General Medicine Consultant, Dr B
Capital & Coast District Health Board

A Report by the
Health and Disability Commissioner

(Case 17HDC00975)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Contents

Executive summary

1. On 31 July 2016, Ms A was transferred by ambulance to the Emergency Department (ED) at Capital & Coast DHB (CCDHB) following multiple collapses and vomiting that day. Ms A was reviewed by an ED registrar, Dr G, who referred her to the General Medicine team for further assessment.

2. Ms A was seen by a medical registrar, who admitted her for observation and discussed her presentation with a General Medicine consultant, Dr B. Dr B reviewed Ms A on the morning ward round, and considered that there were insufficient concerning features to warrant further investigation. Dr B's impression was that Ms A's symptoms were unlikely to have a serious cause, but he did not have a firm diagnosis. Ms A was discharged home with advice to see her general practitioner if she started to feel worse.

3. On 5 October 2016, Ms A had a seizure and lost consciousness. She was transferred by ambulance to the ED at CCDHB. On arrival she was reviewed by an ED house officer, Dr C, who documented a physical assessment and further tests, but did not perform a neurological assessment. Dr C considered psychological causes for Ms A's symptoms, and discussed a psychological assessment with her, but she declined this and further medical assessments.

4. Dr C discussed Ms A's care with an ED consultant, Dr D, on several occasions during her three-hour admission to ED. Pursuant to Dr D's advice, Dr C referred Ms A to the General Medicine team for further assessment and review, but the referral was declined, without an assessment.

5. Dr C referred Ms A to the General Medicine team again, and this was accepted, but there are no records of any review of Ms A in response to the referrals.

6. Ms A made a decision to leave the hospital against medical advice. There is no documentation of the clinical decision-making by staff about Ms A's discharge, or any advice given to her to inform her decision-making.

7. Ms A was later found to have a brain tumour.

Findings

Capital & Coast DHB

8. The Commissioner found that there was a pattern of poor care across Ms A's two presentations. In particular, at her first presentation Ms A was not offered a CT scan or referred for an urgent Neurology review, and she was discharged with inadequate follow-up arrangements. At her second presentation, a neurological assessment was not performed in the ED before the referral to the General Medicine team was made. The General Medicine team did not assess Ms A before declining the first referral. In addition, documentation was inadequate in respect of recording advice from the consultant, recording a referral to the General Medicine team, the decision-making by the clinicians in response to Ms A's request to leave the hospital, and any advice given by ED staff in respect of this.

9. Accordingly, it was found that Capital & Coast DHB failed to provide services to Ms A with reasonable care and skill, and breached Right 4(1) of the Code.[1]

Dr B

10. The Commissioner found that Dr B failed to arrange a CT or provide Ms A with adequate follow-up advice about when and why to seek help after discharge. Accordingly, it was found that Dr B breached Right 4(1) Of the Code.

Complaint and investigation

11. The Health and Disability Commissioner (HDC) received a complaint from Ms A about the services provided by Capital & Coast District Health Board (CCDHB). The following issues were identified for investigation:

- *Whether Capital & Coast District Health Board provided Ms A with an appropriate standard of care in 2016.*
- *Whether Dr B provided Ms A with an appropriate standard of care in 2016.*

12. This report is the opinion of the Health and Disability Commissioner, Anthony Hill.

13. The parties directly involved in the investigation were:

Ms A	Complainant
Dr B	Provider/general medicine consultant
Capital & Coast DHB	Provider

14. Information was also reviewed from:

Dr C	House officer
Dr D	Emergency department consultant
Dr E	General practitioner
Dr F	Neurologist

15. Also mentioned in this report:

Dr G	Emergency department registrar
RN H	Practice nurse
Dr I	Medical registrar
Dr J	Clinical Team Leader
Dr K	ED registrar

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

16. Independent expert advice was obtained from an emergency medicine physician, Dr Gary Payinda (**Appendix A**), and a consultant general physician, Dr Paul Dawkins (**Appendix B**).

Information gathered during investigation

Introduction

17. Ms A was 35 years old at the time of the events. This opinion relates to the services she received at the public hospital between July 2016 and late November 2016 when an MRI[2] scan revealed that she had a meningioma[3] affecting her left lower brain stem.

Presentation to GP on 21 July 2016

18. On 21 July 2016, Ms A attended a medical centre because she was experiencing dizziness and exhaustion. She saw the practice nurse, registered nurse (RN) RN H, and reported that she was experiencing dizziness when moving from sitting to standing, and had worsening problems with a pulsing feeling in her neck. Ms A said that she was not sleeping well, as her baby was waking every hour to an hour and a half for feeding.

19. RN H arranged for a GP to review Ms A. The GP noted that Ms A had been feeling worse for the previous week and was very tired. The GP noted that a family member had died recently from a brain glioblastoma.[4] The GP advised Ms A to rest more and to return if she was feeling "down" or the dizziness did not improve.

