General Surgeon, Dr C

Anaesthetist, Dr D

Bay of Plenty District Health Board

A Report by the

Health and Disability Commissioner

Case 09HDC01422

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

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Executive summary

Background

1. In 2004, Mrs A was first found to have an enlarged thyroid (goitre). She elected not to have this treated at the time because she was pregnant.

2. In 2008, Mrs A, then aged 36, was referred by her general practitioner (GP) to hospital because the goitre had become larger, and was causing her pain. She was seen by Dr C at the public hospital.

3. Dr C is employed by the Bay of Plenty District Health Board as a general surgeon. He is described as a consultant, and was credentialled by the DHB in 2004 on the basis that he was registered within the vocational scope of general surgery. However, this was not correct. Although credentialled by the DHB, it was discovered that Dr C had only general scope registration.

4. Dr C examined Mrs A, and noted that the goitre seemed much larger than dimensions reported following an ultrasound earlier in the year. He also noted that she experienced no difficulty breathing or swallowing, had no pressure symptoms in her neck and no change in her voice. Dr C did not arrange for any further assessments. He arranged for surgery to take place.

5. Mrs A was assessed preoperatively in the anaesthetic department. Surgery took place as planned. Surgery went smoothly, and Mrs A was moved to the Post Anaesthetic Care Unit at about 10.30am.

6. Immediately after the procedure, Mrs A's blood pressure was high, rising to 190/110. However, the anaesthetist responsible for Mrs A's care, Dr D, decided not to provide any treatment for the high blood pressure at that time. Dr D then developed a headache, and went home, handing over care of his patients to the on-call anaesthetist.

7. Mrs A was transferred to the ward. Later in the day, she developed breathing difficulties. When she was unable to breathe, two house officers tried to intubate[1] her without success. Attempts to contact more experienced staff through the emergency paging system were also unsuccessful.

8. By the time more experienced staff were alerted and came to assist, Mrs A was not able to be resuscitated and, at 4.42pm, she was declared dead.

[1] Intubation — the insertion of a tube into the patient's airway to protect and maintain the airway

Decision Summary

Dr D

9. Dr D's decision to proceed with surgery was appropriate. When Mrs A's blood pressure rose postoperatively, his decision not to treat her at that time was reasonable. On that basis, Dr D did not breach the Code of Health and Disability Services Consumers' Rights (the Code).

10. However, Dr D failed to record the potential problems with intubation, Mrs A's reported cold symptoms, and that her GP had prescribed anti-hypertensive medication and when it had been last taken. Although this failure does not amount to a breach of the Code, the Commissioner considered that Dr D should be reminded of the importance of documenting all patient findings and observations, particularly when they directly influence clinical decision-making.

Dr C

11. Dr C failed to appreciate the complexity of the proposed procedure in Mrs A's particular circumstances. He did not arrange for further investigations to rule out airway compromise, and failed to give adequate consideration to transferring Mrs A to a better resourced hospital in a larger centre.

12. Dr C breached Right 4(1) of the Code by failing to exercise reasonable care and skill in that he did not carry out a thorough assessment of Mrs A's airway preoperatively. He also breached Right 4(4) by placing Mrs A at unnecessary risk of harm when he decided to perform surgery on Mrs A at the hospital.

13. The Commissioner noted that as a result of Dr C's failure to appreciate the complexity of Mrs A's presentation, Mrs A was deprived of the opportunity to make an informed choice about proceeding with elective surgery at that time at the hospital.

Bay of Plenty District Health Board (BOPDHB)

14. BOPDHB is responsible for ensuring that there are appropriate systems in place to ensure patient safety and support staff to provide an appropriate standard of care.

15. In this case, BOPDHB failed to ensure that there was a functioning emergency paging system, which resulted in a delay in more experienced staff arriving at the emergency. This amounts to a breach of Right 4(4) of the Code, in that BOPDHB failed to minimise the potential for harm.

16. BOPDHB also failed to provide adequate support and guidance for staff in the management of complex cases. BOPDHB therefore failed to take all reasonable steps to prevent Dr C's breach of the Code, and is accordingly vicariously liable for Dr C's breach of Right 4(4) of the Code.

17. The Commissioner also commented on the DHB's credentialling system.

Complaint and investigation

18. On 2 July 2009 the Health and Disability Commissioner (HDC) received a complaint from Mr B[2] about the services provided by Dr C, Dr D, and Bay of Plenty District Health Board. The following issues were identified for investigation:

- *The appropriateness of the care provided to Mrs A by Bay of Plenty District Health Board in 2008 in relation to her thyroidectomy surgery.*
- *The appropriateness of the care provided to Mrs A by Dr D in 2008 in relation to her thyroidectomy surgery.*
- *The appropriateness of the care provided to Mrs A by Dr C in 2008 in relation to her thyroidectomy surgery.*

19. An investigation was commenced on 12 October 2009.

20. The parties directly involved in the investigation were:

Mr B	Complainant
Mr A	Mrs A's partner
Dr C	Provider/surgeon
Dr D	Provider/anaesthetist
Bay of Plenty District Health Board	Provider
Dr E	Surgeon

Others mentioned in this report:

Dr F	General surgeon
Dr G	Anaesthetist
Ms H	Registered nurse
Dr I	House officer
Dr J	Surgical house officer
Dr K	Surgeon

21. Independent expert advice was obtained from anaesthetist Dr Joseph Sherriff (see **Appendix A**) and general surgeon Dr Patrick Alley (see **Appendices B and C**).

[2] Mrs A's brother-in-law.

Information gathered during investigation

Background

22. Mrs A was first noted to have an asymptomatic enlarged thyroid (goitre) in 2004. At this time she was assessed by general surgeon Dr C, who recommended total thyroidectomy surgery. However, Mrs A decided to defer any intervention at this time because she was pregnant.

23. In mid-2008, Mrs A's GP referred her to the surgical outpatient department at the public hospital because of a recent enlargement of, and pain from, her thyroid. An ultrasound showed that the right thyroid lobe measured 5.3×3.9×2.1 cm and the left measured 3.8×1.4×1.5 cm. Thyroid function and baseline bloods were also completed at this time. The referral letter noted that Mrs A was taking bendrofluazide 2.5mg daily.[3]

24. Mrs A was seen by Dr C a few months later. On assessment, Dr C noted that Mrs A experienced no difficulty breathing or swallowing, had no pressure symptoms in her neck, and no change in her voice. On examination, he noted that her right thyroid was 10×6×4 cm and the left 6×4×4 cm. In his letter to Mrs A's GP summarising the consultation he noted that the goitre was much larger than the dimensions reported following the ultrasound. He commented that he was "quite surprised" that there was such a big inconsistency with his latest assessment findings. However, he did not question the reason for this discrepancy. He did not consider that there was any compromise of the airway or vocal cords and he performed no further investigations or tests.

25. Dr C offered Mrs A total thyroidectomy surgery and discussed the proposed procedure and possible postoperative complications with her. He also discussed the need for her to take thyroid replacement therapy for the rest of her life.

26. Dr C completed the BOPDHB Surgical/Vascular grading tool. He scored Mrs A at 52, indicating that surgery was required but not urgent.

27. Dr C stated that it was his usual practice to refer thyroid cases to a public hospital in a main centre "if the patient has a retro-sternal extension,[4] any signs of [recurrent] laryngeal nerve involvement, moderate pressure symptoms and suspicion of malignancy". This, in his view, was not the case with Mrs A.

28. According to the Sentinel Event Investigation report Dr C anticipated potential difficulties with the surgery due to "pressure symptoms of the goitre, patient weight, stature and assessment of the size of the thyroid". In light of these potential difficulties Dr C allocated three hours for surgery. However, he advised HDC that he did not consider it necessary to refer Mrs A to a larger hospital. He stated that:

[3] A diuretic drug used to treat mild hypertension.
[4] A goitre that extends downwards towards the chest.

> "[Mrs A] had an uncomplicated enlarged thyroid gland; she had controlled mild hypertension[5] and was overweight (…). She had no further complexities that couldn't be dealt with in [this] Hospital."

Dr C

29. Dr C has general scope registration with the Medical Council of New Zealand[6] and was first employed by BOPDHB as a Medical Officer of Special Scale (Surgery),[7] and later as a general surgeon. Dr C advised that he received training in thyroidectomy surgery as part of his advanced surgical training, and it has been a "usual part" of his elective surgical lists for the past 20 years. Since working at the hospital, Dr C advised that, on average, he does six thyroidectomy surgeries per year.[8]

30. Dr C is in a collegial relationship with general surgeon Dr F. Dr C stated that he meets weekly with Dr F, and discusses any challenging cases with him. Dr C further stated that he did not discuss Mrs A with Dr F as he "did not find a clinical complexity that needed discussion with my supervisor, either pre-operatively or intra-operatively."

The Hospital

31. The hospital is a secondary care hospital[9] which is part of the Bay of Plenty District Health Board.

32. Since 2002, 95 thyroidectomy operations have been performed at the hospital by either Dr C or Dr E.[10]

Preoperative care

33. Mrs A was seen at the hospital by anaesthetist Dr G, for a preoperative anaesthetic assessment. Dr G noted that Mrs A was 162cms tall and weighed 98kg, had a history of hypertension, and had no complaints of shortness of breath or breathing difficulties. He also noted that she had had three previous Caesarean sections, two of which were under general anaesthetic, with no problems. On assessment, he measured her blood pressure (BP) twice and noted that it was high (169/100mmHg and 174/108mmHg),[11] so he referred her back to her GP for "better control". In his referral letter to her GP, Dr G requested that he treat her BP "as appropriate". He advised that surgery had not been cancelled in light of her high blood pressure. Consent for the procedure and anaesthesia were obtained and she was referred for a full blood count, electrolytes and creatinine blood tests.

34. Dr G recorded in the clinical record "intubation difficulties not anticipated". However, in his response to HDC, anaesthetist Dr D stated that Dr G warned him that intubation

[5] Mrs A's hypertension is referred to by the anaesthetist in his preoperative assessment.
[6] A doctor who has general scope registration must work in a collegial relationship with another doctor who is registered in the same or related vocational scope.
[7] A MOSS.
[8] Dr C has worked at the hospital since November 2000.
[9] A facility providing specialist level care.
[10] Dr E advised that in the same period, 166 thyroidectomies were performed at the other BOPDHB hospital by eight surgeons.
[11] Acceptable blood pressure parameters are generally between 90/60–140/90mmHg.

might be difficult owing to Mrs A's short, thick neck, coupled with her being overweight. The Sentinel Event Investigation report confirms that Dr G was concerned about the intubation and discussed this with Dr D.

GP care

35. The following day, Mrs A saw her GP. During this consultation her BP was 172/102 and 150/98 at a 10 minute interval. She was prescribed controlled-release metoprolol succinate 47.5mg.[12]

Surgery

36. A few days later, at 7.00am, Mrs A was admitted to hospital for surgery. The "Admission to Discharge Planner" was not completed owing to a staff shortage.

