Midwife, Ms C

A Report by the

Health and Disability Commissioner

(Case 15HDC00673)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

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Executive summary

1. In 2014, Ms A, aged 19 years, became pregnant with her first child. Ms A engaged a community-based midwife, Ms C, as her Lead Maternity Carer (LMC).

2. Initially Ms A's pregnancy progressed normally and Ms C saw her regularly.

3. When Ms A was 29+4 weeks' gestation, Ms C saw her for a routine antenatal appointment. Following her assessment, Ms C noted that the fundal height measured 27cm and Ms A weighed 60.2kg. Ms C arranged to see Ms A again in four weeks' time.

4. When Ms A was 33+4 weeks' gestation, Ms A told Ms C that she had experienced a change in fetal movements. Ms C questioned Ms A about the fetal movements, noting that they had changed from being violent to more "swoosh like". Ms C considered that this change in the feel of the fetal movements was an expected change due to the baby getting bigger.

5. Ms C documented that the fundal height measurement was 29cm and Ms A's weight was 65.5kg. Ms C did not document the details of her discussion with Ms A at that time. Ms C planned to see Ms A again in two weeks' time.

6. At 35+4 weeks' gestation, Ms C saw Ms A again. She documented that Ms A was reporting good fetal movements, and that her fundal height was 31cm and her weight was 66.2kg.

7. At 37+4 weeks' gestation, Ms C documented that Ms A was reporting good fetal movements, and that her fundal height was 32.5cm and her weight remained static at 66.2kg. Ms C referred Ms A for an ultrasound growth scan. The scan was scheduled for 38+3 weeks' gestation. Ms C planned to review Ms A again the day after the scan.

8. At 37+5 weeks' gestation, at 5.02pm, Ms A contacted Ms C reporting decreased fetal movements all day. Ms C requested that Ms A lie down on her left side with her hands on her abdomen and pay attention to the fetal movements, and to call back in 30 minutes. At 5.45pm, Ms A called back advising that there had been no improvement in the fetal movements.

9. Ms C immediately arranged for Ms A to be assessed by her colleague, registered midwife Ms D, at their clinic rooms.

10. Ms D assessed Ms A and carried out a cardiotocograph (CTG), which he documented was "not reassuring enough to leave for scan". Ms D contacted the on-call obstetrician at the public hospital and arranged for Ms A to be assessed in the Birthing and Assessment Unit.

11. At 8pm, Ms A was assessed on the Birthing and Assessment Unit. Following assessment Ms A's baby was found to have severe intrauterine growth restriction (IUGR), and a decision was made to induce labour the following morning.

12. The following day, at 3.20pm, Baby A was born via forceps delivery. Baby A initially required resuscitation with oxygen, but breathing was established at 2.5 minutes. He was noted to be very small — 1.6kg. He was transferred to the Neonatal Intensive Care Unit for management of IUGR. Baby A is now well and has met all his developmental milestones.

Decision

13. By not commencing fundal height measurements until 29+4 weeks' gestation, and by failing to identify and respond to the clinical features of IUGR, Ms C failed to provide services to Ms A with reasonable care and skill. Accordingly, Ms C breached Right 4(1) of the Code of Health and Disability Services Consumers' Rights (the Code).[1]

14. Criticism is made of Ms C's failure to fully document details of her decision-making and discussions with Ms A.

Complaint and investigation

15. The Commissioner received a complaint from Ms B about the services provided to Ms A by registered midwife Ms C.[2] The following issue was identified for investigation:

The appropriateness of the care provided to Ms A by Ms C in 2014 and 2015.

16. An investigation was commenced on 6 October 2015.

17. The parties involved in the investigation were:

Ms A	Consumer
Ms B	Complainant
Ms C	Midwife/provider

Also mentioned in this report:

Ms D	Midwife

18. Independent expert advice was obtained from midwife Suzanne Miller (**Appendix A**).

[1] Right 4(1) states: "Every consumer has the right to have services provided with reasonable care and skill."
[2] Ms A supports the complaint.

Information gathered during investigation

Background

19. In 2014, Ms A, aged 19 years, became pregnant with her first child.

20. Ms A engaged a self-employed community-based midwife, Ms C, as her Lead Maternity Carer (LMC). Ms C works in a group practice with two other midwives who provide back-up assistance.

Ms C

21. Ms C qualified as a midwife in early 2014. She has held registration with the Midwifery Council of New Zealand since mid 2014.

Care up to 29+4 weeks' gestation

22. Ms C saw Ms A regularly throughout the antenatal period. At 29+4 weeks' gestation, Ms C saw Ms A for a routine antenatal appointment. At that appointment Ms C commenced fundal height measurements[3] to assess the baby's growth. Ms C documented that the fundal height measured 27cm and Ms A weighed 60.2kg. Ms C arranged to see Ms A again in four weeks' time. She did not arrange a growth scan.

23. In relation to this appointment, Ms C stated:

> "I should have generated a GROW chart[4] and plotted the fundal height which would have shown the growth to be on approximately the 10th centile. This would have [led] me to arrange a growth scan and schedule a follow up appointment with me within 2 to 3 weeks, depending on when we could get the scan completed."