Admission to the public hospital — 31 July 2016

20. Ms A stated that by 31 July 2016, she "had been collapsing, experiencing leg and arm paralysis, vomiting, hot and cold sweats, pounding headache, fatigue and extreme neck pain". That day, she was unable to walk, so an ambulance was called.

21. The ambulance service's "Patient Report Form" states that Ms A reported that she had been having episodes of consciousness collapse multiple times a day for the previous 18 days. The form notes that on 31 July 2016, she had experienced seven episodes of dizziness, and feeling clammy and sweating. She reported having pounding/odd noises in her head, and said that she had vomited twice that afternoon. Ms A had contacted her midwife, who advised her to go to hospital.

Emergency Medicine review

22. Ms A arrived at the ED at the public hospital at 6.19pm. At 11.48pm she was seen by an emergency medicine registrar, Dr G, who noted that three weeks previously Ms A had

[2] Magnetic resonance imaging (MRI) uses a large magnet and radiowaves to examine organs and structures inside the body. An MRI of the head produces detailed pictures of the brain and other cranial structures that are clearer and more detailed than with other imaging methods.
[3] A brain tumour.
[4] A malignant brain tumour.

collapsed while walking but did not lose consciousness, and that since then, the collapses had become more frequent. He documented that she had collapsed six times that day, and that she denied altered sensation or paresthesia.[5] It is noted that she had suffered a neck injury several years previously, and that the pain had now worsened, and that she was experiencing a pounding type of pain at the back of her neck and the base of her skull. She had been vomiting that day, was feeling hot and cold, and on examination it was noted that Ms A was shivering. Dr G performed a neurological assessment of Ms A, which included her limb strength and ability to walk. It was found that Ms A had normal strength except for reduced strength in her knee flexion, and increased reflexes in her arms and legs. Dr G noted that Ms A denied any altered sensation to touch, and was able to walk independently, but had limited ability to move her neck.

23. Dr G recorded his impression of "collapses, ? cause with subjective fevers, vomiting though meningitis does not explain the history of collapse". Dr G noted that Ms A did not require a CT scan of her head and neck imminently, but that scanning could be considered as part of further assessments. Ms A was referred to the General Medicine team.

General Medicine review

24. On 1 August 2016 at 5.54am, Ms A was seen by medical registrar Dr I, who noted that Ms A had improved after being given two litres of intravenous (IV) fluids in ED. Dr I noted Ms A's history of dizziness, weakness in her legs, pounding head and neck, vomiting, and collapsing. Dr I recorded her impression that the consciousness collapse may have had a multi-factorial cause, and queried whether there was a stress component. She noted her plan to continue oral fluids and to admit Ms A for observation and consultant review that morning.

Dr B

25. Ms A was reviewed by General Medicine consultant Dr B during the morning ward round on 1 August 2016. Dr B told HDC that Dr I had discussed the key features of the case with him.

26. Dr B said that he reviewed Ms A's admission notes and the notes from the ED registrar, and then spoke with Ms A and her partner.

27. Dr B stated that at that stage he did not consider there to be sufficient concerning features to warrant further investigations, such as a CT scan. He said:

> "My presumption was that [Ms A's] episodes were due to a combination of: pain from a worsening of her previous neck injury, sleeplessness and stress. I did not think [Ms A] was depressed and we did not discuss post-natal depression as a factor."

Discharge

28. Ms A was afebrile,[6] and her other observations were stable. A chest X-ray showed nothing of concern. It was recorded in the discharge summary that Ms A's episodes of weakness and dizziness were likely to have been caused by "a combination of stress, lack of sleep and [her]

[5] An abnormal sensation on the skin (such as a tingling, prickling, chilling, burning, or numbness), with no apparent physical cause.
[6] Did not have a fever.

chronic neck pain". She was discharged home with pain relief, and advised to see her GP in a week's time, or earlier if she developed any signs of infection, such as a fever or cough, or if generally she started to feel more unwell.

29. Dr B stated that his impression was that Ms A's symptoms were unlikely to have a serious cause, but he did not have a firm diagnosis. He said that in such a situation, his usual practice is to recommend that if the symptoms persist or worsen, then further tests, such as a CT scan, should be undertaken. However, he did not do so in this case. He noted that frequently the General Medicine team sees patients with either collapsing or fainting spells, and that a brain tumour in an otherwise well, young patient is a very rare diagnosis.

30. Dr B stated:

> "On reflection, in [Ms A's] case, I was swayed by her previous neck injury, the co-existing stressors, the lack of any abnormalities on her investigations, and a normal neurological examination."

31. He also noted:

> "The morning in question was a very busy one for general medicine, it was the middle of winter and we had a large number of patients to see that day. The hospital was over 100% capacity, consequently [Ms A] had not been found a bed in the hospital and was seen by us in the ED. My recollection of the morning handover meeting was that she had improved overnight and could likely be discharged that day. In terms of cognitive bias, this may have led to a degree of 'anchoring' on my part. It may be that the combination of workload, pressure to discharge patients in order to reduce overcrowding in the ED, and the fact that [Ms A] had improved overnight led to my downplaying of the red flags present the day before, and hence not to order a CT scan. Likewise, my error in not arranging formal follow up or being explicit about when and why to seek help after discharge, may have resulted from similar factors."

