.

Opinion: No Breach – Midwife, Ms E

Rights 4(1) and 4(5)

Mrs B had the right to have services provided with reasonable care and skill by providers who co-operated to ensure the quality and continuity of her care.

Establishment of labour
On 17 April 1999, Ms E, as Ms D's KYM partner, covered Ms D's clients on her weekend off. Mrs B was admitted to the ward at 5.25am. Her waters had already broken. Ms E took her history and noted that Mrs B's antenatal tests were all in the acceptable range apart from a vaginal swab, which had grown Group B Streptococcus. Ms E reassured Mrs B that she would observe her and the baby for signs of infection and would treat her with intravenous antibiotics 12–18 hours after the spontaneous rupture of her membranes, in accordance with hospital protocols.

At 9.15am, although Mrs B was coping well, Ms E was concerned about the slow progression of her labour and spoke with the consultant obstetrician, Dr C, and informed him of Mrs B's clinical details. At 9.35am Ms E contacted Dr C again, as she was still not very happy with the slow progression of Mrs B's labour. As a result Dr C authorised Syntocinon infusion which was eventually successful in establishing Mrs B's labour.

My midwifery advisor said that it was reasonable for Ms E to discuss Mrs B's case with Dr C, since the presence of a Group B Streptococcus posed a real risk of infection to mother and baby. With a prompt delivery there was less chance of this happening and hospital protocols require an obstetrician to authorise any augmentation of labour.

Shoulder dystocia
In respect of the management of the shoulder dystocia, my midwifery advisor informed me that Ms E acted in accordance with her training and with the hospital protocols. The statistics show an incidence of shoulder dystocia between 0.15% and 1.7% of all vaginal births. Morbidity and mortality rates associated with shoulder dystocia are high, with perinatal mortality rates estimating from 21-290 per 1,000 births.

My advisor considered that the actions that Ms E took were adequate responses to shoulder dystocia. She recognised the problem at an early stage, as soon as the head was delivered, and immediately called for assistance from the consultant midwife. She used a recognised procedure, the McRoberts manoeuvre (flexing and abducting the legs), to try to release the shoulders from under the pubic arch. She then worked on the anterior shoulder after this manoeuvre was unsuccessful. My midwife advisor considered this was appropriate, since that manoeuvre is an attempt to release the anterior shoulder.

Ms E then tried to ascertain the position of the posterior shoulder so that she could attempt to release it. This is part of the next commonly recommended manoeuvre, a Wood's Screw manoeuvre, which involves rotating the anterior shoulder by suprapubic pressure while rotating the posterior shoulder internally. At this stage another midwife was applying suprapubic pressure. However, Ms E was unable to determine the position of the shoulders per vagina. My advisor stated that this inability was not a failure of expertise. The baby was severely impacted, which made it very difficult to delineate the shoulder from the rest of the baby's trunk.

Ms E considered an episiotomy, but decided that this was unsafe. My midwifery advisor considered this was a very reasonable decision to make. While it might have been possible to carry out an episiotomy without significant damage to the baby, the baby's shoulders were impacted by the bony structures of the pelvis rather than the soft tissues of the perineum. Ms E then tried to move Mrs B to the lateral position, hoping to dislodge the baby's shoulder, which is another recognised manoeuvre.

I note that in assessing the adequacy of Ms E's actions, my midwifery advisor referred to various references, including a useful and clear set of recommendations from the training that is part of the Advanced Life Support in Obstetrics (ALSO) course and which should be widely available in New Zealand in the future.

Ms E carried out all of the actions and recommendations in this training course, apart from rolling Mrs B onto all fours. My midwifery advisor commented that throughout, fundal pressure was used sometimes in combination with suprapubic pressure, but fundal pressure alone was used after the mother was moved to the lateral position. My midwifery advisor commented that the ALSO course, which is based on recent opinion, advises not to use

fundal pressure, but as this is a recent recommendation it is one that is not yet widely followed. My midwife advisor considered that overall Ms E's reactions were an adequate response in line with recent professional advice and were clearly supported by other clinicians in her unit, including the consultant midwife who also used fundal pressure.

My midwife advisor considered that when Ms E was initially confronted with shoulder dystocia, it was appropriate for her to call for help from the consultant midwife in the first instance, rather than the on-call obstetrician Dr C. Ms G called Dr C when she arrived in the unit. By this stage Ms E had attempted most of the available manoeuvres. Ms G took over and attempted to free the shoulders per vagina without success. Ms G then carried out traction, assisted with extreme abduction of the legs and fundal pressure, and on the third attempt Baby L was delivered. When Dr C arrived some short time later Baby L had been born and the anaesthetist was attempting resuscitation.

By consulting with Dr C about the slow establishment of labour and presence of possible infection risk to mother and baby, and by calling the consultant midwife when confronted with shoulder dystocia, Ms E co-operated with other providers to ensure the quality and continuity of Mrs B's care. Accordingly, in my opinion Ms E did not breach Right 4(5) of the Code.

My midwife advisor considered that Ms E's conduct during Mrs B's labour was appropriate. When faced with an emergency complication of shoulder dystocia Ms E behaved in accordance with her training and with the hospital protocols. Accordingly, in my opinion Ms E provided services to Mrs B with reasonable skill and care and did not breach Right 4(1) of the Code.