33+4 weeks' gestation

24. When Ms A was 33+4 weeks' gestation, during a routine antenatal appointment, Ms A told Ms C that she had experienced a change in fetal movements.

25. Ms C recorded in the midwifery notes that Ms A was reporting good fetal movements but that the movements were "now less violent more 'swooshy'". Ms C told HDC that Ms A described the fetal movements as otherwise still being regular. Ms C said that this change in the feel of the fetal movements is an expected change as the baby becomes bigger, and that she "often refer[s] to this change as going from karate to yoga as the baby gets bigger but that the movements should still be regular". Ms C stated that she "did try to get a further understanding of how the movements had changed and after further questioning felt that the difference was a normal physiological change with the baby's growth".

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[3] The fundal height is the measurement from the top of the uterus to the pubic symphysis (pubic bone) and roughly corresponds to gestational age + or – 2cm (eg, at 29 weeks the fundal height should be approximately 29cm).

[4] A customised growth chart (GROW) plots the optimised weight for a baby by adjusting for individual variables such as the maternal age, weight, and ethnicity.

26. Ms C documented that the fundal height measurement was 29cm, 2cm growth from the previous recording four weeks earlier, and that Ms A's weight was 65.5kg, 5.3kg heavier than four weeks earlier. Ms C did not document anything in relation to her discussion with Ms A regarding monitoring the fetal movements or when to contact her.

27. Ms C planned to see Ms A again in two weeks' time.

28. In her statement to HDC in relation to this appointment, Ms C again acknowledged that she should have generated a GROW chart and plotted the fundal height, and that this would have led her to refer Ms A for an ultrasound growth scan at that time.

35+4 weeks' gestation

29. Ms C saw Ms A. Ms C documented that Ms A was reporting good fetal movements, that her fundal height was 31cm, 2cm growth since the previous visit, and that Ms A's weight was 66.2kg, 0.7kg heavier since the previous visit.

30. Ms C told HDC that, in hindsight, she accepts that given that the fundal height had increased only by 2cm, and at that stage it should have been more, she could have offered Ms A an ultrasound growth scan.

37+4 weeks' gestation

31. Ms C again saw Ms A.

32. Ms C documented that Ms A was reporting good fetal movements, that her fundal height was 32.5cm, 1.5cm growth since the previous appointment, and that Ms A's weight remained static at 66.2kg.

33. Ms C documented: "Discussed pain relief — Last bloods [no preeclampsia] signs, ultrasound form given." There is no other documentation of what Ms C discussed with Ms A during this appointment. However, in a retrospective record documented on the evening of the birth, Ms C documented that she had a discussion with Ms A's sister-in-law, Ms B, that morning in which she stated that her reasoning for sending Ms A for an ultrasound growth scan at that time was because the fundal height had not increased as she had expected and, on palpation, "while the foetal pole was just under [Ms A's] ribcage it felt different than the prior appointment".

34. Ms A told HDC that on two or three occasions she raised concerns with Ms C about her tummy size being small, but Ms C always told her that her size was normal and that her tummy was small because she was small. Ms A said that she raised these concerns about her tummy size with Ms C again during this appointment, and it was in response to these concerns that Ms C agreed to refer her for a growth scan.

35. The scan was scheduled for 38 +3 weeks' gestation. Ms C planned to review Ms A again in one week's time.

37+5 weeks' gestation

36. At 5.02pm, Ms A contacted Ms C reporting decreased fetal movements all day. In retrospective records documented by Ms C at 6.10pm the following day, she noted

that Ms A reported having had a busy day, so she requested that Ms A lie down on her left side with her hands on her belly and to pay attention to the fetal movements. Ms C documented in the retrospective notes that she requested that Ms A call back in 30 minutes regardless of what movements she felt.

37. At 5.45pm, Ms A called Ms C advising that there had been no improvement in the fetal movements. Ms C told Ms A that she would require a CTG, and subsequently arranged for this to be carried out at her clinic rooms by her colleague, registered midwife Ms D. Ms C documented in her retrospective record that her rationale for arranging for Ms D to carry out the CTG was that "[it] would be easier for [Ms A] to get parking and be assessed there by [Ms D] and if needed then head up to hospital".

38. Ms C contacted Ms D and gave a verbal handover. In her retrospective record Ms C documented that she informed Ms D that the baby had "measured small at clinic the day prior and [not] much liquor … and normal otherwise".

39. Ms C told HDC that she believes that she responded appropriately to Ms A's reports of decreased fetal movements at that time. However, she stated that in order to improve her practice, in a similar situation she would now take the client directly to the public hospital, rather than assessing her at the rooms first.

Midwifery assessment of Ms A

40. Ms A went to the clinic rooms, where she was assessed by Ms D. Ms D documented that Ms A was reporting "significant [decreased fetal movements] last couple days". Ms D carried out a CTG, which she documented was "not reassuring enough to leave for scan". In her retrospective record, Ms C documented that Ms D told her that "while the CTG looked 'OK', she was not happy with lack of movement and [Ms A's] palpation". Ms D then contacted the on-call obstetrician, who agreed for Ms A to go to the Birthing and Assessment Unit at the public hospital for further review.