32. Dr B stated that he did not offer these reflections as excuses. He said that a consultant physician needs to be cognisant of these pressures and the potential for cognitive bias, and to compensate for them in some way. He said that he deeply regrets that the correct diagnosis was not made earlier, and that he did not recommend more strongly that Ms A have further tests if the symptoms did not improve spontaneously.

33. Dr B acknowledged that he made an error in his assessment and treatment of Ms A, and said that his care was not up to his usual standards. Dr J, the Clinical Team Leader of General Medicine, reviewed Dr B's care. Dr J noted that within the department, Dr B was very close to the median rate of ordering CT scans. Dr J found no evidence of systematic under-requesting, and noted that Dr B's re-admission rate was similar to his peers. Dr J also found no evidence of systematic premature discharge.

CCDHB — occupancy of ED and General Medicine wards

34. CCDHB told HDC:

> "[F]rom 10am on 31 July 2016 until 1 August 2016 ED and General Medicine [wards] were operating at 100% occupancy or greater, and one could argue that it remained that way for the rest of 1 August and probably sometime beyond."

Ongoing symptoms

Telephone contact with the medical centre

35. On 18 August 2016, RN H contacted Ms A's partner because she had been unable to contact Ms A to discuss registration and vaccination of their baby. Ms A's partner said that Ms A was still unwell and was seeing a naturopath. RN H advised that Ms A should attend the practice for a review. However, there is no record that Ms A did so prior to her next presentation to the ED (on 5 October 2016).

36. Ms A told HDC that she did not agree with the diagnosis she had been given, but felt helpless and vulnerable. She stated that her symptoms of paralysis persisted, and the following weekend she had a further episode of vomiting and sweating and head pounding, but did not go back to the hospital as she expected that they would tell her the same thing. She said that she followed her doctor's advice and got more sleep, but the symptoms did not improve, and she was concerned about her ability to care for her baby.

Emergency Department — 5 October 2016

37. On 5 October 2016, Ms A had a seizure and lost consciousness. Her partner called an ambulance. The ambulance service's "Patient Report Form" states that Ms A had been sitting in a chair, and then fell backwards and became unconscious with snoring respirations. The form records that Ms A had experienced multiple consciousness collapses over the past 12 weeks.

38. Ms A said that by this time her symptoms had become much worse, and she had double vision, pulsatile tinnitus,[7] extreme dizziness, sensitivity to hot and cold, very cold hands and feet, a lack of balance, palpitations, numbness and tingling in her hands and feet, muscle and joint aches, muscle weakness, and a cold hard feeling at the back of her head.

First Emergency Medicine review

39. The ambulance arrived at the public hospital at 8.25pm. Dr C, at that time a second-year house officer, was on the evening shift (scheduled to work between 2pm and midnight that day). He stated that the triage nurse asked him to review Ms A. He said that he reviewed her previous medical notes, and at around 9.43pm he took her history and examined her. Dr C recorded Ms A's history and noted that her multiple collapses over the past months had "been improving lately", although she was still feeling tired and stressed. She had been eating and drinking that day, but it had been a stressful day with her baby. She had no recollection of events before she collapsed that evening. Dr C noted that Ms A's partner had

[7] A rhythmical noise that beats at the same rate as the heart and is the sound of blood circulating through the body.

seen her jerk to the back of the couch, and said that she had had her eyes open but was not responsive to voice or gentle slapping, and "came to" after approximately five minutes.

40. Dr C recorded:

> "[Ms A has] been under a lot of stress recently — had difficulty with pregnancy and severe neck pain. [Family bereavement short time] before birth./[Work affected] due to collapsing episode./Concerns about care for her baby and not being able to help with care due to collapsing episodes."

41. Dr C documented a physical assessment, and noted that Ms A refused a chest X-ray. Ms A's blood test, urine test, and ECG[8] were normal. Dr C also recorded a plan to take a further psychiatric history, and possibly make a psychiatric referral. He said that his intention in doing this was to make sure that Ms A was safe from a mental health and social perspective if she was discharged that night.

42. Dr C said that he planned to discuss Ms A's care with the consultant. He told HDC that this was in light of his inexperience and to seek guidance on whether any further tests or investigations needed to be performed. Dr C recorded that Ms A was suffering from a high level of stress, and that a psychological assessment would be the best approach to her ongoing management.

Second Emergency Medicine review

43. Dr C reviewed Ms A again at 10.46pm. He said that he discussed her mental health, as postnatal depression was one of the possible conditions that might have been causing her symptoms. He stated: "I cannot recall what happened between the two reviews, but it is likely that I discussed the patient with the [consultant] and reviewed other patients in ED during this time." There is no record of a discussion with the consultant.