Opinion: No Breach – Obstetrician and Gynaecologist, Dr C

Right 4(1)

Failure to assess Mrs B during labour
On 17 April 1999, when Mrs B was admitted in labour to the public hospital at 5.25am, she was under the care of midwife Ms E. Ms E was covering as LMC for her partner team midwife, Ms D.

At 9.00 and 9.30am Ms E consulted with Dr C, the obstetrician on call that morning. Ms E informed him that she was concerned about the Group B Streptococcus isolated during pregnancy and Mrs B's slowness to establish labour. After the 9.30am discussion with Ms E, Dr C authorised augmentation of labour by Syntocinon infusion. Dr C verbally authorised the Syntocinon infusion and did not visit and examine Mrs B at the time. My obstetric advisor considered that it was reasonable and common practice for Dr C to accept the midwife's assessment and authorise the Syntocinon infusion.

Dr C restricted the Syntocinon rate to 6 mU/minute, which was within the hospital guidelines. My obstetric advisor confirmed that this was also good professional practice.

My obstetric advisor commented that the responsibility for treatment was ongoing between Dr C and the midwife. My advisor noted that Dr C was not consulted again by the midwife until staff were confronted with the complication of shoulder dystocia during Mrs B's delivery.

My advisor commented that a clinical assessment by Dr C may or may not have picked up that fact that Mrs B was carrying a large baby. Had Dr C detected the presence of a large baby, care and supervision during the labour and attendance at the delivery may have been very different.

In my opinion Dr C took reasonable actions in the circumstances to provide obstetric services to Mrs B with reasonable care and skill, and did not breach Right 4(1) of the Code.

My obstetric advisor noted that there was no drug chart in the documentation he received to record where the Syntocinon was formally charted and the materials supplied. The Hospital and Health Services Maternity Services Guidelines for Best Practice, July 1998 Drug Protocol relating to the management of Syntocinon states that "the use of Syntocinon must be initiated only in liaison with the O & G consultant and must be clearly documented in the clinical notes signed by the consultant or registrar involved".

I take this opportunity to draw Dr C's attention to the importance of ensuring that all treatment is adequately documented.

However, my obstetrician advisor considered that, apart from this minor departure from the hospital protocol, the authorisation of Syntocinon was appropriate without a personal examination by Dr C, based on Ms E's findings. Accordingly, Dr C provided obstetric services to Mrs B with reasonable skill and care, and did not breach Right 4(1) of the Code in relation to this matter.

Opinion: No Breach – The Public Hospital

Employers are vicariously liable under section 72(2) of the Health and Disability Commissioner Act for ensuring that employees comply with the Code of Health and Disability Services Consumers' Rights. However, in this case, I have not formed an opinion that the actions of the employees were in breach of the Code. Accordingly, no question of breach by the public hospital as employer arises.

Other comments

Several matters that have been highlighted during my investigation of this complaint deserve comment.

Fundal height calculation
The initial advice provided to me by my midwifery advisor was that Ms D's calculations were inappropriate and that she appeared to have a significant knowledge and skill deficit. My advisor recommended the use of a Baeyertz tape to calculate fundal heights, although she acknowledged that the use of an ordinary tape measure is appropriate if the interpretations are correctly made. Upon receiving further information concerning the technique followed by Ms D, my advisor indicated that the technique was appropriate and in keeping with what is currently taught to student midwives.

I am concerned at the different procedures that are followed by practising midwives. It appears that the use of an ordinary tape measure is unreliable and produces a result different to measurements obtained by use of the Baeyertz tape. Because of this, a copy of this opinion, in an anonymised form, will be sent to the College of Midwives for its consideration.

Use of fundal pressure
A further matter is the use of fundal pressure during Mrs B's labour. The advice provided to me by the midwifery advisor is that at least one study has shown that fundal pressure is associated with high levels of complications.

My obstetric advisor also commented that fundal pressure is not usually advised in cases of shoulder dystocia. As both of my advisors have commented about the use of fundal pressure, I consider it appropriate to bring this matter to the attention of the hospital so that it may raise the issue with its maternity providers.

Communication
The communication between Ms F and Ms D was, to my mind, less than optimal. Ms D went on leave for four weeks during Mrs B's pregnancy. At that time, Ms F assumed the care of Ms D's clients. Ms F detected what she considered to be a large baby and made a notation of this. However, there appears to have been no discussion between the two midwives about Ms F's clinical findings. Ms D took note of Ms F's comments, but she did not discuss the matter with Ms F. In the circumstances, particularly since her own clinical findings differed from those of Ms F, it would have been prudent for Ms D to have spoken to Ms F about her "big baby" comment. It is possible that in discussing the matter the large baby might have been detected and referral to an obstetrician made.

Actions

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

- An anonymised copy of this opinion will be forwarded to the New Zealand College of Midwives, for educational purposes. I encourage the College of Midwives to review the practice of taking fundal measurements by tape measures, both ordinary and Baeyertz tapes, and make appropriate recommendations to midwifery training institutes and practising midwives.

- An anonymised copy of this opinion will be sent to the Royal Australasian College of Obstetricians and Gynaecologists, for educational purposes.