Assessment at Birthing and Assessment Unit

41. At 8pm, Ms A arrived at the Birthing and Assessment Unit and was assessed by a hospital midwife, who documented that, on abdominal palpation, the fundal height was 27cm. The hospital midwife noted that Ms A had noticed a decrease in fetal movements over the previous three days, and that an ultrasound scan was scheduled for the following week.

42. At 8.15pm, a CTG was commenced and continued until 9.20pm. The hospital midwife interpreted the trace as showing a baseline fetal heart rate of 135bpm,[5] normal variability, with accelerations present.[6]

43. At 11pm, Ms A was assessed by the obstetrics registrar, who noted Ms A's history. On abdominal palpation the fundal height was noted to be 26cm. An ultrasound was carried out and no "measureable pocket of liquor" was noted. An induction of labour

[5] Normal fetal heart rate is generally considered to be between 120 and 160 bpm.
[6] Indicating a normal FHR pattern.

was recommended "in view of severe IUGR [intrauterine growth restriction] + anhydramnios[7]".

44. At 11.40pm, a consultant obstetrician reviewed Ms A with the registrar. The registrar documented that the obstetrician explained to Ms A the significance of IUGR, the decreased fetal movements and the low liquor volume, which indicated significant placental insufficiency, and that the obstetrician recommended induction of labour that night. The registrar also documented that the risks of a Caesarean section were discussed with Ms A.

Baby A's birth

45. The next morning, Ms A was induced and an epidural later inserted. Following an episode of fetal distress, a decision was made to transfer Ms A to theatre for an emergency Caesarean section.

46. However, a vaginal examination was carried out in theatre and the decision was made to deliver the baby by instrumental delivery. Baby A was subsequently delivered at 3.20pm with forceps.

47. Initially Baby A required resuscitation with oxygen, but breathing was established at 2.5 minutes. He was noted to be very small — 1.6kg. He was transferred to the Neonatal Intensive Care Unit for management of IUGR.

48. Baby A is now well and has met all his developmental milestones.

Further comment from Ms C

49. Ms C told HDC that she has reflected on the issues raised by Ms A's complaint. Ms C said that she now uses GROW charts routinely in her practice and has obtained informal advice and training in their use. Ms C advised that she intends to attend the next available training day in the use of GROW charts.

50. Ms C provided evidence that she attended the New Zealand College of Midwives' documentation workshop — "Dotting I's and crossing T's" — and has since changed the way in which she documents, and now includes the woman's narrative in her clinic documentation. In addition, she "writes the notes while explaining what [she] is writing and checking to see that the woman agrees with what is being recorded".

51. In relation to how she responded to Ms A's concerns about the fetal growth on 33+4 weeks' gestation, Ms C stated:

> "Regardless of what I clinically felt appropriate at this point, I have taken to heart that [Ms A] may not have felt heard. Having your opinion valued is one of the cornerstones of Midwifery and I believe that I let down the partnership if she left any appointments feeling that her opinion was not a valuable part of her care."

[7] No amniotic fluid around the fetus.

Response to Provisional Opinion

Ms C

52. Ms C accepted the findings of my provisional opinion, including the recommendations made in the report.

Opinion: Ms C

Antenatal care — Breach

Antenatal management up to 29+4 weeks' gestation

53. Ms C saw Ms A regularly throughout the antenatal period. I have no concerns in relation to the care provided to Ms A prior to 24+4 weeks' gestation. At 29+4 weeks' gestation, Ms C commenced fundal height measurements to assess the baby's growth. There is no record of the fundal height being measured prior to this date.

54. The New Zealand College of Midwives consensus statement (22 February 2012) *Assessment of fetal wellbeing during pregnancy* (NZCOM consensus statement) states:

> "From 24 weeks gestation it is recommended that the fundal-symphysis height should be measured and recorded in centimetres at each antenatal appointment, preferably by the same person. Midwives using NZ Customised Growth Charts should be conversant with their conditions and limitations. If there is a decision to use a customised growth chart it is commenced beyond 24 weeks gestation …"

55. Despite Ms C seeing Ms A when the fetus was 24+4 weeks' gestation, fundal height measurements were not commenced for another five weeks. This is concerning and a departure from accepted standards.

56. At 29+4 weeks' gestation, when Ms C did commence measuring the fundal height, she measured the fundal height as 27cm. According to my expert advisor, midwife Suzanne Miller, this measurement was approximately 2cm less than expected for this gestation, although still within "normal parameters". Ms Miller advised that while it may have been prudent to review Ms A sooner than Ms C planned following this visit (within two to three weeks, rather than four weeks), in the context of a "(to date) well pregnancy, in a healthy young non-smoking woman with a normal BMI, who was reporting good movements", it would be considered "reasonable" to have taken no further action at that time.

57. However, I note that Ms C accepts that given the circumstances of a less than expected fundal height measurement it would have been appropriate to have generated a GROW chart.

58. I agree. Given that the fundal height measurement was borderline, I consider that Ms C should have taken steps to assess the fetal growth more closely. At the very least she should have reviewed Ms A sooner than four weeks.

33+4 weeks' gestation

59. Ms C again reviewed Ms A. At that appointment Ms C documented that Ms A was still feeling good fetal movements but she had noted a change in the fetal movements — "movements now less violent more 'swooshy'". The fundal height measurement was 29cm which, according to Ms Miller, was 4cm less than expected for that gestation, despite Ms A's apparent weight gain.