37. Mrs A's observations at the time of admission were documented as BP: 176/94, temperature: 36.2˚C, pulse: 62 beats per minute (bpm), respiratory rate: 14 breaths per minute.

38. In his written account to HDC, Mrs A's husband, Mr A, stated that Mrs A was concerned about a "slightly sniffy nose" on the morning of surgery. There is no record of this in the clinical records, but Mr A said that this was mentioned to the doctors before she went in for the operation. The DHB sentinel investigation report states: "Had this been of concern to the anaesthetist assessing [Mrs A] prior to surgery, surgery would have been cancelled."

39. Dr D advised that on assessment he noted that Mrs A's BP was still high but that she had been taking the appropriate medication since seeing her GP. This is not documented. Dr D attributed her high BP to anxiety and thyroid adenoma.[13] He stated that he considered any risk of complication associated with high blood pressure such as cerebral and cardiac problems to be low given she was already medicated for this condition and she was young.

40. Mrs A was taken to surgery, and anaesthesia was commenced at 8.30am. When Dr D was inserting the IV line Mrs A's BP increased to 206/116 but dropped to 101/50 after 20 minutes. Her BP remained at around this level throughout surgery. Dr D commented that "[a]part from the initial high blood pressure recording, there were no other concerns during surgery from an anaesthetic perspective".

41. Dr D stated that he noticed a small "bleeder" approximately 15–20 minutes before the end of surgery but this was stopped using direct pressure for 5–10 minutes. The area was noted to be dry after the wound was closed. There is no record of "a bleeder" in the clinical records. The scrub nurse during the theatre procedure reported at the sentinel event investigation that she did not recall any "bleeders". However, Dr C advised that there was no active bleeding but a little "capillary ooze", which he says

[12] This is a beta-blocker used to help control hypertension.
[13] A benign tumour of the thyroid gland.

he covered with a gauze swab. After the wound was closed, a Minivac drain[14] was inserted and Mrs A was transferred to the Post Anaesthesia Care Unit (PACU).

42. In relation to the surgery, Dr C stated:

> "The operation went smoothly without difficulties or complications. The operative procedure took one and a half hours after which [Mrs A] was kept in the post anaesthesia care unit for about one hour …"

Postoperative care — PACU

43. At the completion of surgery Mrs A was extubated and oxygen was discontinued. She was transferred to PACU at 10.32am with the instructions to maintain her oxygen saturations above 94% on room air. Mrs A awoke 15 minutes after her arrival on PACU. At this time her BP was 150/95, her pulse was 75, respiratory rate 18 and temperature 36˚C. She was noted to be experiencing some pain but that this was improving with analgesia. Over the next 45 minutes her BP increased to 190/110 at 11.10am.

44. Dr D reviewed Mrs A postoperatively. He noted that she was hypertensive but he decided not to treat it at this time. He advised that he did consider whether further medication was indicated but was reluctant to prescribe any further medication at that time. He stated that it "seemed prudent to let a little more time elapse and then review the situation". The recovery record states: "Hypertension still present. Anaesthetist in to see but refuses to treat at this point." It also states: "Please observe for haemorrhage."

45. Dr D stated that he remained in the hospital until approximately 2.50pm but then went home early owing to a headache. Before he left the hospital he handed over all his patients to Dr G, who was on-call.

46. Dr C advised that after he completed his operative list for the day he left the hospital (approximately 2.30–3pm). At this time he had not been made aware of any issues in relation to Mrs A, and he did not review her again before he left the hospital. Because he was the on-call surgeon he did not hand over care to anyone. He had his pager and mobile telephone with him.

47. Mrs A was transferred to the ward at 11.45am with instructions to observe her vital signs, provide analgesia and allow oral intake after full recovery from anaesthesia.

Postoperative care — ward

48. On arrival on the ward Mrs A was allocated a bed some distance from the nurse's station. She was later moved into a bedspace closer to the nurse's station so that she could be observed more closely.

49. Registered nurse Ms H noted, upon arrival, that Mrs A was "drowsy but easily roused". Her BP was 162/80, pulse 58 bpm, temperature 36.3˚C, respiratory rate 16

[14] A small low pressure wound drain.

and oxygen saturation 98% on room air. Observations continued to be measured every 15 minutes until 1pm, at which time her BP was 124/80.

50. Mr A arrived on the ward at about 12.45pm. He recalls that Mrs A began experiencing breathing difficulty shortly after his arrival on the ward. He advised that her voice was raspy and she told him that she was finding it difficult to breathe because of something at the back of her throat.

51. At 1.30pm Mrs A's BP dropped to 98/52. Ms H attributed this sudden drop in her BP to her sitting up in bed. On the observation chart Ms H documented that "[patient] sat up". Mrs A's BP continued to be monitored half hourly. At 2pm her BP was 96/54 and at 2.30pm it was 96/52. Observations were then taken every ten minutes. At 2.40pm her BP was 85/62, it then increased to 124/68 at 2.50pm. During this time Mrs A's oxygen saturations remained stable between 95–100% on room air. Similarly, her pulse rate remained between 58–65 bpm and her respiratory rate was 18 (although this was not recorded between 2pm and 2.40pm).

52. At 2.50pm, Ms H administered Mrs A 2mg of IV morphine because she had been complaining of pain of 5/10.

53. At 3.15pm, in a retrospective account, Ms H noted that "[observations] remain within normal ranges as per [temperature, pulse, respiration] chart — [blood pressure] did [decrease] when [patient] sat up in bed …" She documented: "PLEASE MONITOR CLOSELY for haemorrhage as [patient] newly diagnosed hypertension." She also noted that Mrs A was complaining of "[phlegm] in throat [and] difficulty breathing/coughing [with] this". Ms H paged the house officer, Dr I, and noted that she was "currently [reviewing patient]". As an addition to this entry Ms H noted that she had handed over care to a registered nurse. At this stage (3.20pm), Dr I was still reviewing Mrs A.

54. At 3.30pm, Dr I documented her assessment in the clinical records. She noted that Mrs A was complaining of difficulty in breathing, which she had been experiencing since her transfer to the ward. Dr I noted that Mrs A had experienced cold-like symptoms that day and that she was currently feeling tightness in her throat around the incision, and phlegm at the back of her throat, which she was unable to clear by coughing.

55. On assessment, Dr I observed that Mrs A's oxygen saturations were 98% on room air, her respiratory rate was 20, and she had good bilateral air entry with transmitted inspiration sounds. Dr I noted that Mrs A's wound was soft and had minimal drainage since theatre and that her swallow was intact. Dr I felt that Mrs A was not coughing properly owing to pain and requested her throat be suctioned. Dr I prescribed a saline nebuliser, and advised Mrs A to keep swallowing and to sit upright and cough.

56. The nurse then administered the saline nebuliser and suctioned the back of Mrs A's throat. Mrs A reported that this gave her some relief.

57. One of the other surgical house officers, Dr J, then arrived on the ward. Because she had more experience in looking after post-thyroidectomy patients, Dr I asked Dr J to assess Mrs A. Dr J reviewed Mrs A with Dr I and agreed with Dr I's assessment.

58. Shortly after Dr I and Dr J left Mrs A's room the registered nurse documented that Mr A shouted "nurse". When she attended Mr A's call she noted: "patient unable to cough up 'flem' lips blue". She then "called for both Drs".

59. Dr I and Dr J, who were still on the ward, arrived immediately. In her retrospective account (written at 4.45pm), Dr J documented that she and Dr I arrived at 3.50pm. She noted that Mrs A appeared agitated and was trying to cough up secretions and gesturing toward her neck. Her oxygen saturations were 100% on room air.

60. Dr J then attempted to open the neck wound and noted only minimal bleeding (about 50mls) and no evidence of acute bleeding. When asked if this had provided any relief, Mrs A shook her head indicating "no". Her oxygen saturations remained at 98%. The on-call anaesthetist, Dr G, was then called. However, Dr G was in theatre and did not respond. According to the sentinel event investigation, after Dr G failed to respond, Dr C was paged but because he was off site he did not respond immediately.

61. Dr C explained that there is an area of approximately 5km on his route home where there is no mobile phone reception. As soon as he arrived home he received a call on his home telephone line.

62. Dr J then documented that Mrs A became extremely agitated and collapsed back in her bed. Her oxygen saturations had dropped to 53%. Dr J attempted to insert a Guedel airway[15] but was unsuccessful because Mrs A had bitten down hard on her tongue. An emergency crash call was made.[16]

63. According to the sentinel event investigation, at 3.55pm, the Surgical MOSS, the Duty Manager and an unidentified pager were paged simultaneously to ring the Ward. The Surgical MOSS was in theatre and his pager was with the recovery room staff. It is unclear whether anyone answered his pager on his behalf.

64. Dr J documented:

> "Attempted ventilation of patient with bag — valve mask, but considerable resistance met. H/S [house surgeon] arrived as chest pads applied and full resuscitation protocol commenced.
>
> Attempted intubation [twice] with jaw opened with self retainer. Unable to fully visualise cords and intubation not successful. [Endotracheal tube] removed and continued ventilation with bag-valve mask by [Dr I].

[15] An oral airway designed to prevent the tongue from obstructing the trachea
[16] This activates the pagers of two medical MOSSs, two house officers who are carrying the red pagers, the duty manager, the ED nurse manager, the ICU nurse manager, the clinical nurse educator, the resuscitation coordinator and an orderly.

> Single attempt then made to perform needle [cricothyroidotomy].[17] Difficult to identify landmarks due to body habitus and unable to successfully perform procedure."

65. The medical and emergency department MOSS then arrived and managed to successfully intubate Mrs A. They then took over her airway management. However, Mrs A never resumed any sustainable heart rhythm and she was declared dead at 4.42pm.

Post mortem

66. The post mortem concluded that death was caused by extensive haemorrhage into the soft tissues of the mid to upper neck causing compression of the trachea resulting in asphyxia. There was no evidence of tracheomalacia.[18]

Sentinel event investigation

67. Immediately following the incident it was reported on the DHB's reportable event database. A sentinel event investigation was then launched.

68. Following the completion of the investigation the following root causes were identified:

- A lack of exposure of staff to the management of actual complications of post-thyroidectomy surgery. As a result there was a false sense of assurance when Mrs A was assessed after she experienced a drop in blood pressure. This led to a delay in assessment by an appropriately experienced person.

- Inconsistency with the implementation of MEWS (modified early warning system). This meant that the nursing staff were not familiar with a parameter-driven process of escalation. This led to a further lost opportunity to recognise the seriousness of her condition.

- The skill mix at the hospital, coupled with difficulties and delays in accessing appropriately experienced staff owing to one being in theatre, one being off-site during surgical lists, and one being sick. This led to a delay in Mrs A being assessed by appropriately experienced staff.

- An unreliable paging system combined with dated documentation and processes. This resulted in a number of staff without the appropriate skills and experience attending the emergency call. Again, this led to a delay in Mrs A being assessed by appropriately experienced staff.