44. Dr C noted that Ms A was "not keen" to see the in-patient psychiatric services or have further in-patient medical assessment, but said that she would see her GP about an out-patient psychiatric referral. At 10.53pm, he requested that Ms A's postural blood pressure be taken.

45. Dr C stated that at handover at 11pm, he discussed Ms A's case with Dr D and Dr K (the overnight ED registrar). Dr C said that although his shift was due to finish, he stayed on after handover because it was a busy overnight shift.

Registered nurse review

46. At 12.01am on 6 October 2016, a nurse noted that Ms A's partner had approached her saying that Ms A was feeling unwell. The nurse took Ms A's observations, and these were satisfactory. The nurse was unable to take Ms A's lying or standing blood pressure because she was unable to stand, and queried whether Ms A was to be admitted to hospital.

[8] Electrocardiogram — to test for heart abnormalities.

Third Emergency Medicine review

47. Dr C reviewed Ms A again at 12.41am. He noted that Ms A said that she was unable to stand owing to light-headedness and some hip discomfort. Dr C recorded that Ms A had a full range of movement and no pain on movement. He documented that Ms A had vomited twice after eating and drinking two litres of water, and was light-headed.

48. Dr C noted that he discussed Ms A with a house officer,[9] who felt that Ms A was unlikely to benefit from medical admission, and that no further investigations were required. Dr C told HDC that the doctor to whom he spoke was a medical registrar (not a first-year house officer). Dr C recorded that his plan was to provide oral anti-emetics[10] and discuss Ms A with the ED consultant. This was his last entry in the Emergency Department Information System (EDIS) that night.

49. However, Dr C told HDC that he then discussed the declined referral with Dr D, and was again instructed to refer Ms A to the General Medicine team for admission and review. Dr C said that Dr D did not ask him to complete any other assessments of Ms A.

50. Dr C stated:

> "I telephoned the medical registrar and insisted on [Dr D's] instructions for referral. The registrar agreed to review the patient and accepted the medical referral. I then handed over the patient to [Dr K] again and let her know that the patient was to be seen by the medical team."

51. The referral to the General Medicine team is not recorded, but Dr C told HDC that he is certain that he made it before he left. He left ED at approximately 1.30am.

Discharge from ED

52. At 2.12am, a nurse recorded that Ms A had rung the bell and said that she wanted to go home. The nurse recorded that she had spoken to Dr K, who had said that Ms A could go home if she felt better. The nurse documented that Ms A was aware that she was going against medical advice by leaving the ED, but that she wanted to go home because the baby was unsettled.

53. At 2.28am, a nurse recorded that Ms A appeared distressed when she attempted to take her blood pressure again. The nurse noted that a reading could not be obtained.

54. Ms A was discharged at 2.28am, and left with her family. There is no documentation of any discussions with Ms A about her discharge, or any medical advice provided.

55. The patient notes record that the discharge paperwork was to be sent to Ms A in the mail. Dr C told HDC that the next morning Dr K notified him that Ms A had discharged herself against medical advice. Dr C said that he completed the discharge summary on the morning of 6 October, as instructed by Dr K. The follow-up advice stated: "You were seen in the

[9] A first-year house officer for the General Medicine team.
[10] Drugs to treat nausea and vomiting.

emergency department following an episode of collapse. We have done several tests and have been [un]able to find any cause for the collapse. We are aware you are under a lot of stress and recommend seeing your GP about this and arranging some follow-up for this" and "recommend you arrange another post-natal depression counselling session" and urgent medical attention if "you develop any further episode of unconsciousness, develop fever/chills, chest pain or shortness of breath".

56. Ms A stated that when Dr C tried to convince her that her symptoms were psychological, she began to doubt herself and question her own sanity. She said that she felt unsupported, and that she was not being taken seriously. Ms A stated: "I felt like I was being sent home to die." She said that she decided to leave the hospital because of her baby's needs.

Dr D

57. Dr D told HDC that he has only the "vaguest recollection" of these events. He stated that it was a busy night, and that Dr C presented the case to him. Dr D said that he did not have a chance to evaluate Ms A, but "because of the complexity and vagueness of her complaints" he thought she would benefit from a medical review.

Dr C

58. As stated previously, at the time of these events Dr C was a second-year house officer. Dr C stated that Dr D did not instruct him to do a neurological examination, but he accepts that a neurological examination would have been appropriate at some stage during Ms A's ED presentation.

59. Dr C said that although his last entry in Ms A's clinical notes in the EDIS was at 12.41am, he recalls entering the referral to the General Medicine team. However, he agrees that there is no record of the referral in EDIS. He stated: "This may be due to an inadvertent error on my part, or attributable to difficulties transitioning to a new IT platform." He noted that his discussion with the consultant following his first review, the discussion at the 11pm handover, and the discussion at approximately 12.50am following the first medical referral being declined are also not recorded in the EDIS. He stated: "I wish to apologise for omitting to document these conversations."