60. Ms C said that she questioned Ms A further about the change in the fetal movements and concluded that this change was "a normal physiological change with the baby's growth". Ms C did not take any steps to assess fetal well-being or fetal growth further, and planned to see Ms A again routinely in two weeks' time.

61. The NZCOM consensus statement states that "if the woman reports a definite reduction in the baby's normal level of activity or change in the quality of movements that is concerning to her, a full antenatal assessment with fundal-symphysis height measurement, cardiotocograph monitoring and consideration of ultrasound is warranted". Ms C did measure the fundal height but, despite recording it as significantly below the expected level, took no further action. In addition, Ms C did not undertake cardiotocograph monitoring.

62. Ms Miller advised me that, while each of the issues identified in isolation (change in movements or lower than expected fundal height) would not necessarily have been cause for concern, when assessing the overall picture these features should have prompted Ms C to undertake further assessment. Ms Miller stated:

> "[C]onsideration of implementation of a customised growth chart, and offer of ultrasound assessment for growth and dopplers[8] (as an indicator of placental functional well-being) would be considered by [Ms C's] peers to be a reasonable and appropriate next step."

63. Ms Miller noted that "this would provide an opportunity to identify a plateau or drop off in growth over subsequent visits, or [provide] reassurance that Ms C's use of palpation and fundal height measurements alone were appropriate to continue with".

64. I note that the Ministry of Health 2012 *Guidelines for Consultation with Obstetric and Related Medical Services* (the Referral Guidelines) that applied at the time defined "IUGR/small for gestational age (SGA)" as: "Estimated fetal weight (EFW) < 10th percentile on customised growth chart, abdominal circumference (AC) < 5th percentile on ultrasound, or discordancy of AC with other growth parameters, normal liquor."

[8] Used to assess the blood flow, generally of the heart or umbilical cord, of the fetus.

65. In a recent case regarding the management of a woman presenting with raised blood pressure, I observed the importance of obtaining the information necessary to comply with the Referral Guidelines.[9] In my view, similar criticisms apply in this case. Here, a slowing of fundal height was identified, but without further objective measures such as plotting the measurements on a GROW chart or an ultrasound growth scan, Ms C was unable to comply with the Referral Guidelines, which in these circumstances provide that, where there is possible IUGR or SGA, the midwife must recommend that a consultation with a specialist is warranted.

66. Ms Miller advised that Ms C's failure to offer an ultrasound scan or generate a customised growth chart at that time was a moderate departure from accepted standards. I agree. In my view, Ms C failed to think holistically about Ms A's overall presentation and, as a result, did not recognise the concerning picture that was developing.

67. I note that Ms C accepts that she should have generated a GROW chart and referred Ms A for an ultrasound scan at that time.

35+4 weeks' to 37+4 week's gestation

68. Ms C saw Ms A again for routine antenatal appointments at 35+4 weeks' gestation and 37+4 weeks' gestation. During each of these appointments Ms C documented that Ms A was reporting good fetal movements, and that Ms A's fundal height was 31cm and 32.5cm respectively. Ms C also documented that Ms A's weight was 66.2kg at both appointments.

69. Ms Miller advised that at each of these appointments the fundal height measurement "remained significantly below the expected level", and further assessment such as an ultrasound scan was warranted at both appointments. Again this would have allowed the application of the Referral Guidelines. I note that Ms C did refer Ms A for an ultrasound scan which was booked for when she was 38+3 weeks' gestation. However, the lack of urgency in this booking further indicates a lack of recognition of the significance of the problem.

37+4 weeks' gestation

70. At 5.02pm, Ms A contacted Ms C and reported decreased fetal movements all day. Ms C advised Ms A to lie down on her left side with her hands on her stomach and pay attention to the fetal movements, and to call her back in 30 minutes. At 5.45pm, Ms A called Ms C back and advised that there had been no improvement in the fetal movements. Ms C arranged for Ms A to be assessed by a colleague at the clinic rooms.

71. Ms Miller advised that Ms C's actions after she was contacted by Ms A were reasonable in the circumstances. Ms Miller advised:

[9] See Opinion 13HDC00952, 23 June 2015 at para 89.

> "[L]eft lateral position ensures optimal placental blood flow by reducing the risk of aortocaval compression,[10] and a focussed opportunity to 'connect with' the baby by holding the abdomen and being highly vigilant about current activity is valuable for developing an overall picture of what is occurring. … I conclude that [Ms C] acted reasonably by seeking the assistance of a colleague when she was unable to be available promptly herself, and [Ms A] was assessed and referred within two hours of her reported concern."

Conclusion

72. There were a number of missed opportunities for Ms C to have undertaken further assessments of the growth of Ms A's baby. According to the NZCOM consensus statement, Ms C should have commenced fundal height measurements at 24 weeks' gestation. The first instance of slower than expected fetal growth at 29+4 weeks' gestation should also have prompted Ms C to, at the very least, arrange for a follow-up appointment in two to three weeks' time, rather than four. Then, at 33+4 weeks' gestation, when Ms A reported a change in fetal movements coupled with a 4cm lower than expected fundal height growth, Ms C should have undertaken further assessment in order to establish fetal well-being and to gather the information necessary to apply the Referral Guidelines. Further opportunities were then presented when the fundal height measurements remained significantly below the expected level and Ms A's weight remained static between the subsequent appointments on 35+4 weeks' gestation and 37+4 weeks' gestation.