Emergency pager system

69. The failure of the emergency pager system to activate correctly was reported separately. The incident description states:

[17] A procedure whereby a hole is made into the patient's airway (also known as tracheotomy).
[18] Weakness or floppiness of the tracheal cartilage caused by longstanding pressure from the goitre.

> "Concerns due to 1 × Red Pager not activating during trauma — [resuscitation]. Also medical moss cardiac pager didn't go off. However, one House Officer pager went off instead. Query whether the MOSS [or] the right pager allocated?
>
> Doctors concerned about the [resuscitation] times when the pagers are not working."

70. Following a review of the pager system it was concluded that it was fully operational on the day of surgery and there are records of a resuscitation activation at 3.58.01pm. A subsequent emergency test carried out functioned correctly with all pager holders receiving the test. No conclusions were reached about why the resuscitation activation did not function correctly.

71. Review of previous incidents shows that approximately one month prior to this incident, an incident occurred where the emergency pagers did not activate correctly during an emergency crash call. Review of this incident uncovered no reason for the pagers not activating correctly, and no further action was taken.

Review undertaken by Dr K

72. Following completion of the root cause analysis, an independent review was undertaken by surgeon Dr K. This review was completed in July 2009. At the completion of his review Dr K identified a number of areas that he considered may have contributed to the outcome of the incident. These included the preoperative management of Mrs A's hypertension and the failure of the emergency call system to work effectively.

Actions taken by BOPDHB

73. BOPDHB advised that it has made the following changes to its service:

- The MEWS system was reviewed and enhanced. It was implemented across both BOPDHB hospital sites in April 2009. On 20 September 2009, an audit was carried out to see if staff were using it correctly and following the recommended guidelines. This showed that generally the system was being used well. However, some improvements were highlighted, including the requirement to consistently record the patient's weight and any urinalysis results, and the need for education around the scoring system for temperature, BP, pulse, respiratory rate and oxygen saturations, as well as for urine, AVPU (alert, voice, pain, unresponsive) and pain scores.

- All patients who have undergone a thyroidectomy are now cared for in the high dependency unit for at least four hours postoperatively.

- Changes to its pager system, including:

  - A third emergency pager was purchased for the ED MOSS to carry to ensure a senior medical officer with experience in airway management will always attend emergency crash calls.

- Weekly emergency pager testing.
- Emergency pagers are now individually numbered to allow easier monitoring.
- Checks carried out to ensure the appropriate person is carry the correct pager.

Actions taken by Dr C

74. Dr C advised that he now has a much lower threshold for checking patients on the ward before leaving the hospital. He is much more conscious of the risks that occurred in this case, although he still considers these to be very rare. Due to the shock this case has caused, Dr C has stopped performing thyroidectomy surgery.

Actions taken by Dr D

75. As a result of this incident, Dr D now routinely reviews all his patients postoperatively and ensures that he discusses them with the on-call anaesthetist prior to leaving the hospital. He also has a lower threshold for admitting patients to ICU and ensures that when he is sick he does not come into hospital at all.

Response to the first provisional opinion

76. Dr D did not respond to the provisional opinion.

77. BOPDHB responded to the provisional opinion, and accepted the finding that it had breached the Code of Health and Disability Services Consumers' Rights.

78. Dr C was sent a copy of my provisional opinion, including the expert advice from Dr Patrick Alley. He responded to the report and the advice from Dr Alley. He also provided a letter from General Surgeon Dr E. Dr E has practised as a general surgeon in public practice for the DHB since late 1988. Dr C advised that he and Dr E have performed 95 thyroidectomy operations at the hospital since 2002. Some matters raised by the surgeons are incorporated in the previous section. In relation to the specific criticism of the care provided by Dr C, their responses are summarised below.

Preoperative assessment of Mrs A's airway

Dr C

79. Dr C considers that the criticisms made of him are made with the benefit of hindsight. He stated:

> "The suggestion that cases like [Mrs A's] should be routinely transferred is a criticism made very much with the benefit of hindsight and one that I do not accept as reasonable."

80. He further stated that the preoperative investigations are selected by the clinicians according to the patient's signs and symptoms. In this case there were no symptoms of

compromised airway, and accordingly he did not ask for a CT scan or laryngoscopy. He considers that this was "entirely reasonable in the circumstances". Dr C stated:

> "My assessment that the airway was not compromised was indeed confirmed during the anaesthesia and also during the surgery itself. It was further confirmed by the post mortem report and as you correctly note in your provisional opinion 'the post mortem showed no signs that [Mrs A's] trachea was weakened'.
>
> A CT scan or laryngoscopy, if it had been performed in this case, would not have shown any changes or concerns as to the airway. As a consequence I do not accept the inference that a more thorough preoperative assessment of the airway would have led to a different management of [Mrs A's] case. Certainly this, in my opinion, would not have changed the tragic outcome of this case."

Dr E

81. Dr E stated that given the preoperative findings of the surgeon and anaesthetist he does not see any good reason for requesting a CT scan or an indirect laryngoscopy in this case. He considers that a scan would have been of "very limited value or information and other colleagues, like me, would not have performed one". In his opinion, a CT scan or indirect laryngoscopy "would not have predicted the post operative haemorrhage and therefore would not have altered the outcome for this patient".

Dr E stated:

> "The recorded pre-operative commentaries of the surgeon and the anaesthetist contain no mention of any compromise to the upper aero-digestive tract. On the contrary, direct questioning by [Dr C] did not disclose any symptoms of airway obstruction or difficulty with swallowing. There was no voice change to suggest involvement of the recurrent laryngeal nerve. There were no pressure symptoms in the neck.
>
> [Dr G], an experienced and vocationally registered anaesthetist, at his pre operative anaesthetic assessment noted the history of hypertension but found no complaints of shortness of breath or breathing difficulties. He noted that 'difficulties in intubation [were] not anticipated'.[19]
>
> Given these two doctors' findings, I do not see any good reason for requesting a CT scan or an indirect laryngoscopy. I do not see how 'a much more reliable definition of the size of the patient's goitre' would have influenced the operation as in any event, the operative finding is much more exact and reliable than a CT scan in this setting."

82. Dr E noted that he had personally performed more than 100 thyroidectomy operations at the hospital. Preoperative CT scan of the neck and chest and laryngoscopy (either direct or indirect) was performed in less than 25% of cases for assessment of suspected or proven malignancy, assessment of retrosternal extension of goitre,

[19] Dr E is referring to the clinical record which incorrectly notes that no intubation problems were anticipated. See paragraphs 33 and 34.

assessment of the airway in patients with clinical signs of airway obstruction, and in patients who had previous thyroid surgery and/or had voice changes.

Referral to another hospital

Dr C

83. Dr C does not accept that he failed to adequately consider the risks and potential complications associated with performing Mrs A's surgery at the hospital. He stated:

> "Overweight and mild hypertension is a common condition in our society. This is certainly the case for the community in [this town]. The suggestion that cases like [Mrs A's] should be routinely transferred is a criticism made very much with the benefit of hindsight and one that I do not accept as reasonable."
>
> My colleagues and I in [this town] had treated many patients with different thyroid conditions; many of them have hypertension and overweight. To ensure patient safety we refer all patients with thyroid complexities (hyperactive thyroid, enlarged thyroid with compromised airway …) to other hospitals.
>
> I did give consideration to [Mrs A's] circumstances but did not consider that she required referral to another hospital, in this case [the other BOPDHB hospital], as has been suggested by your provisional opinion. It is however entirely wrong to say that no consideration of transfer to another hospital was given. It was not required.
>
> [Mrs A] had an uncomplicated enlarged thyroid gland; she had controlled mild hypertension and was overweight (…). She had no further complexities that couldn't be dealt with in [the] hospital. Similar cases have been commonly operated on in [the] Hospital and indeed successfully as has been the case, I have since discovered, in other similar sized hospitals in New Zealand.
>
> Furthermore, the allocation of three hours for her surgery was more than ample time for the planned surgery and moreover adequately ensured the patient's safety.
>
> The anaesthesia and the surgery itself proceeded uneventfully.
>
> It was the following unsuccessful and delayed resuscitation for respiratory difficulty which led to the disastrous outcome in this case."

Dr E

84. Dr E stated:

> "The fact that the patient was obese, had a large goitre and a short neck and had hypertension does not of itself warrant referral to another 'institution better equipped and more familiar with surgery of this magnitude'. It does however, warrant appreciation of the potential challenges likely to be faced during the course of such surgery and the extra care and assistance that it may require intra-operatively. [The] Hospital records show that we have successfully performed

surgery of similar, if not bigger, magnitude and complexity on many occasions previously. Patients from this region especially Maori, prefer to have surgery locally, closer to home and family unless medically indicated for a transfer to a more resourced hospital. Such instances may include co-morbidities like unstable ischaemic heart disease, malignant tumours with signs of recurrent laryngeal nerve compromise or nodal involvement or large retrosternal extensions especially in the older patient. Obesity and large stature is common in our population and may be related to an alternative socio-cultural perception of self image than the standard Western view.

Dr Alley's assessment of the 'complexity' of this case appears to be based on [Mrs A's] obesity (BMI of 37.4), short neck (patient height of 162cm) enlarged thyroid (resected weight of 295 gms) and hypertension (pre assessment BP 169/100). He suggests and the HDC has accepted that because of this patient's obesity, short neck and large goitre, she should have been referred to an 'institution better equipped and more familiar with surgery of this magnitude'.

However, there is no evidence to support this premise. As above, there is good evidence from our own [experience in this hospital] that surgery on such patients is routinely performed safely and expeditiously at a rural general hospital."

85. The responses of Dr C and Dr E to my provisional opinion were submitted to Dr Alley for his comments. His further advice is set out in **Appendix C**.

Response to second provisional opinion

86. Neither Dr D nor BOPDHB responded to the second provisional opinion.

87. Dr C responded to the second provisional opinion stating that he was disappointed that HDC had rejected both his and Dr E's explanations and comments to the first provisional opinion. He stated that he felt that the findings were "unfair" and, while he did not accept HDC's findings that he breached the Code, he respected my opinion. He advised that he did not wish to comment further.

Medical Council Registration and Credentialling

Registration of medical doctors in New Zealand

88. All doctors who intend to practise medicine in New Zealand are required to be registered with the Medical Council of New Zealand (MCNZ).

89. There are two pathways for registration: general and vocational.

90. The MCNZ describes registration within a general scope of practice as follows:

> "A doctor who has completed the requirements of a provisional general scope will be registered within a general scope of practice. Examples are junior doctors who have completed their first post-graduate year and may be in vocational training, doctors who have not started, or have chosen not to do, vocational training or doctors nearing retirement who are no longer meeting the requirements for registration within a vocational scope of practice.
>
> The doctor must establish a professional collegial relationship with another doctor who is registered within the same or related vocational scope, and must participate in appropriate continuing professional development to maintain and improve competence and to be recertified each year."