60. Dr C stated that at that stage of his training he was confused by the in-house IT system and what documentation was required by house officers and consultants. He said that it was departmental practice for the consultants to record on the system when they had discussed a patient with someone, and occasionally they would also document the discussion in the notes. He stated: "I am now aware that documenting the discussion is also my responsibility."

61. Dr C said that despite the referral to the General Medicine team not being found on the EDIS system, he is certain that the referral was made and accepted by the registrar for the General Medicine team. He stated: "I am absolutely sure that the care was transferred to the medical team before I left ED."

Referral to neurologist — MRI and surgery

62. On 16 October 2016, GP Dr E referred Ms A to neurology outpatients at the public hospital. On 4 November 2016, Dr E reviewed Ms A again and referred her to a neurologist, Dr F, at a private practice.

63. Ms A was seen by Dr F on 16 November 2016. Dr F noted her complex history and that she had a left beating nystagmus with saccadic intrusions[11] on horizontal movement. She also had some weakness of her left-sided muscle groups, with decreased vibration sensation in her left foot and an upward left plantar reflex.[12] Dr F referred Ms A for an MRI scan of the brain and cervical spine, which was carried out on 29 November 2016. The scan revealed a meningioma affecting her left lower brain stem with some proximal hydrocephalus.[13]

64. On 30 November 2016, Dr F referred Ms A to a neurosurgeon. On 4 December 2016, Ms A had surgery to place a shunt[14] to treat the hydrocephalus and, on 14 December 2016, the neurosurgeon operated to debulk the tumour.

Further information — Ms A

65. Ms A stated that she is recovering well from the surgery, and feels stronger and has more energy every day. However, she feels that it was unfair for the doctors in the ED to push their diagnosis of postnatal depression just because she had a baby and a recent family bereavement. She considers that the doctors should have investigated further and undertaken an MRI scan.

Further information — Capital & Coast DHB

66. The Clinical Leader of the ED apologised to Ms A for the failure to recognise that her symptoms were due to a brain tumour. He noted that her symptoms had an extremely rare pattern and underlying cause, and stated: "Most Emergency doctors would never see a patient with this pattern of symptoms due to this cause in a lifetime of practice."

67. The Clinical Leader stated that collapses can be due to a number of causes, and it is not uncommon for emergency doctors to see a patient with multiple varied symptoms and collapses related to a psychological basis. He noted that on both occasions Ms A presented to ED, the emergency doctors were sufficiently concerned to refer her for further assessment by the General Medicine team.

68. Dr J told HDC that in his view an urgent CT scan was not necessary in light of Ms A's normal examination and her fluctuating symptoms, which had resolved at the time of review. He stated that he would have considered that expectant management was reasonable. He said:

[11] Irregular episodic occurrences of a series of two or more fast eye movements.
[12] The plantar reflex is a reflex elicited when the sole of the foot is stimulated with a blunt instrument. The reflex can take one of two forms. In normal adults, the plantar reflex causes a downward response of the hallux (flexion). An upward response (extension) of the hallux is known as the Babinski response, or Babinski sign. The presence of the Babinski sign can identify disease of the spinal cord and brain in adults.
[13] An abnormal accumulation of cerebrospinal fluid (CSF) within the brain.
[14] A flexible tube placed into the brain to divert the flow of CSF into another region of the body, most often the abdominal cavity, where it can be absorbed.

"The more material failure of our service was to not either organise follow up or arrange a plan for prompt review if problems continued or worsened." However, he noted that there were a number of mitigating factors, including the rarity of Ms A's condition, that rapidly fluctuating neurological symptoms are most uncommonly associated with significant intracranial pathology, and the number of confounding factors in the assessment of her presentation.

69. Dr J stated that urgent CT scans are accessible at the public hospital on request, and the Radiology Department has a policy of undertaking all urgent in-patient CT scans by noon of the following day unless discussed and otherwise agreed by the treating team and Radiology. However, he noted that individual clinicians would have been aware of the extreme pressure that the Radiology Department was experiencing.

70. With regard to Ms A's ED visit on 5 October 2016, Dr J stated that he considers that the referral process was inadequate, and noted that the conclusion that Ms A was unlikely to benefit from a medical admission, and that no further investigations were required, could not reasonably be made without a proper assessment. Dr J acknowledged that in the absence of documentation, and knowing who the medical registrar was, further comment could not be made about the referral process.

71. Capital & Coast DHB stated that it has made a number of changes since these events, including the following:

- Increased registrar resource on weekends to allow more timely and thorough assessments;
- Strengthening of care and processes around ambulatory patients to ensure more timely assessment, better SMO supervision, and clearer discharge and follow up pathways;
- Regular reporting of re-admission rates; and
- Regular screening for "loose ends", such as unsigned results, incomplete discharges, and "un-chased" investigations.

Further information — Dr B

72. Dr B stated that as a consequence of this case, he has made a number of changes to his practice. He undertook an audit of the 498 patients discharged from his care during 2016 to look for unexpected deaths or re-admission, missed diagnoses, and adverse events, and did not detect any other significant or unexpected outcomes.