73. Ms C's failure to identify and respond to the clinical features of IUGR is concerning and, in my opinion, a failure to provide services to Ms A with reasonable care and skill. Accordingly, I conclude that Ms C breached Right 4(1) of the Code.

74. I note Ms C's acknowledgement of her failures and the steps she has taken to address her shortcomings. This is to be commended.

Documentation — Adverse comment

75. Ms C's clinical records include all relevant general information about each consultation and her treatment plan. However, she did not record the details of her decision-making and her discussions with Ms A. For example, when Ms C was first made aware of Ms A's concerns regarding the change in fetal movements, there is no documentation of what information and advice she provided to Ms A, nor are there any details of her considerations regarding ongoing management, such as whether an ultrasound or cardiotocograph monitoring was considered and discussed at that time.

76. With regard to the absence of any narrative clinical documentation, Ms Miller advised: "The documentation about the discussions that take place between a woman and her midwife, and the woman's informed choices as a result of these discussions, are an important way to understand the context of how care is planned."

[10] Compression of the abdominal aorta (one of the main blood vessels running from the heart) and the inferior vena cava (one of the main veins running into the heart) by the fetus.

77. I note that Ms C accepts that her documentation did not detail her reasoning behind her clinical decision-making and subsequent actions, and that she has since undergone further training on documentation and has changed the way in which she records consultations. I consider that Ms C's actions in this respect are appropriate.

Other comment

78. Ms C had been practising as a midwife for less than a year at the time of these events. I have previously engaged in discussion with the Midwifery Council of New Zealand regarding this issue. I note that some positive changes have been made to strengthen the First Year of Practice programme which aims to support the overall goal of improving the quality and safety of maternity care and assure the public that new graduate midwives receive a high standard of clinical support and mentoring, and are oriented to safe and confident autonomous practice. However, I note that these changes only came into effect in February 2015, after Ms C had completed her first year of practice. Accordingly, I consider that it is appropriate for HDC to continue to monitor the effect these changes have on the sector in relation to the safety of new graduate midwifery practice.

Recommendations

79. In accordance with the recommendations of my provisional opinion Ms C has agreed to:

    a. Provide a written apology to Ms A for her breach of the Code. This should be sent to HDC within **three weeks** of the date of the final report for forwarding to Ms A.

    b. Provide a report to this Office, within **three months** of the date of this report, confirming her attendance at, or enrolment in, relevant workshops on the use of customised growth charts and antenatal assessment.

80. I recommend that the Midwifery Council of New Zealand consider whether a review of Ms C's competence is warranted.

Follow-up actions

81. • A copy of this report with details identifying the parties removed, except the expert who advised on this case, will be sent to the Midwifery Council of New Zealand and the district health board, and they will be advised of Ms C's name.

- A copy of this report with details identifying the parties removed, except the expert who advised on this case, will be sent to the New Zealand College of Midwives and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

Appendix A: Independent midwifery advice to the Commissioner

The following expert advice was obtained from midwife Suzanne Miller:

"**Introduction**

You have requested my advice concerning care provided to [Ms A] by Lead Maternity Carer (LMC) midwife [Ms C], from the [time Ms A engaged her services, to the birth of the baby].

I have read the Commissioner's Guidelines for Independent Advisors (July, 2014 version), and can confirm that I have no personal or professional conflict which prevents me from providing an opinion on this case.

My name is Suzanne Miller. The following identifies my qualifications to provide this opinion:

My qualifications are Registered Midwife 1991, Registered Comprehensive Nurse 1988 and Master of Midwifery (Distinction) 2008 from Victoria University of Wellington. I have been practising midwifery continuously since 1991, firstly as a hospital-based midwife at a Maternity Unit, and subsequently as an LMC midwife in both Auckland and Wellington.

Since 2010 I have been employed as a Senior Lecturer at the Otago Polytechnic School of Midwifery, where I teach across both the undergraduate and postgraduate midwifery programmes. I continue to maintain a small midwifery caseload alongside my full-time employment.

I am a member of the New Zealand College of Midwives (Wellington Region) and have held office both as treasurer (Auckland, Wellington) and Core Committee member (Wellington). I was a Midwifery Standards Review midwifery reviewer for six years, a Midwifery First Year of Practice reviewer for two years, and currently mentor graduate midwives via the Midwifery First Year of Practice Programme. I hold a Ministerial appointment (nominated by NZCOM) to the Neonatal Encephalopathy Working Group of the Perinatal and Maternity Mortality Review Committee. I am an NZCOM-ratified expert midwifery advisor, and have been appointed as a panel member for the Midwifery Council of New Zealand Professional Conduct Committee.

I have received and reviewed the following documents:

- Letter of complaint, written by [Ms B] ([sister-in law of Ms A])
- Reflection on care, written by [Ms C]
- Clinical records relating to [Ms A's] care, (both LMC and DHB records).