91. The MCNZ describes registration within a vocational scope of practice as follows:

> "A doctor who has completed his or her vocational training as a consultant and has appropriate qualifications and experience can be registered within a vocational scope of practice.
>
> A doctor registered in a vocational scope must participate in an approved continuing professional development programme to maintain competence and be recertified each year."

92. General Surgery is one of the vocational scopes of practice. It is defined by the MCNZ as:

> "General Surgery is a broadly based specialty which includes the diagnosis and treatment (operative and non operative) of patients with disorders of: colon and rectum, upper gastro-intestinal organs, breasts, endocrine organs, skin and subcutaneous structures, blood vessels including varicose veins and the head and neck region. It also includes the early and ongoing management of trauma."

93. Dr C was first registered with the MCNZ in 2000 under a general scope. In June 2009, he applied to the MCNZ for registration via the vocational pathway.

Credentialling of senior medical officers in public hospitals

94. Credentialling is defined as a process used to define specific clinical responsibilities (scope of practice) of health professionals on the basis of their training, qualifications, experience, and current practice, within an organisational context. The context includes the facilities and support services available in the service the organisation is funded to provide. Credentialling is part of a wider organisational quality and risk management system designed primarily to protect the patient.[20]

[20] Ministry of Health, *Toward Clinical Excellence — A framework for the credentialling of senior medical officers in New Zealand* (March 2001) 1.1.

95. In August 2003, BOPDHB issued a written policy for credentialling of senior medical staff. The policy stated that:

> "… all senior medical staff will, upon appointment and at regular intervals thereafter, have their scope of practice clearly defined through a credentialling process".

96. The purpose of the policy was stated as follows:

- To provide protection to patients by ensuring that the medical staff treating them are practising within the scope of their training and their level of competency.
- To provide a structured, consistent, open and fair approach to the assessment of the training experience and competency of medical staff.

97. Verification of the doctor's registration status was an aspect of the credentialling. BOPDHB advised that in 2003, it accepted the assurances of the Chief Medical Director as to the registration status of senior medical staff.

Dr C's registration and credentialling

98. This issue arose because, in the course of this investigation, it was discovered that BOPDHB had credentialled Dr C for all aspects of general surgery, and referred to him as a "consultant", although Dr C has never held registration in New Zealand within a vocational scope. In 2008, as per the requirements of his general scope registration, Dr C was in a collegial relationship with Dr F, a vocationally registered general surgeon at the hospital.

99. Dr C was credentialled at BOPDHB in 2004. At that time, a taskforce was appointed by the DHB, consisting of leading senior medical officers, both employed by the DHB and from other DHBs.

100. Dr C completed a self-assessment form, stating that he had general registration. This form is undated. Similarly, an undated report sent to Dr C in February 2005 notes:

> "Currently has General registration and awaiting Vocational Registration (still the case in mid December 2003)."

101. However, the letter dated 23 December 2004 to Dr C from the Chief Medical Director advising him of the recommendations of the task force following the credentialling review stated:

> "The members of the Task Force who undertook the review have confirmed that you hold Vocational registration with the Medical Council of New Zealand in General Surgery with a current practising certificate and are involved in a College Re-certification and CME programme."

102. Dr C was asked to return a signed copy of the letter to the DHB, which he did on 11 January 2005. BOPDHB stated that the organisation had operated under the assurance

given by the Chief Medical Director in this letter that Dr C was registered within a vocational scope. Further, it was the organisation's understanding at the time Dr C operated on Mrs A that he was credentialled to perform the full range of General Surgery procedures.

103. Dr C was asked what steps he took to correct the misstatement of his registration in this letter. He stated:

> "… When I became aware of this error (it was a few days after the receipt of [the Chief Medical Director's] letter) I notified the Administration Department of the DHB. The matter was most certainly corrected and I **enclose** a copy of the further credentialling critique letter I received from [the Chief Medical Director] on 24 February 2005 where you will see at the second bullet point my registration is recorded as General Registration.[21]
>
> I had applied for Vocational Registration with the Medical Council on or [about] the 16th of June 2009 and the application [is] still in process."

104. On 31 March 2009, the Chief Medical Director of BOPDHB wrote to Dr C following a recredentialling programme that had included Dr C. The letter said:

> "The Credentialling Sub-Committee were somewhat surprised to learn that you are registered with the New Zealand Medical Council on a General Scope working within a collegial relationship rather than on a Vocational Scope.
>
> This letter is to advise that the Credentials Sub-Committee is unable to credential you until you are enrolled and participating in an approved recertification programme relevant to the vocational scope of General Surgery."

105. The MCNZ were asked whether Dr C had ever applied for registration within a vocational scope. It advised that Dr C's application for registration via the vocational pathway was received on 12 June 2009.

106. BOPDHB told HDC that current practice for verification of training, qualifications and registration status in the re-credentialling process now requires senior medical officers to provide evidence of these matters prior to interview. The DHB is also currently reviewing and updating the credentialling policy to align with the Credentialling Framework for New Zealand Health Professionals.

MCNZ advice for consumers about doctors' titles

107. In the MCNZ guide *You & Your Doctor — a guide to your relationship with your doctor*, the titles used by doctors are explained as follows:

[21] Dr C provided a copy of a letter dated 24 February 2005 from the Chief Medical Director to him enclosing a copy of his personal report. This personal report included the comment referred to in paragraph 100.

> "Most GPs have done specialist (vocational) training. These GPs and doctors trained as specialists who work as consultants in hospitals and/or private practice, have vocational registration with the Medical Council.
>
> Medical titles are often confusing. … To make sure your doctor is a specialist in his or her field, find out which specialist field (vocational scope) he or she is registered in. A vocational registration shows a doctor has done advanced training in a specialty area or branch of medicine."[22]

Opinion: No Breach — Dr D

Blood pressure management

108. Mrs A had a history of hypertension which, at the time of her referral to Dr C in April 2008, was being actively treated with the diuretic bendrofluazide.

109. During a preoperative anaesthetic review, Mrs A's BP was recorded as 169/100 and 174/108 consecutively. Dr G, the reviewing anaesthetist, referred Mrs A back to her GP to treat her BP "as appropriate" but did not consider her high BP a reason to delay surgery. He noted no other concerns and considered that "difficulties in intubation not anticipated".

110. Mrs A was subsequently started on the antihypertensive drug metoprolol succinate 47.5mg by her GP.

111. Mrs A was admitted for surgery. Preoperatively, anaesthetist Dr D assessed Mrs A. He noted that her BP remained high but that she was taking medications for this. He attributed Mrs A's high blood pressure to anxiety and her enlarged thyroid.

112. My expert advisor, anaesthetist Dr Joseph Sherriff, has advised that, in the circumstances, Dr D's decision to proceed with surgery was appropriate. Dr Sherriff refers to the Oxford Handbook of Anaesthesia 2nd ed (2006), which states that moderate hypertension (160/100–179/109) "is not an independent risk factor for perioperative cardiovascular complications. Surgery should normally proceed in these patients."

113. The surgery proceeded without complication. While Mrs A's blood pressure was initially high, this dropped to a normal level within 20 minutes and remained stable throughout the operation.

114. Following her transfer to PACU, Mrs A was reviewed by Dr D, who noted that she was hypertensive. While Dr D advised that he did consider whether further medication was indicated, he decided to treat her conservatively given that she was already taking antihypertensive medication. I note Dr Sherriff's view that, in the

[22] MCNZ, October 2006, p10.

circumstances, Dr D's decision to withhold further antihypertensive medications was reasonable.

Conclusion

115. Overall, and guided by my expert's advice, I accept that the care Dr D provided to Mrs A was appropriate. Dr D treated Mrs A with appropriate care and skill and therefore did not breach the Code of Health and Disability Services Consumers' Rights (the Code).

Adverse comment — Dr D

Documentation

116. Dr D maintained an adequate anaesthesia record. However, although he refers to it in his response to HDC, he failed to make a specific note about the antihypertensive medication prescribed by Mrs A's GP or to note when it was last taken. As was stated by the former Commissioner in a previous opinion:[23]

> "Baragwanath J stated in his decision in *Patient A* v *Nelson Marlborough District Health Board*[24] that it is through the medical record that healthcare providers have the power to produce definitive proof of a particular matter (in that case, that a patient had been specifically informed of a particular risk by a doctor). In my view this applies to all health professionals who are obliged to keep appropriate patient records."

117. Accurate, contemporaneous documentation is good practice. It helps to ensure continuity of care.

118. Dr Sherriff has advised that Dr D's failure to record the medication prescribed by the GP, and whether it had been taken that day, was a minor departure from expected standards.

119. Although he failed to adequately document what antihypertensive medication Mrs A had been prescribed by her GP, or when she last took it, I accept that Dr D gave consideration to Mrs A's hypertension and managed it appropriately and in accordance with expected standards.

120. Nonetheless, in my view, there were other lapses in record-keeping. Dr D's failure to record the potential problems with Mrs A's intubation raised by Dr G, her reported cold symptoms, and that her GP had prescribed antihypertensive medication and when it had last been taken, all potentially put Mrs A at risk of harm.

[23] 08HDC10236 at page 11.
[24] *Patient A* v *Nelson Marlborough District Health Board* (HC BLE CIV-2003-406-14, 15 March 2005).

121. While I do not consider these lapses in Dr D's documentation warrant a finding of a breach of the Code, I take this opportunity to remind Dr D of the importance of documenting all patient findings and observations, particularly when they directly influence clinical decision-making.

Opinion: Breach — Dr C

122. My investigation was focussed on the appropriateness of the care provided by Dr C to Mrs A. This is not the same as an investigation into the cause of death, or a root cause analysis. The cause of Mrs A's death is not determinative of my assessment of the standard of care provided to Mrs A by Dr C.

123. There are two distinct aspects of the care Dr C provided that I will discuss and comment on: the preoperative assessment; and the decision to operate at the hospital. I note that postoperative haemorrhage (as was suffered here) is a well known complication of thyroidectomy surgery. It is not, in itself, evidence of a lack of care and skill. Indeed, there is no evidence that the operation itself was not performed with reasonable care and skill.

Preoperative assessment

124. Prior to surgery, Dr C assessed Mrs A. His assessment involved an examination of Mrs A. He also had access to the results of an ultrasound that had been performed. Dr C noted that Mrs A experienced no difficulty breathing or swallowing, had no pressure symptoms in her neck, and no change in her voice. He concluded that there was no clinical compromise of her airway.

125. On examination, Dr C noted that the goitre was much larger than the ultrasound had indicated. In his letter to the GP, he commented that he was surprised at such an inconsistency.

126. I note that in his response to the provisional opinion, Dr C told HDC that in this case there were no symptoms of airway compromise, and accordingly he did not ask for a CT scan or laryngoscopy.