73. Dr B said that during post-acute ward rounds he now makes a point of discussing the differential diagnosis with his team, and ensures that it is documented in the notes and reflected in the discharge summary. If the diagnosis is not clear at the time of discharge, he now makes a point of personally arranging follow-up with his team in a week's time, and ensures that clear and precise instructions of what the patient should do if things worsen are documented in the discharge summary.

Responses to provisional opinion

74. Ms A, Dr B, and CCDHB were provided with relevant parts of my provisional opinion. Their responses have been outlined below.

Ms A

75. Ms A was given an opportunity to comment on the "information gathered" section of the provisional opinion, and stated that she had no comment to make.

Dr B

76. Dr B was given an opportunity to comment on the provisional opinion, and stated that he had no comment to make.

CCDHB

77. CCDHB was given an opportunity to comment on the provisional opinion, and stated that it had no comment to make, and it accepts the proposed recommendations and follow-up actions.

Opinion: Capital & Coast DHB — breach

78. DHBs are responsible for the operation of the clinical services they provide, and can be held responsible for any service failures. In addition, they have a duty to ensure that patients receive quality services.

79. Ms A presented on 31 July 2016 with a history of multiple collapses that day, pounding pain in the back of her neck and the base of her skull, vomiting, and hot and cold sweats. Ms A continued to experience these symptoms, and presented again on 5 October 2016. During these two presentations, Ms A received care from no less than seven individual providers. After these presentations, an MRI scan on 29 November 2016 revealed a meningioma.

31 July 2016 to 1 August 2016

80. On her first presentation, Ms A was examined by emergency medicine registrar Dr G, who decided that a CT was not required imminently but could be considered as part of further assessments, and referred Ms A to the General Medicine team.

81. My emergency medicine expert, Dr Gary Payinda, advised that the standard of care for a patient with these symptoms would be to query a brain or spinal cord mass or lesion, and either obtain imaging in the ED or refer the patient to General Medicine or Neurology. Dr Payinda considered that it was reasonable for an emergency doctor to defer decisions about imaging to the in-patient General Medicine team or neurologist. I am guided by my expert, and accept that the care provided in the ED on 31 July 2016 met the appropriate standards of care.

General Medicine review — 1 August 2016

82. Ms A was reviewed by a medical registrar, who noted her history of dizziness, leg weakness, pounding head and neck, vomiting, and collapses. The registrar discussed Ms A's condition with the General Medicine consultant, Dr B. Dr B reviewed Ms A during the morning ward round, and, despite her history and symptoms, no CT scan was arranged, and she was discharged home with advice to see her GP in one week's time or earlier if she developed any signs of infection, or if she felt generally more unwell.

83. My general physician expert, Dr Paul Dawkins, advised that Ms A's symptoms of multiple episodes of collapse, dizziness, weakness in the legs, headache, and vomiting should have led to a decision to perform a CT scan of her head. He stated that best clinical practice would have been to have the CT head scan performed within 24 hours of admission, but that if an emergency CT head scan was not considered appropriate, an urgent Neurology Clinic review (within two weeks) should have been made. He considered the failure to do this to be a moderate departure from the standard of care. I accept this advice, and am critical that a CT scan was not ordered when this was first indicated, or that an urgent Neurology Clinic review was not arranged.

84. Dr Dawkins also advised that the follow-up arrangements were inadequate. He said that the discharge summary should have stated specific advice about when Ms A should seek medical help, and that a referral for a neurological review should have been made at that point. I accept this advice, and am critical that this did not occur.

5 October 2016

Neurological assessment

85. On 5 October, Ms A had a seizure, lost consciousness, and presented to ED again. She said that by this time her symptoms had become much worse, and she had double vision, pulsatile tinnitus, extreme dizziness, sensitivity to hot and cold, very cold hands and feet, a lack of balance, palpitations, numbness and tingling in her hands and feet, muscle and joint aches, muscle weakness, and a cold hard feeling at the back of her head.

86. Ms A was seen by ED house officer Dr C, who recorded her history of collapses and a sudden loss of consciousness that day. He noted that Ms A refused a chest X-ray, and he conducted a physical assessment and further tests, but did not conduct a neurological assessment. Instead, Dr C focused his attention on psychological causes for Ms A's symptoms, and discussed a referral to psychiatric services. However, Ms A was "not keen" to see in-patient psychiatric services or have further in-patient medical assessment.

87. During Ms A's three-hour admission to ED, Dr C discussed her care with ED consultant Dr D, and ED registrar Dr K (the night registrar) on several occasions. Pursuant to Dr D's advice, Ms A was referred to the General Medicine team for further assessment and review. Dr C did not record the content of the discussions or the advice given by Dr D, other than the instructions to refer Ms A to the medical team.