You have requested that I provide an opinion as to whether the care provided by [Ms C] was reasonable in relation to the following:

- Adequacy of foetal monitoring, including foetal movement and fundal growth measurements and [Ms C's] use of this information
- The appropriateness of [Ms C's] plan once she was aware of the change/reduction in foetal movements
- The length of time between antenatal visits and assessment.

Background to [Ms A's] case

On [date] [Ms A] signed the Registration with a Lead Maternity Care form, confirming her intention for [Ms C] to provide her maternity care for this, her first ongoing pregnancy. The estimated due date was established as [date].

According to documentation provided by [Ms C], antenatal visits occurred on the following dates:

[12$_6$ weeks

16$_4$ weeks

20$_4$ weeks

24$_4$ weeks

29$_4$ weeks

33$_4$ weeks

35$_4$ weeks

37$_4$ weeks and

37$_5$ weeks.]

At each of these visits [Ms A] was seen by [Ms C], except for [16$_4$] (seen by [initials]), and [37$_5$] when (according to [the DHB's] Acute Assessment clinical records, and [Ms C's] retrospectively written notes) [Ms A] was seen by back-up LMC [Ms D] and referred for assessment due to concerns regarding foetal growth and reduced movements.

On the day prior to [Ms D's] referral, [Ms A] had been seen by [Ms C] for her 37$_4$ week visit. During the visit, according to the letter of complaint, [Ms A] had expressed her concerns regarding the growth of her baby, and [Ms C] had provided a scan form for [Ms A] to have an ultrasound assessment of the pregnancy. A fundal height measurement at this visit was recorded as 32½ cm, (which looks from the photocopy I received as having been changed from 33½ cm), and [Ms A's] weight was recorded as being static from the previous visit two weeks prior, at 66.2kg. (I note that the fundal height measurement was recorded the next day by [Midwife Ms D] as 30cm, and by the hospital registrar as 26cm, demonstrating a high degree of discrepancy between practitioners, a feature noted commonly in research related to fundal height measurement (Jelks, 2007; Wright, Morse, Kady & Francis, 2006). At this ([37$_4$]) visit foetal movements are recorded as being 'good' ('GFM').

The following day, [Ms A] contacted [Ms C] around 5pm to report a reduction in movements; [Ms C's] retrospective notes suggest this reduction had been 'all day', and in the letter of complaint '[Ms A] felt a change/reduction in fetal movements'. [Ms C] encouraged [Ms A] 'to lay on her left side, sip a cold glass of water, and wait for 30 mins' (complaint letter) or 'lay down left lateral and hands on belly. To call back in 30 minutes regardless of movements' ([Ms C's] reflection), additionally noting that she had enquired about PV loss, uterine activity and trauma with none of these reported.

About 45 minutes later, [Ms A] called again to report no change in movements, and [Ms C] arranged for [Ms A] to be seen by her colleague at their practice rooms for further assessment. [Ms A] was seen by [Ms D] (midwife) within the following hour, and was referred for consultation to the Acute Assessment Unit (1900hrs), [Ms A] presenting there at 2000hrs. Following this assessment, a decision to induce [Ms A's] labour was made, with a diagnosis of SGA (small for gestational age) and reduced movements prompting concern for the baby's ongoing well-being.

[Ms A] went on to give birth the next day, a spontaneous vaginal birth of a severely growth restricted baby boy, [Baby A], who weighed 1690g. [Baby A] was admitted to the Neonatal Intensive Care Unit. [Ms A] was discharged home in the care of LMC [Ms D] [a few days later].

Issues identified in the complaint:

You have asked that I express an opinion on the following three matters:

Adequacy of foetal monitoring, including foetal movements and fundal growth measurements and [Ms C's] use of this information.

I consider that [Ms C's] care of [Ms A] was entirely appropriate up to and including the 29_4 week antenatal visit. Given the finding of 2cm less than 'expected' fundal height measurement at this visit (although still within normal parameters), a plan to see [Ms A] again within 2–3 weeks might have been prudent, either to reassure them both that the baby's growth had continued well as expected, or to prompt consideration of commencement on a customised growth chart if an ongoing concern was identified. But as discussed below (frequency of visits) this finding was normal and in the context of a (to-date) well pregnancy, in a healthy young non-smoking woman with a normal BMI, who is reporting good movements, it would be considered reasonable to have taken no further particular action at this visit.

At the following visit ([at 33_4 weeks]), [Ms A] drew [Ms C's] attention to her concerns regarding a change in baby's movement pattern. (See next section.) The fundal height measurement at this visit was 4cm less than expected for gestation. At this juncture recommended practice would be to commence plotting the ongoing fundal height measurements on a customised growth chart, offering ultrasound scan for assessment of growth if this measurement fell below the 10^{th} centile, and offer of referral for obstetric review if either the fundal height plotted below the 10^{th} centile on the growth chart or if the abdominal circumference

measured below the 5th centile on ultrasound assessment (Ministry of Health [MoH], 2012, p. 25).