127. The issue is whether this assessment was adequate in the circumstances as they existed at the time. Dr C was aware of Mrs A's obesity and her hypertension, as well as the inconsistency between the ultrasound and his own findings in relation to the size of the goitre. In the circumstances, I agree with the advice from Dr Alley that further investigations, such as a CT or indirect laryngoscopy were appropriate. Although it is unclear whether Dr C was aware of any specific symptoms of airway compromise, I accept Dr Alley's advice that, for a person with Mrs A's stature and body mass index, further investigations were appropriate. Such investigations would also have resolved the inconsistency between the ultrasound result and Dr C's findings on examination.

128. I note that, even if he had undertaken further investigations, the outcome may have been the same. However, the fact that airway compromise did not occur during the surgery is no more evidence of good preoperative assessment, than the postoperative haemorrhage is evidence of poor care.

The decision to operate at the hospital

129. Dr C stated:

> "[Mrs A] had an uncomplicated enlarged thyroid gland; she had controlled mild hypertension and was overweight … She had no further complexities that couldn't be dealt with in [this] hospital."

130. I acknowledge that neither Dr C nor Dr E regard this particular operation as having presented as a challenge or being as complex as Dr Alley has stated. Indeed, despite regular meetings with his supervisor, Dr C did not discuss this case with him. I accept also that this was the first recorded death following a thyroidectomy operation at the hospital since 1998.

131. However, I consider that although Dr C is not responsible for the events in the postoperative ward, this does not excuse him from his failure to either fully appreciate the complexity of this case, or take the precaution of considering transfer to another centre. He states that such consideration was not required because similar cases have been commonly successfully operated on at the hospital and other similar sized hospitals.

132. My expert advisor, general surgeon Dr Patrick Alley, advised that in light of the complexity of Mrs A's presentation, her surgery should have been done at an institution better equipped and more familiar with this type of surgery. In his view, the central features of the poor outcome in this case were, "firstly a failure to recognise a patient in whom complications would present a real challenge and secondly the system for resuscitation of such patients was at fault".

133. I accept Dr Alley's assessment of Mrs A's presentation as complex. Merely because being overweight and having hypertension are quite common in our country, this does not translate into the procedure being simple.

134. I am perturbed that because Mrs A shared characteristics with many other New Zealanders her individual presentation apparently failed to raise concerns for Dr C about the appropriateness of this procedure being performed at the hospital. I am particularly concerned as the procedure was not performed as a lifesaving measure. Indeed, according to Dr C's assessment, Mrs A was asymptomatic as far as the goitre is concerned, and it does not appear that there was any suspicion of malignancy. I note that a fine needle aspiration to determine the pathological nature of the thyroid does not appear to have been performed. Had the goitre been symptomatic and/or there been a suspicion of malignancy, Dr C says he would have considered referral to another centre.

135. I note that because Dr C did not consider Mrs A's presentation as complex, Mrs A was not given the option of transfer to another hospital or delaying surgery until her blood pressure was more controlled.

136. While patients may prefer to have surgery locally, that is not the only, or indeed the most important, consideration for the patient. If the patient has a choice about the venue for a procedure, he or she needs to be fully informed of the risks and benefits of having the procedure in a local hospital in his or her particular circumstances. Dr C was responsible for ensuring the appropriate assessments were undertaken, both to enable him to fully consider whether it was medically indicated to perform the procedure at the hospital, and to ensure that Mrs A was fully informed of the risks of the procedure. Because Dr C failed to appreciate the complexity of this case, Mrs A was not fully informed of the risk.

137. I note Dr Alley's comment:

> "All I would seek from [Dr C] is the concession that he did make an error of judgement about this case and that he has learned from it. Complication free surgery is a myth that is espoused only by perfectionists and the media. However the minimisation of errors is every surgeon's prerogative and I remain concerned that [Dr C] appears not to have heard that message yet. None of us is immune from complication or adverse outcomes in our surgery but as Donald Trunkey the well regarded American Trauma surgeon once said 'Good judgement comes from experience and experience comes from bad judgement'."

138. Dr C, despite his previous experience and qualifications, chose not to apply for registration in the vocational scope of general surgery until June 2009. Because of this, he was not involved in the continuing medical education required by the Royal Australasian College of Surgeons to maintain fellowship, and thus recertification with the NZMC. I note that in March 2009, the Chief Medical Director advised him that he would not be credentialled until he was enrolled and participating in an approved recertification programme relevant to the vocational scope of general surgery.

Conclusion

139. Mrs A had a complex presentation. Dr C anticipated that her surgery would be sufficiently complicated to require additional time in the operating theatre. Despite this, Dr C carried out only a basic assessment of Mrs A's airway and proceeded to operate at the hospital. While I acknowledge that the post mortem showed no signs that Mrs A's trachea was weakened, I consider that Dr C failed to exercise reasonable care and skill by failing to carry out a more thorough assessment of Mrs A's airway preoperatively. I also consider that Dr C should have discussed this case with his supervisor.

140. Dr C had experience in thyroidectomy surgery, although his standard practice since he had been working at the hospital was to refer the most complicated cases to a larger centre. In this case, despite anticipating that the surgery would be complicated to a degree, he did not consider Mrs A needed to be referred.

141. Dr C stated in his response to my provisional opinion, "The suggestion that cases like [Mrs A] should be routinely transferred is a criticism made very much with the benefit of hindsight and one that I do not accept as reasonable." This is to misstate the position. As stated by my expert, Dr Alley, "I still think it is entirely reasonable that [Dr C] should have offered more 'foresight' for this particular patient." What was required was that the individual circumstances of Mrs A be given careful consideration, despite the fact that previously cases similar to hers had been operated on successfully at the hospital. Clearly, carrying out further investigations about the possibility of airway compromise would have provided better information about the state of Mrs A's thyroid.

142. As noted by Dr Alley, "[p]atient selection and post operative care are equally important dimensions to the delivery of proper surgical care. There is much more to surgery than the technical performance of the operation".

143. By failing to give adequate consideration to the risks and complications associated with performing surgery on such a complex patient in the hospital, Dr C placed Mrs A at unnecessary risk of harm and breached Right 4(4) of the Code.[25]

Opinion: Breach — Bay of Plenty District Health Board

Paging system

144. As stated in paragraph 132, the DHB's system for resuscitation was at fault. When Mrs A began showing signs of respiratory distress the on-call anaesthetist, Dr G, was called. However, because Dr G was in theatre he did not respond. Dr C was then paged but because he was off-site, he also did not respond immediately.

145. At this time Mrs A went into acute respiratory distress and an emergency call was made. The pager held by the surgical MOSS, the duty manager and the medical house officer were paged simultaneously. The medical house officer was the first to arrive. Because the surgical MOSS was in theatre at this time he did not respond. Eventually the medical and emergency MOSSs arrived and took over the resuscitation management.

146. The sentinel event report identified that a fault occurred in the activation of the correct pagers when the emergency call was made, resulting in only one senior clinician being paged. No cause was identified.

147. BOPDHB had a responsibility to ensure that it had a functioning emergency pager system. It is concerning that such a fundamental part of a hospital emergency response did not function correctly at such a crucial time. This is particularly unacceptable when an error with the system had already been identified one month

[25] Every consumer has the right to have services provided in a manner that minimises the potential harm to, and optimises the quality of life of, that consumer.

prior to this incident. That this system did not have any formal testing process in place, even after the earlier error had been identified, is equally concerning.

148. BOPDHB's failure to ensure it had an adequately functioning emergency paging system resulted in a delay in adequately experienced staff arriving at the emergency. I note Dr Alley's view that this was a severe departure from acceptable standard. I agree. By failing to have an adequate functioning pager system, particularly when it had previously been alerted to a problem, BOPDHB failed to minimise the potential for harm and breached Right 4(4) of the Code.

Vicarious liability

149. While Mrs A's observations generally remained stable postoperatively she was noted to have some fluctuations of her blood pressure, particularly at approximately 1.30pm when it dropped suddenly. She was also reported to be experiencing difficulty swallowing and clearing secretions from the back of her throat (although the time of onset of these symptoms is unclear). As Dr Alley noted, these were signs of airway compromise and should have alerted nursing and medical staff to Mrs A's deterioration and the impending crisis.

150. While I do not hold the individual staff members responsible for failing to identify these subtle signs of deterioration (in fact, I consider that both Dr I and Dr J did their best in what must have been an extremely stressful situation), I consider that it demonstrates their relative inexperience in the complications of thyroid surgery. Had Mrs A been reviewed by a more experienced staff member earlier, they may have been alerted to the early signs of airway compromise and subsequently monitored her more closely.

151. I also note that, as has been recognised by the DHB investigation, a well implemented modified early warning system (MEWS), which staff were familiar with, may also have escalated the response sooner.

152. BOPDHB has a duty to ensure that adequate support is provided to staff, and that patients receive an appropriate standard of care.

153. As discussed above, the decision to proceed with surgery at the hospital was poor clinical decision-making on Dr C's part. However, while I also acknowledge the importance of clinician autonomy in relation to clinical decision-making, in my view, BOPDHB needed to have robust systems in place to guide and support clinicians and carers in the management of complex cases such as this. I note Dr Alley's view that the "management of challenging elective surgical conditions at this hospital needs to be discussed with adjacent DHB facilities".

154. In a previous case also involving the issue of complex surgery being carried out at provincial hospitals this Office has stated:[26]

[26] See opinion 07HDC17438.

> "I accept that an appropriately trained general surgeon practising in provincial New Zealand can maintain high standards of care if adequately supported."

155. In this case, Dr C was working as if he were a specialist. However, he did not have the appropriate registration and related continuing medical education that such a position would require. The fact that this was not discovered until 2009 is indicative of the lack of robust systems to ensure that all staff were appropriately trained and adequately supported. This matter has wider implications than the circumstances around the surgery performed on Mrs A, and I have therefore addressed this further below.

156. By failing to have adequate supports and guidance in place, BOPDHB failed to take all reasonably practicable steps to prevent Dr C's breach of the Code. I conclude that BOPDHB are therefore vicariously liable for Dr C's breach.

Other matters

157. One of the purposes of credentialling, as set out in the BOPDHB credentialling policy, is:

> "[t]o provide protection to patients by ensuring that the medical staff treating them are practicing within the scope of their training and their level of competency".

158. The different pathways offered by the MCNZ for registration of doctors provide some assistance to DHBs when they credential senior medical staff. The definitions provided by the MCNZ are set out in paragraphs 90 and 91 of this report. What is important to note is that registration within a vocational scope indicates that the doctor has completed advanced training in a specialist area, and has been assessed as competent to work unsupervised in that scope of practice.

159. The details of Dr C's registration were of fundamental importance in considering his credentialling at the hospital. The personal report sent to Dr C in 2005 clearly states that he had general registration, and was awaiting vocational registration in mid-December 2003. However, the letter to Dr C in December 2004 states that he has vocational registration in general surgery. This was not correct.

160. Dr C told HDC that "[w]hen I became aware of this error (it was a few days after the receipt of [the Chief Medical Director's] letter) I notified the Administration Department". This is not documented.