88. Dr D said that he had only "the vaguest recollection" of Ms A's attendance in ED. He stated that it was a busy night and he did not review Ms A personally on this admission. Dr D said that after Dr C presented the case to him, because of the complexity and vagueness of Ms A's complaints, he thought that she would benefit from a medical review.

89. Dr C handed over the care of Ms A to Dr K before leaving the hospital at around 1.30am.

90. There is no record of a neurological examination by any member of the ED team during this presentation to the ED. Dr C said that he did not conduct a neurological assessment because Dr D did not instruct him to do so, although he accepts that such an examination would have been appropriate.

91. Dr Payinda advised me that the accepted practice of an emergency doctor taking care of a patient with 14 weeks of undiagnosed recurrent/frequent consciousness collapses, one new episode of sudden loss of consciousness for five minutes, followed by multiple vomits and the inability to stand or walk owing to light-headedness, would be to query serious diagnoses such as a new onset seizure disorder, worsening of an intracranial process such as an increased intracranial pressure, or a brain mass or infection. He stated that the possibility of psychiatric causes would be "a diagnosis of exclusion and that medical causes should be fully excluded before a psychiatric diagnosis could be established".

92. Dr Payinda noted that Ms A was in the ED for three hours, and advised that given Ms A's presenting symptoms, a neurological examination should have been performed as part of the initial ED assessment, before referral to the General Medicine team. While there is a lack of clarity regarding the information that was shared between the clinicians involved, owing to a lack of documentation, the system had the information it needed to prompt this examination.

93. Dr Payinda advised:

> "This lack of neurological examination documentation is a moderate departure from accepted practice, as an adequate neurological examination would have been essential to guide the timing of brain imaging, the decision to refer to the medicine team, the decision to admit, the need to escalate treatment/therapy, and even the discussion about risks and benefits related to leaving against medical advice. [Ms A] would not likely have been able to make an informed risk/benefit decision regarding leaving against medical advice versus remaining in the hospital without knowing the results of her neurological examination."

94. Dr Payinda advised that urgent imaging of Ms A's brain should have been obtained, although the imaging did not necessarily need to take place that night.

95. I accept this advice. I note that on this presentation to ED Ms A was reviewed three times, and her care was discussed by ED staff. I also note that a physical assessment and tests were performed. However, I am critical that Dr C failed to consider whether Ms A's symptoms had a neurological origin, or document the discussions with seniors or advice given, in particular

by Dr D. I note that there is a lack of clarity about what information was conveyed by Dr C to Dr D to inform his clinical decision-making. On the evidence available to me, I am unable to make a finding about whether Dr D had sufficient information to advise that a neurological assessment was necessary. Nonetheless, Ms A was not given a neurological examination as part of an initial assessment, or before referral to the General Medicine team. I am critical that this did not occur.

Handover of care to General Medicine

96. Dr C reviewed Ms A again at 12.41am. He recorded that he planned to discuss Ms A with the ED consultant. Dr C documented that he had discussed Ms A with a house officer from the General Medicine team, but the referral was declined because it was felt that an admission was unlikely to benefit Ms A.

97. Dr C referred Ms A's care to the General Medicine team again, pursuant to Dr D's further advice. Dr C then handed over Ms A's care to Dr K and left the hospital at approximately 1.30am.

98. There is no record in the EDIS system of Dr C's referral of Ms A to the General Medicine team on the second occasion, or of Dr C's discussions with Dr D. In this regard, Dr C stated that he lacked confidence with CCDHB's information systems, and also was unsure of whose role it was to document discussions between house officers and consultants. Dr Payinda advised that discussions with Dr D should have been documented, or the reasons for not having a discussion noted. I accept this advice, and I am critical that there is no record of the referral, and that discussions with Dr D were not documented. Accurate documentation is important to ensure the provision of quality care, and the continuity of care. I am concerned that in a busy hospital environment, the absence of the referral in the system could have resulted in the referral being overlooked.

99. Two referrals were made to the General Medicine team (with only the second being accepted), but there are no records of any review of Ms A in response to the referrals. I note that CCDHB considers that the referral process was inadequate, and that without a thorough assessment the conclusion that Ms A would not benefit from medical review could not reasonably be made. I am concerned that this conclusion was reached without any assessment taking place.

Ms A's discharge

100. When Ms A expressed that she wanted to leave, Dr K gave advice to the registered nurse that if Ms A was feeling better she could be discharged. Ms A left against medical advice. Dr Payinda advised that owing to a lack of information, it is unclear whether the medical decision-making was adequate in response to Ms A's decision to leave against medical advice. In addition, Dr Payinda advised that without knowing the results of a neurological assessment, Ms A was unlikely to have made an informed decision about the risks and benefits of leaving against medical advice. I accept this advice, and I am critical that the ED staff did not document their decision-making about Ms A's discharge, or any advice provided to Ms A to inform her decision-making.

101. Approximately eight hours after Ms A was discharged, Dr C finalised her discharge summary. The medical notes written before she left the ED record that the discharge paperwork would be sent to Ms A in the mail.