Customised growth charts (CGC) are not routinely recommended in the context of normal midwifery care, although there is evidence that demonstrates an increased detection rate of small for gestational age babies (SGA) associated with their use (NZCOM, 2012). The decision to commence a growth chart after 24 weeks gestation will be made taking into account the woman's previous maternity history, personal medical and family history etc and current pregnancy assessments. [Ms C] is correct in suggesting that the tools she used (ie palpation and fundal height measurement, and reported movements) are sufficient for monitoring the growth and well-being of babies in uncomplicated pregnancies, but the use of a CGC should be commenced where a clinical concern arises, which I consider was the case with [Ms A's] pregnancy, at the 33_4 week visit.

[Ms C's] peers would consider this a moderate departure from reasonable practice, as it represents a missed opportunity to have more clearly identified and responded to a concern regarding [Baby A's] growth. Standard six of the Standards for Midwifery Practice states 'Midwifery actions should be prioritised and implemented appropriately with no midwifery action or omission placing the woman at risk' (NZCOM, 2015, p. 23).

Had this action occurred, it is possible that [Baby A's] growth restriction might have been identified earlier. Although there is no 'treatment' as such for growth restriction, closer monitoring might have enabled [Ms A] to make more fully informed decisions regarding the planning and implementation of ongoing care, including decisions around optimal timing for birth.

At each subsequent visit (35_4 and 37_4) although reporting 'GFMs', and apparently normal interval growth, the fundal height measurement remained significantly below the expected level. Each visit therefore was an opportunity to offer further assessment (eg scan) which did not occur.

The appropriateness of [Ms C's] plan once she was aware of the change/reduction in foetal movements.

There were two episodes of documentation relating to reports of a change or reduction in baby's movements. The first was at 33_4 where the Antenatal Visit sheet records 'Movements now less violent more swooshy'. The column for MVTS records 'GFM' (ie good foetal movements). [Ms C's] reflection describes that she questioned [Ms A] further about the nature of the movements, and concluded that they were regular but had changed in nature. [Ms C] suggests a conversation about the importance of [Ms A] being familiar with her baby's normal movement pattern, so that she would identify changes to this pattern and report concerns accordingly took place. This is not documented.

If this conversation did occur, and [Ms C's] conclusion was that movements were regular but of a different quality, *in isolation* it would have been reasonable that

[Ms C] suggested close ongoing attention to movements by [Ms A] with reporting of any concerns.

But given that there was an additional element to consider within the overall picture of [Ms A's] care, ie the fact that the interval growth over four weeks had been 2cm, rather than an expected 4cm (despite an apparent 5.3kg weight gain), and that fundal height was now measuring 4cm behind 'expected' growth, consideration of implementation of a customised growth chart, and offer of ultrasound assessment for growth and dopplers (as an indicator of placental functional well-being) would be considered by [Ms C's] peers to be a reasonable and appropriate next step. This would provide an opportunity to identify a plateau or drop off in growth over subsequent visits, or reassurance that [Ms C's] use of palpation and fundal height measurements alone were appropriate to continue with. Her failure to offer these options would be considered a moderate departure from reasonable practice.

The second documented report of reduced movements occurred [the day after] an antenatal visit, when [Ms A] was 37_5 weeks. [Ms A] apparently reported 'Decreased foetal movements (FMs) all day' (from [Ms C's] retrospectively written notes on [the day of the birth]). [Ms C] advised [Ms A] to 'lay down, left lateral and hands on belly' according to these notes, and to call back in 30 minutes regardless of movements. She also asked [Ms A] at this time about PV loss, contractions or trauma and notes that none of these were present. This was reasonable; left lateral position ensures optimal placental blood flow by reducing the risk of aortocaval compression, and a focussed opportunity to 'connect with' the baby by holding the abdomen and being highly vigilant about current activity is valuable for developing an overall picture of what is occurring. Evidence suggests that reporting movements *that same day* when a change or reduction is noted is optimal, and [Ms A] did well to communicate her concern at this time. Assessment within 2 hours is recommended where movement is absent, or within 12 hours where a reduction/change is noted (Grigg, 2015). In this regard I conclude that [Ms C] acted reasonably by seeking the assistance of a colleague when she was unable to be available promptly herself, and [Ms A] was assessed and referred within two hours of her reported concern.

Full assessment in this instance should include maternal well-being, cardiotocograph (CTG) monitoring, fundal height measurement and ideally the opportunity for ultrasound assessment if referral for obstetric assessment is deemed warranted (NZCOM, 2012). [Ms C] states in her reflection that in hindsight direct referral to the Acute Assessment Unit would have been preferable, rather than having [Ms A] seen firstly in the community. In fact the expected assessment was carried out by midwife [Ms D], including CTG, and appropriate referral to [the public hospital] was instituted for further obstetric and ultrasound assessment. Following obstetric assessment, a plan was made to commence induction of labour.

The length of time between antenatal visits and assessment.

Frequency: The location and timing of antenatal visits are mutually negotiated between a woman and her midwife, based on each woman's individual need, and the outcomes of midwifery assessments at each episode of care, as outlined in the Decision Points for Midwifery Care (NZCOM, 2015). It is expected that at each assessment, a comprehensive review of the woman's well-being and foetal movements takes place, and this includes discussion of any concerns/issues raised by the woman about her own or her baby's well-being (NZCOM, 2015, p.33).