161. I am not satisfied that Dr C acted appropriately in this instance. There are two matters that particularly concern me. First, Dr C signed the letter from the Chief Medical Director, dated it 11 January 2005, and returned a copy to the DHB as requested, with no alterations or corrections made on the copy of the letter. Second, the MCNZ have

confirmed that Dr C first applied for registration via a vocational pathway in June 2009.

162. Dr C should have made more effort to correct the misstatement of his registration status in 2005. I also consider that the statement that he was "awaiting vocational registration" in his personal report implies that he was anticipating obtaining registration within a vocational scope in the foreseeable future. However, Dr C had not applied to the MCNZ for registration in a vocational scope, and he should have advised the DHB accordingly.

163. I am also critical of BOPDHB for not having identified that Dr C was not appropriately registered earlier. While I note that the organisation relied on the statement of the Chief Medical Director at the time of the initial credentialling, it is concerning that this error was not identified and acted on by the DHB until March 2009. I note that the DHB now requires evidence of matters such as registration status during re-credentialling, and is reviewing their credentialling policy.

164. The one group of people who would not be expected to know about Dr C's registration are his patients. As the MCNZ said in the guide *You & Your Doctor*, titles can be confusing. While Dr C may not have considered it necessary to obtain vocational registration, patients are entitled to accurate information, and I consider that Dr C's description as a consultant general surgeon suggests that he is a specialist, which is not correct.

165. In making these comments, I have no criticism of the collegial relationship Dr C had with Dr F.

Recommendations

Dr C

166. I recommend that Dr C provide Mrs A's family with a written apology for his breach of the Code. This should be sent to this Office to be forwarded to Mrs A's family within three weeks of release of this report.

BOPDHB

167. I recommend that BOPDHB audit its pager system. It should report back to HDC with the results of this audit and any further changes it has made within three months of the release of this report.

168. I also recommend that BOPDHB consider what policies it has to guide and support staff in relation to the management of complex cases in light of this report. It should send HDC copies of any relevant policies and procedures within three months of the release of this report to the DHB.

169. Further, I recommend that BOPDHB provide Mr and Mrs A's family with a written apology for its breaches of the Code. This should be sent to this Office to be forwarded to Mrs A's family within three weeks of release of this report to the DHB.

Follow-up actions

- A copy of this report will be sent to the Medical Council of New Zealand with the recommendation it consider whether a competence review of Dr C is warranted.
- A copy of this report will be sent to the Coroner.
- A copy of this report with details identifying the parties removed, except the experts who advised on this case and the name of Bay of Plenty District Health Board, will be sent to DHBNZ, and the Ministry of Health.
- A copy of this report with details identifying the parties removed, except the names of the experts who advised on this case and the name of Bay of Plenty District Health Board, will be sent to the Royal Australasian College of Surgeons, and the College will be advised of Dr C's name.
- A copy of this report with details identifying the parties removed, except the names of the experts who advised on this case and the name of Bay of Plenty District Health Board, will be sent to the Royal Australian and New Zealand College of Anaesthetists.
- A copy of this report with details identifying the parties removed, except the experts who advised on this case and the name of Bay of Plenty District Health Board, will be placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

Appendix A — Expert anaesthetist advice: Dr Joseph Sherriff

I am currently a Consultant Anaesthetist in Invercargill, working both in public and private practice. I graduated, MB ChB, from Manchester University in 1975 and then trained in Anaesthesia and intensive Care in Dundee, gaining the UK certificate of Higher Professional Training in 1982. Since then I have worked in provincial hospitals in both UK and New Zealand, including a total of 10 years as Director of Anaesthesia and Intensive Care. I serve on the National Committee of the Australia New Zealand College of Anaesthetists.

Over the years I have had considerable experience of anaesthesia for thyroid surgery, though my current practice is largely for Ear Nose and Throat, Obstetrics and Paediatric surgery.

All of the following comments were derived from copies of the medical record and other supporting documents passed to me by the HDC. I do not know any of the Medical or Nursing staff involved in this case.

[Mrs A] was referred to the Department of Surgery at [the] Hospital by [her GP] in […] 2008. He noted that surgery had been planned for 2004 and that [Mrs A] and chosen to defer intervention. He also noted that she was taking Bendrofluazide 2.5mg daily. This is a diuretic drug used for treating mild hypertension. He had arranged ultrasound, thyroid function and baseline bloods. The results of these cannot be found in the documents I have received.

She was seen by [Dr C] in […]. He noted that the thyroid was very large but that there were no pressure symptoms in the neck. It appeared to be considerably larger than shown on an ultrasound in […]. He discussed the details of the surgery, including the risks of post operative bleeding. He made no mention of any other medical history, nor of investigations such as thyroid function tests.

[Mrs A] next attended the hospital [a few weeks later]. She was seen in the Pre-operative assessment clinic by [Dr G]. He noted that she had a history of hypertension, but was on no medication at that time. She had had 3 Caesarean sections in the past of which 2 were under general anaesthesia with no problems noted. Her weight and height were recorded, but her Body Mass Index (BMI) was not calculated. It was in fact 37.3. Normal BMI is less than 25 and 40 is morbidly obese. Thus [Mrs A] was very overweight.

Her blood pressure was measured twice, 169/100 and 174/108 so [Dr G] referred her back to her GP for better control.

Blood was taken for full blood count, electrolytes and creatinine. The results of all these were within normal limits and were seen by [Dr D] [before admission].

[Mrs A] was then admitted on […]. She was seen with her partner by [Dr D]. He reviewed her in the light of [Dr G's] assessment and agreed with his findings.

He noted that the blood pressure was still high but that she was taking the medication prescribed by the GP. I can find no record of the pre-operative blood pressure nor a note of which drug had been prescribed and whether she had taken it on the morning

of surgery. A copy of the GP's notes shows that a Beta blocker, Metoprolol 47.5mg daily, had been prescribed.

Apart from a very high blood pressure immediately prior to induction, which is not unusual, the anaesthesia proceeded uneventfully. [Dr D] used a very conventional anaesthetic technique. Observations from the monitor, recorded automatically, were well within normal limits. [Dr D] had no difficulty intubating the trachea (Grade 2 view on laryngoscopy). The blood pressure came down to the normal range immediately after induction. For most of the operation it was of the order of 95/50, an entirely appropriate level for thyroid surgery. In his report [Dr D] notes that there was a small arterial bleeder 15–20 minutes before the end of surgery which was stopped by direct pressure. There is no mention of this in the anaesthetic record, nor the hand written surgeon's note of the operation.

Following transfer to the Post Anaesthesia Care Unit (PACU) at 10.32 [Mrs A] awoke from anaesthesia within l5 minutes. Apart from an elevated blood pressure, her observations were satisfactory. The BP rose slowly from 150/90 on arrival to 185/114 on discharge. She was given 6mg morphine intravenously for analgesia. [Dr D] declined to give her further treatment for the raised blood pressure. She was discharged to the surgical ward at 11.30.

Initially her post operative course appeared to be satisfactory. Her blood pressure slowly reduced to normal levels, her oxygenation on air was satisfactory (between 95% and 100%). The ward nurses were aware of her high blood pressure and were observing closely for any sign of haemorrhage.

Towards 1500 [Mrs A] was complaining of a feeling of phlegm in her throat and difficulty in coughing this out. It is unclear as to when this started.

She was reviewed by [Dr I], the House Surgeon to [Dr C]. Her airway, breathing and circulation were all satisfactory, though she noted the difficulty in coughing. Despite these normal findings she asked a more experience colleague, [Dr J], to review [Mrs A]. She did so and corroborated [Dr I's] findings.

Within 5 minutes of this assessment [Mrs A] developed severe difficulty with breathing but was still able to talk and had satisfactory oxygen saturation (98%). The house surgeons opened the wound to relieve pressure in the neck, but there was no haematoma and no relief. They had also asked for the consultant anaesthetist and surgeon to be called urgently. [Mrs A] then became profoundly hypoxic. The house surgeons recognized the need for relief of her respiratory obstruction but were unable to intubate the trachea or create a surgical airway.

Eventually the trachea was intubated, but by that time [Mrs A] had suffered a hypoxic cardiac arrest and could not be resuscitated.

In reply to the specific questions asked by the HDC

1. Please comment generally on the care provided to [Mrs A].

The pre-operative preparation by [Drs G and D] was satisfactory. The decision as to proceed with surgery when treatment for hypertension has been started but not gained perfect control is always difficult. There has been considerable debate in the

Anaesthetic literature on the question of perioperative hypertension with no firm conclusion. I enclose an extract from the Oxford Handbook of Clinical Anaesthesia which summarizes a strategy for managing hypertension. Even without treatment [Mrs A's] blood pressure was at a level where they recommend that surgery should proceed. It should be noted that the documented risks of perioperative hypertension all relate to cardiovascular complications such as stroke, particularly in the elderly, rather than post operative haemorrhage.

In the circumstances I would have also proceeded with the operation, after ensuring that [Mrs A] had taken her Metoprolol that day. I do have a minor criticism of [Dr D] for not recording the medication given by the GP, or when the last dose had been taken.

The anaesthetic itself was satisfactory, as was her recovery in the Post Anaesthesia Care Unit. The high blood pressure was noted. Again one cannot be dogmatic as to whether it should have been treated or not. In the light of it settling once [Mrs A] returned to the ward, it was probably right to withhold extra antihypertensive medication.

There is a general assumption that perioperative bleeding is related to high blood pressure. While it may be a factor it is very hard to find any conclusive evidence to link the two.

The first few hours back on the ward presented no problem. Even when the nurses got the house surgeon to see [Mrs A], because of the difficulty in swallowing, the clinical observations were satisfactory. Had the Medical Early Warning Score (MEWS) been calculated it would not have raised any alarm.

Respiratory obstruction, when it occurred was sudden. The house surgeons and nurses acted appropriately by seeking more skilled help and trying to oxygenate [Mrs A] by opening the surgical wound, bag mask ventilation and Tracheal Intubation. They were unsuccessful but should not be criticized. There was a combination of post operative swelling, her high BMI and muscle spasm due to hypoxia. The location to the haemorrhage, high and posterior in the neck as noted in the post-mortem report would have added to the difficulty. It is doubtful if an attempt to insert a Laryngeal Mask Airway (LMA) would have helped as the respiratory obstruction was at or below the level of the vocal cords.

This would have been an extremely difficult situation for a trained anaesthetist and the outcome could well have been no different had one been present.

It is unfortunate the on-call anaesthetist was busy in theatre and could not attend the ward. This can however occur in any hospital. Back up arrangements appeared to have worked as well as could be expected.

The reports of the cardiac arrest combine to give a sense of considerable confusion. Some items of equipment requested were not immediately available. This has been covered in some detail in the Sentinel Event Report and appropriate action taken.

2. What Standards apply in this case?

3. Were those standards complied with?

Anaesthetic Practice in New Zealand is guided by the policy documents published by the Australia and New Zealand College of Anaesthetists. Of particular relevance are PS 7 Recommendations for the Pre-Anaesthesia Consultation and PS2O Recommendations on Responsibilities of the Anaesthetist in the Post-Anaesthesia period (copies enclosed). The management of [Mrs A] complied with these guidelines.

4. Was it reasonable for [Dr D] to recommend to [Dr C] that he proceed with surgery in the light of [Mrs A's] continuing hypertension.

Yes, as discussed above.

5. Was [Dr D's] management of [Mrs A's] hypertension appropriate?

Preoperatively. Yes, provided he did check that the Metoprolol had been taken that day.

Intraoperatively. Yes.

Postoperatively. Yes. Some anaesthetists may have given further antihypertensive medication. A continuing period of observation was a reasonable course and the blood pressure did indeed settle.

6. Was [Dr D's] documentation adequate? Should he have given specific monitoring advice? If so what advice should he have given?

The Anaesthetic record was adequate and broadly complies with the relevant ANZCA policy document. I would like to have seen a specific note of the antihypertensive medication prescribed by the GP and when the last dose had been taken. A note recording his decision regarding the management of high blood pressure in the PACU would have been useful. It is clear from the nursing note that he visited and gave verbal advice.

7. Was the cover provided by the anaesthetic team adequate?

Pre-operatively [Drs G and D] worked well together. Post operatively the cover was as good as it could have been. [Dr D] had stayed in the hospital for a reasonable period before going home having ensured that a consultant anaesthetist was on the premises, [Dr G] was unable to leave his patient in theatre and [another doctor] who was off duty, attended promptly.

8. Any further comment.

I have the greatest sympathy for [Mrs A's] family and her partner [Mr A]. It would have been an extremely traumatic event for him to experience.

It is easy with the benefit of hindsight to find some criticism of any of the personnel involved in a case such as this. I consider that [Dr D] and BOPDHB provided an adequate standard of care. There was a minor departure from the standards in [Dr D's] documentation as noted above.

When a critical event is analysed in detail there are always improvements in practice that can be found. It appears that all the parties concerned have modified their practice

as a result of this incident. That should not be taken to assume that their management at the time was sub-standard.

Appendix B — Expert general surgeon advice: Dr Patrick Alley

My name is Patrick Geoffrey Alley. I am a vocationally registered general surgeon employed by Waitemata District Health Board. Additionally I am the Director of Clinical Training for that DHB.

I graduated M.B.Ch.B from the University of Otago in 1967. I gained Fellowship of the Royal Australasian College of Surgeons by examination in 1973. After postgraduate work in England I was appointed as Full Time Surgeon at Green Lane Hospital in 1977. In 1978 I joined the University Department of surgery in 1978 as Senior Lecturer in Surgery. I was appointed as Full Time Surgeon at North Shore Hospital when it opened in 1984. I am a Clinical Associate Professor of Surgery at the University of Auckland, have chaired the Auckland branch of the Doctors Health Advisory Service for many years and have a formal qualification in Ethics which is utilised as a member of two institutional ethics committees. One is at Waitemata DHB, the other at Mercy Ascot Hospital. I declare no conflict of interest in this case.

I have been asked to comment on aspects of the care of [Mrs A] (hereafter referred to as "the patient") before during and immediately following a thyroidectomy for multinodular goitre. This operation was conducted at [the] Hospital on […] 2008. The surgery was carried out by [Dr C]. [Dr C] is registered with the Medical Council of New Zealand under a general scope.[27] His post graduate surgical qualification is the Fellowship of the College of Surgeons in Edinburgh. He is employed by the Bay of Plenty District Health Board as a Medical Officer of Special Scale (Surgery).

Synopsis of case

Preoperative Phase

The patient was initially seen in 2004 by [Dr C] for the same problem namely goitre (thyroid enlargement). Surgery was proposed at that time but the patent deferred this because she became pregnant shortly after that consultation.

She presented again on […] with the same goitre. She told [Dr C] that in the intervening four years her goitre had increased in size. Questioning by [Dr C] did not disclose any symptoms of airway obstruction by this goitre. Pemberton's test (a clinical manoeuvre where by the patient elevates their arms to see if that causes respiratory distress) may have been elicited but was not described. There were no

[27] General scope registration: A doctor who has completed the requirements of a provisional general scope will be registered within a general scope of practice.

Examples are junior doctors who have completed their first post-graduate year and may be in vocational training, doctors who have not started, or have chosen not to do, vocational training or doctors nearing retirement who are no longer meeting the requirements for registration within a vocational scope of practice.

The doctor must establish a professional collegial relationship with another doctor who is registered within the same or related vocational scope, and must participate in appropriate continuing professional development to maintain and improve competence and to be recertified each year.

voice changes to suggest involvement of the recurrent laryngeal nerves. At that consultation [Dr C] noted the discrepancy of the clinical findings and the ultra sound findings that reported the dimensions of her thyroid gland to be considerably smaller than apparent clinically. He records in his letter to the patient's general practitioner that the major complications of this type of surgery were discussed with the patient and that she was happy to proceed to thyroidectomy. In a response to the Commissioner [Dr C] states that she had "*a large multinodular goitre with slight pressure symptoms*" Those descriptors do not appear in his initial assessment notes. This error has been transposed into the Sentinel Event Investigation done by the DHB. On p4 under "Background" it is stated "*[Dr C] anticipated potential difficulties with surgery due to pressure symptoms*." No such symptoms were ever clearly described.

On […] the patient had an assessment by [Dr G], a vocationally registered anaesthetist. At that assessment elevated blood pressure was noted — a recommendation was made to her general practitioner that he review her medication. At her preoperative assessment the patient told staff that she had seen her general practitioner for this. Her past history of caesarean section was noted that she had had epidural anaesthesia for those procedures. Her height and weight were recorded but not her body mass index (BMI). By my calculation that is 37.4 which makes her clinically obese by World Health Organisation definitions. In a subsequent submission [Dr D], a vocationally registered anaesthetist who eventually administered the patient's general anaesthetic, says that [Dr G] had warned him of the possibility of a difficult intubation. This is at variance with what [Dr G] said at his assessment of the patient namely — "*difficulties with intubation not anticipated*". Informed consent was gained and the patient signed the appropriate form.

[Dr D] saw the patient immediately prior to her surgery and repeated the assessment that [Dr G] had done. He noted that despite the change in medication for it the blood pressure was still high. However it was not deemed to be sufficiently high to defer surgery.

In summary the patient

- **had a multinodular goitre with few symptoms**
- **had hypertension**
- **was obese**
- **had an ultra sound that was at variance with the clinical findings**
- **was thoroughly and appropriately assessed by the anaesthetic service**

Intra-operative Phase

All accounts of the operation indicate that the procedure was straightforward. Any concerns about difficult intubation did not materialise. Her blood pressure was initially high but settled quickly and remained normal and stable. [Dr C's] handwritten operation note is clear. He did identify the recurrent laryngeal nerve on both sides. In a separate communication I am informed that he did also preserve the

parathyroid glands although he does not mention that in his note. The anaesthetist [Dr D] submits that he drew [Dr C's] attention to a "bleeder" at or near the end of the procedure. The nature and source of this is unclear but it stopped with direct pressure before the patient's wound was closed. The scrub nurse states she does not recall that any "bleeder" was seen. The wound was drained with a "Minivac" drain.

In summary

- **a straightforward thyroidectomy**
- **conflicting reports notes of a smaller bleeder stopped by direct pressure before wound closure**

Post operative phase

The thyroidectomy finished at approximately 1030 hours on […] 2008. She spent the next hour and 15 minutes in recovery and reports from the nurses indicate that there was nothing untoward. Her oxygen saturations remained normal, there was some lability of her blood pressure but this is not of great concern. At 1145 she was transferred to the ward. Her initial placement was at some distance from the nursing station so she was moved to a room closer to that facility. Over the next three hours until approximately 1450 that afternoon her blood pressure was noted to be labile but her oxygen saturations were normal. Subjectively the patient described to her partner "[Mr A]" that she felt "agitated", "frightened" and "afraid". At approximately 1520 hours respiratory difficulty was noted but again the saturations appeared normal. At approximately 1550 she suffered a respiratory arrest and a large number of medical staff attended. The interventions attempted were oro-pharyngeal intubation, a cricothyroidotomy, eventual successful endotracheal intubation, release of the wound and digital exploration of that wound without relief. After a period of asystolic cardiac arrest which was preceded by a period of pulseless electrical activity as defined on [ECG — electrocardiograph] the patient was pronounced dead.

Likely cause of death

The patient developed a post operative haematoma. This is a well recognised hazard of this type of surgery. The cause of this probably relates to her labile blood pressure. It is believed that an operative field can be seen to be bloodless but when the blood pressure rises after the wound has been closed, bleeding may occur from vessels that were thought to be secure. While the postoperative haematoma was the initiating event in her demise it is the consequences of that which are significant. Contemporary understanding of post operative airway compromise after head and neck surgery indicates that it is the lymphatic and venous obstruction that attends the haematoma that is far more significant and dangerous. Notably there are repeated comments from attending staff about the degree of glottic and sub-glottic oedema that was present at the time. I am assured by the pathologist that there was not tracheomalacia so the haematoma itself did not cause the compression. Rather it was the accompanying oedema that was the prime cause of her demise. Erratic and intermittently satisfactory

oxygen saturations are another indicator that, in the early stages at least, her airway obstruction was transitory and more likely due to oedema of her upper airway.

The following is a transcript from the [Royal Australasian College of Surgeons] website that succinctly describes the situation of airway compromise after head and neck surgery.

Once thought to be due to compression by post-operative bleeding. This is rare except in the presence of tracheomalacia.

Obstruction now known to be due to sub-glottic and laryngeal mucosal oedema due to venous and lymphatic obstruction.

This is usually due to a post-operative expanding haematoma in the neck but can also rarely occur in the absence of bleeding as a result of intra-operative manipulation of the trachea.

Most cases of significant haematoma occur within 6–8 hours of surgery.

Critical that the symptom are recognised early (patient distress, stridor, neck swelling) to prevent death or brain injury.

Evacuation of haematoma, either on ward or in operating theatre depending on urgency.

Corticosteroids.

Humidified oxygen.

Intubation until oedema subsides may be necessary.

In mild cases of obstruction without haematoma the latter three often suffice.

Post-operative haematoma occurred at a rate of 0.9% in a local series; Royal North Shore reported a rate of 1.2%

Commentary

In my opinion the following are significant factors contributing to the adverse outcome.

1. By any standard this patient presented a challenge from the outset. Her significant co-morbidities included obesity, a large thyroid situated in a short thick neck and hypertension. Her surgery should have been carried out at an institution better equipped and more familiar with surgery of this magnitude. Her symptoms — over four years in duration — were not unduly pressing and there was no urgency to perform the surgery. Given repeated comments from both surgeons and anaesthetists about her operative risk particularly in relation to her airway I believe she should have had a more detailed appraisal of her upper airway either by CT scan or indirect laryngoscopy or both. The scan would also have given a much more reliable definition of the size of the patient's goitre.