Usual practice sees midwives maintaining a frequency pattern for antenatal assessment similar to that experienced by [Ms A], ie 4–6 weekly assessments during the first trimester, 2–3 weekly assessments after 28 weeks, with increasing frequency (usually to weekly) from about 36 weeks until the birth of the baby. This pattern of visiting has arisen out of habitual practice and evidence is conflicting around the optimal number of visits that should take place during any particular pregnancy episode (Grigg, 2015, p. 567).

If a concern is identified it would be usual to request that the woman returns for assessment in a shorter than usual timeframe, to ensure that an emerging concern is followed up appropriately. For example, if the current pattern is four weekly visits, but there is a concern identified regarding an elevated blood pressure reading, then negotiating a further assessment sooner than four weeks would be appropriate.

[Ms A] was seen at appropriate intervals during the early part of her pregnancy (ie four weekly until 24 weeks.) Until this time no concerns had been identified which could have prompted a request for increased monitoring, and all tests and investigations, including ultrasound assessment at 20 weeks, and [Ms A's] reports of baby's movements, had supported a conclusion of a normally progressing pregnancy.

A five week gap occurs between the 24 and 29 week visits. In the absence of any prior identified concern, this would not in itself constitute a departure from usual practice; from the Antenatal Visits record sheet there is a documented plan to see [Ms A] again in four weeks from the 24[4] visit. It might have been that this booked visit at 28[4] weeks was missed due to either party being unavailable. In the absence of any narrative clinical antenatal notes, we cannot know whether a visit was missed or not, but it is irrelevant at this point.

[At the 29[4] week visit] a fundal height measurement recorded a 2cm 'discrepancy' between the gestational age and the expected fundal height measurement, which would be around 29cms. Gardosi and Francis (1999, cited in Grigg, 2015) claim that this traditional 'standardised' guide is 'common but erroneous', but offer no evidence to support their view. This 2cm 'discrepancy' is within a margin considered normal of 2cm either way. A weight gain of 2kg is recorded over this interval (and an overall increase in weight of 8.2kg since 12[4] weeks), and baby movements were reported by [Ms A] as being good.

It is noted that the next planned visit is in four weeks from this date, so we can presume that [Ms C] considered [Ms A] to be progressing normally at this point. [Ms A] had no particular risk factors which would have necessarily prompted [Ms C] to request to see her again within two weeks. [Ms A] was a generally well woman, had a normal BMI, and was not a current smoker. Again, in the absence of any narrative notes, it is unknown whether any discussion took place regarding expected growth or whether the date for the next visit was negotiated and agreed accordingly.

In hindsight, it might be argued that seeing [Ms A] again within 2–3 weeks to recheck the fundal height and review her overall well-being, would be best practice, but given the information available to [Ms C] at the time, it is not unreasonable that the next visit occurred four weeks later as no particular concern had been identified at that time.

Following the 33$_4$ week visit, the next visit happened as planned a fortnight later at 35$_4$ weeks. (See my comments above about what further actions could have been taken at this 33$_4$ week visit.) The noted plan at this visit was to see [Ms A] again in one week (36$_4$ weeks), but in fact the next visit occurred two weeks later (37$_4$). This represents another missed opportunity.

Assessments: I believe my discussion under the first point covers this aspect of this matter.

Summary of opinion:
I would like to commend [Ms C] in regard to the steps she has taken to improve her knowledge and clinical skill following this poor outcome for [Ms A] and her whanau. She has reflected on her care, recognised her knowledge deficit and undertaken appropriate remedial action.

I would also like to comment on the absence of any narrative clinical documentation which would provide a better opportunity to understand how the decision-making about [Ms A's] care evolved. The documentation about the discussions that take place between a woman and her midwife, and the woman's informed choices as a result of these discussions, are an important way to understand the context of how ongoing care is planned. I urge [Ms C] to ensure this manner of documentation becomes a routine part of her ongoing practice, as required by Standards One through Six of the Standards for Midwifery Practice (NZCOM, 2015).

From the letter of complaint, a picture emerges of [Ms A] having repeatedly raised concerns regarding her baby's growth that, by [Ms B's] account, were not taken seriously by [Ms C]. Working in partnership requires that midwives respond appropriately to issues that are brought to their notice by women they are working with. Feeling listened to, and having one's opinion valued by feeling 'heard' are critical aspects of the development of a trusting and functional relationship with a health professional, regardless of whether any clinical action is required or undertaken.

So, my opinion is that [Ms C's] peers would consider that the omission to commence a customised growth chart at the 33[4] week antenatal visit and to consider further assessment in the form of an ultrasound scan (and possible referral for obstetric review based on these results) was a moderate departure from reasonable practice.

Regarding [Ms C's] planning in response to reports of reduced movements, at the first instance (33[4] weeks) further assessment as discussed above was warranted. At the second instance (37[5]) I consider [Ms C] to have acted reasonably.

Regarding the frequency of antenatal visits, while a four week gap between 29[4] and 33[4] seems in hindsight to be open to critique, given the information available to [Ms C] at the time it was not unreasonable, as there is no clear evidence-based recommendation for the frequency of antenatal visits and the findings of the 29[4] week visit were ostensibly normal.

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