2. I am concerned that one of the requirements of [Dr C's] registration was to have oversight by a colleague in the same discipline. One would reasonably assume that such a relationship would allow the discussion of such a challenging case but that does not appear to have happened. It is also concerning that [Dr C] may have felt that it was inappropriate to transfer the patient to [a larger centre] which would be better equipped and staffed to do such a challenging case. It would be entirely reasonable that the functions of clinical oversight and patient discussion be simultaneous. He has now opted to cease thyroid surgery.

3. In regard to the operation itself it is possible that the apparent ease of the procedure engendered a false sense of security on the part of attending staff. I point out there is no anatomical entity of a middle thyroid artery but the middle thyroid vein — a perilous vessel because it drains directly into the internal jugular vein is present. A likely source of the ultimate haematoma was the superior thyroid artery. This is a difficult vessel to manage sometimes. It arises from the external carotid artery deep within the neck and has a propensity to retract after division. The other contender for source of the haematoma would be the "bleeder" that was seen prior to closure of the wound (see comments in regard to blood pressure above). I question the use of such a small drain for an operation to remove a thyroid of this size. It should have been of larger size.

4. In the early afternoon the patient began to describe feelings of choking and impending catastrophe which should have alerted carers to airway compromise.

5. The DHB has a well regarded system for managing compromised patients (MEWS) but it does lack specific information on specific surgical procedures.

6. There were problems accessing appropriate equipment and personnel when required urgently. The DHB to their credit have instituted remedial actions to avert repetition of such a problem with access.

7. Patient selection and post operative care are equally important dimensions to the delivery of proper surgical care. There is much more to surgery than the technical performance of the operation.

Recommendations

- **The question of general scope registration held by surgeons working in relative isolation needs to be discussed by The Health and Disability Commissioner's Office and the Medical Council New Zealand.**

The individual responsible for [Dr C's] oversight needs to be identified. The exact nature of how this oversight was effected, what meetings or other contact with [Dr C] were arranged by that individual and what reports were made to the Medical Council of New Zealand or the District Health Board need to be clarified. In essence to ensure that Council's recommendations for this type of registration were followed. They are repeated:

"The doctor must establish a professional collegial relationship with another doctor who is registered within the same or related vocational scope, and must participate in appropriate continuing professional development to maintain and improve competence and to be recertified each year."

Lessons for other DHBs who employ specialists with general registration and oversight may well be learnt from this exercise.

- **Management of challenging elective surgical conditions at this hospital needs to be discussed with adjacent DHB facilities.**

- **Specific education programmes on surgical procedures conducted at this DHB needs to occur along with the Medical Early Warning Systems which is now extant.**

- **I am satisfied that the enquiries conducted by the DHB have dealt with the support and other infrastructural issues.**

- **I sense that the patient's family still feel the DHB have not acknowledged fully their sense of loss. More may need to be done by the DHB to address this.**

Conclusion

This case represents a severe departure from normal clinical practice.

Firstly, [Dr C] made an incorrect decision to offer elective surgery to this patient in this setting in the knowledge that she carried an appreciable risk of complication that he was well aware of.

Secondly, the DHB should accept responsibility for this adverse outcome in that improper emergency cover was in place at the time of her surgery. There were deficits in the methods of alerting staff to the deterioration on the patient's condition and there were well described deficiencies in the paging system.

I do note the DHB have started the process to rectify the majority of these problems that were present at the time of [Mrs A's] surgery.

Appendix C — Further expert advice: Dr Patrick Alley

Thank you for referring the commentary from [Dr C] concerning my recent report on this patient.

I have read his submission and also a supporting document from a colleague [Dr E].

Much of [Dr C's] submission criticises me for making decisions "in hindsight". I accept this but I still think it is entirely reasonable that [Dr C] should have offered more "foresight" for this particular patient.

On page 1 he has fallen into the trap of assuming that because he did not believe that the patient had an airway compromise then there was no need to carry out any investigations to confirm his impression. It is exactly analogous to saying "I did not believe this patient had diabetes mellitus so I did not do a blood sugar analysis". Clinicians can never know the answers if they do not ask the questions.

Additionally you have enquired about certain matters pertaining to the airway of this patient. Despite this patient having significant pre-operative risks the operation did proceed smoothly in the operating theatre. I have no doubt that this engendered a sense of security that would make [Dr C] feel that an immediate post operative visit was not necessary. Whether or not surgeons see their patients before leaving the hospital is a matter that depends on the complexity of the case, the confidence the surgeon has in the staff assigned to care for their patients and the conduct of the operation. The instruction for staff to observe closely for haemorrhage is universal following thyroidectomy. Ideally in this case a fuller briefing about the patient's likelihood of airway compromise should have been carried out.

In the matter of intubation difficulty it is the potential for this to arise rather than the actuality in this case. Questions were raised about her airway and whether it had the propensity to cause trouble at surgery and because those questions were asked (but not answered) I do have concerns about how this aspect of her care was organised. Objective evaluation of her airway could easily have been done by CT scan and indirect laryngoscopy.

My contention is that in the presence of possible airway compromise it is essential that a patient who is to embark on thyroidectomy be subject to these investigations. I have already alluded in the balance of the report to the risk accompanying patients of such stature and body mass index scheduled for this procedure and I persist with my contention that these investigations should have been done. There was sufficient concern about her airway from the report done by the DHB where it states "[Dr C] anticipated potential difficulties with surgery due to pressure symptoms".

At the bottom of page 1 of [Dr C's] submission he seems to claim that the absence of tracheomalacia at the post mortem report was confirmation that there was no airway compromise. This is a totally incorrect conclusion on his part. Airway compromise can be present with or without tracheomalacia. I merely asked the pathologist that question to ascertain whether a haematoma may have compressed the trachea. In the event it did not.

On page 2 it is bold of [Dr C] to claim "a CT scan or laryngoscopy if it had been performed in this case would not have shown any changes or concerns with the airway". That remains entirely conjectural and I do not accept his contention. I criticise this statement for exactly the same reasons I have alluded to in an earlier paragraph.

[Dr C] then goes on to deny my proposition that he failed to adequately consider the risk and complications associated performing surgery on this patient. He then describes the profile of the community members of [the town]. I am well aware of that profile. However, it is the combination of obesity and hypertension in a patient with a relatively asymptomatic multi nodular goitre that is the central issue. Any descriptions of the community profile are therefore irrelevant.

In the 3rd paragraph on page 2 he alludes to "a suspension of cancer". I do not understand this description.

Paragraph 4 on page 2 is sadly confused and internally contradictory. On one hand he says that he firstly did not consider the patient referral but in the very next sentence says that he did in fact consider that but concluded that it was not required.

Paragraph 5 essentially does raise an important issue as to what the indication for the surgery on this patient was. In the absence of symptoms there seemed to be no pressing reason for any surgery. She had already had this condition for at least four years without complication. Other than the presence of the goitre I have not seen a clear indication for surgery. The investigations that would have revealed valuable information about her airway would have also provided better information about the state of her thyroid but they were not done. A fine needle aspiration to determine the pathological nature of the thyroid was not done as far as I know. I trust the final report from the Commissioner will comment on this.

He then refers to the allocation of 3 hours for her surgery. I accept that as a perfectly reasonable proposition and it was never an issue in my report. The anaesthesia and surgery did proceed uneventfully. That it did is in my opinion absolutely no justification for the absence of preoperative investigation and the venue for the surgery. It is analogous to speeding drivers not having road accidents — the absence of accident does not condone the speed.

In regard to the matter of the size of the drain I merely point out the use of such small drains is not common practice. If one is going to drain the operative field after thyroidectomy the majority of surgeons would use something larger than a minivac drain particularly a patient with this physical profile. It is not a major criticism.

I asked questions in my report about the nature of supervision and [Dr C] has kindly described the relationship that he has with [Dr F]. [Dr F] is well known to me as a very good general surgeon. I am unsurprised at the frequency and depth of the meetings that [Dr F] had with [Dr C]. It does beg the question however that in this particular case, an operation that is carried out relatively infrequently (by his calculation 2 surgeons have carried out 95 thyroidectomies over an 8 year period at [the hospital]) and with this complexity, that he did not discuss the patient with [Dr

F]. He has not answered this important question saying the case was nothing out of the ordinary.

Finally he acknowledges the stress that it has caused him and I am absolutely sympathetic to that view, have not read however, anything in his submission that would make me resile from my conclusion that the central features of the poor outcome of this case were firstly a failure to recognise a patient in whom complications would present a real challenge and secondly the system for resuscitation of such patients was at fault.

All I would seek from [Dr C] is the concession that he did make an error of judgement about this case and that he has learned from it. Complication free surgery is a myth that is espoused only by perfectionists and the media. However the minimisation of errors is every surgeon's prerogative and I remain concerned that [Dr C] appears not to have heard that message yet. None of us is immune from complication or adverse outcomes in our surgery but as Donald Trunkey the well regarded American Trauma surgeon once said "Good judgement comes from experience and experience comes from bad judgement."

Lastly, I assume the DHB has undertaken a careful review and appraisal of their systems around the management of such patients as [Mrs A]. I am very willing to be involved if they do need assistance with that aspect of this unfortunate episode.

Glossary of Medical Terms

Page 11
Cricothyroidotomy: An emergency procedure to create an airway through an incision directly into the trachea through the front of the neck.

Page 14
Laryngoscopy: using an instrument (laryngoscope) to view the larynx (voicebox).

Page 27
Elective surgical conditions: Conditions requiring surgery on a non-emergency basis.

Page 37
Recurrent laryngeal nerves: Nerves supplying the larynx (voicebox) that run directly under the thyroid gland and can be easily damaged during thyroid surgery.

Page 38
Lability: Instability; tendency to change or be altered or modified.
Oro-pharyngeal intubation: Passing a tube through the mouth to create an airway for oxygen.
Endotracheal intubation: Passing a tube through either the mouth or nose into the trachea to create an airway.
Digital: with the fingers.
Asystolic cardiac arrest: This describes when the heart is not moving or creating an electrical signal.
ECG: The abbreviation for electrocardiograph or electrocardiogram. The electrocardiograph records the electrical activity of the heart, and the electrocardiogram is the graph that shows the results.
Haematoma: A collection of blood trapped in the tissues of the skin or an organ after trauma or if bleeding has not been completely stopped after surgery.
Glottic oedema: Swelling of the vocal cords.
Sub-glottic oedema: Swelling of tissues below the vocal cords.
Tracheomalacia: Weakening or floppiness of the trachea — the tube between the voice box and the lungs which carries oxygen.

Page 39
Stridor: An abnormal high-pitched musical sound caused by an obstruction in the trachea or larynx.
Corticosteroids: Any one of the natural or synthetic hormones used by the body to control many processes, including the inflammatory response and swelling.

Page 40
Anatomical entity: part of the structure of body.