102. The follow-up advice was to "see your GP about this and arrange some follow-up for this", and "recommend you arrange another post-natal depression counselling session", and to seek urgent medical attention if "you develop any further episode of unconsciousness, develop fever/chills, chest pain or shortness of breath".

103. Dr Payinda advised that this follow-up advice could have focused more on the specific neurological symptoms Ms A should be aware of, and could have been more specific about a timeframe in which to see her GP. However, Dr Payinda advised that the discharge advice was adequate. I accept this advice.

Assessment and management in ED — 5 October 2016

104. Dr Payinda advised that assessment and management of Ms A by the public hospital's ED clinicians during her 5 October 2016 admission constitutes a moderately significant deviation from accepted care. Dr Dawkins said that after 12 weeks of persistent symptoms, vomiting, and an inability to stand or walk in ED, Ms A's presentation should have triggered a neurological examination and then an urgent CT head scan, likely as an inpatient on the medical team.

105. Dr Dawkins advised:

> "Ultimately, the decision to leave the hospital was [Ms A's], albeit on the back of medical advice that was of unknown adequacy and thoroughness due to its being undocumented."

Conclusions

106. While aspects of the care provided to Ms A by CCDHB were adequate, I am concerned that aspects of the care provided across these two presentations were suboptimal. In particular:

- On 31 July 2016, she was neither offered a CT scan of her head nor referred for an urgent Neurology review.
- On 1 August 2016, she was discharged with inadequate follow-up arrangements.
- On 5 October 2016, no neurological examination was performed on Ms A in ED before the referral to the General Medicine team was made.
- On 5 October 2016, the General Medicine team did not assess Ms A before initially declining the referral.
- There is no documentation of the discussions between Dr C and Dr D on 5 and 6 October 2016. I am concerned that this could have affected the quality and continuity of services provided to Ms A within and between teams.

- There is no documentation of Dr C's referral of Ms A to the General Medicine team on 6 October 2016. While I note that Dr C is sure that the referral was made, as stated above, I am concerned that the absence of documentation could have affected the response by that team.

- There is no documentation of the decision-making by the clinicians in response to Ms A's request to leave the ED on 6 October 2016. It is unclear whether the decision-making by the clinicians was adequate.

- There is no documentation of the advice given by ED staff to Ms A in regard to her decision to leave against medical advice on 6 October 2016. It is therefore unclear whether any advice was provided and, if so, whether it was adequate information so that Ms A could make an informed decision about leaving the ED.

107. While individual staff members hold some degree of responsibility for their failings, cumulatively, I consider that the deficiencies outlined above indicate a pattern of poor care. Accordingly, in my opinion, CCDHB failed to provide services to Ms A with reasonable care and skill, and, as such, breached Right 4(1) of the Code of Health and Disability Services Consumers' Rights.[15]

108. I consider the changes made by CCDHB since these events to be positive.

Opinion: Dr B — breach

109. On 31 July 2016, Ms A presented to the public hospital having suffered multiple episodes of consciousness collapse for the previous 18 days. That day, she had experienced episodes of dizziness, and was feeling clammy and sweaty. She reported pounding/odd noises in her head and vomiting. She was admitted that night, and referred to the General Medicine team around midnight. In the morning of 1 August 2016, she was reviewed by the General Medicine consultant, Dr B. Dr B said that he reviewed Ms A's admission notes and the notes made by Dr I (the medical registrar who reviewed Ms A that morning). Dr B concluded that Ms A's symptoms were due to a combination of pain, sleeplessness, and stress. No CT scan was ordered because he did not consider there to be sufficient concerning features to warrant further investigations, and she was discharged home.

110. Dr B stated that his usual practice in a situation such as this would be to recommend that if the symptoms persisted or worsened, then further tests such as a CT scan should be undertaken. However, he did not do so in this case. He agreed that he made an error in his assessment and treatment of Ms A, but stated that the morning in question was very busy, and the fact that Ms A had improved overnight led him to downplay the "red flags" that were present the previous day.

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

111. The follow-up arrangements following the discharge on 1 August 2016 were for Ms A to see her GP in one week's time, or earlier if she developed signs of infection or became more unwell. There was no specific advice in the discharge summary on the circumstances in which she should seek medical help, and she was not referred to the Neurology team. Dr B told HDC that he made an error by not arranging formal follow-up or being explicit about when and why to seek help after discharge.

112. Dr Dawkins advised me that Ms A's symptoms of multiple episodes of collapse, dizziness, weakness in the legs, headache, and vomiting should have led to a decision to perform an urgent CT scan of the head. Dr Dawkins said that the diagnosis of psychological or stress-related aetiology should have been a diagnosis of exclusion in the context of Ms A's symptoms. He stated that the best clinical practice would have been to perform a CT head scan within 24 hours of admission or, if the emergency CT head scan was not considered appropriate at the time, to arrange an urgent neurological clinical review within two weeks. Dr Dawkins stated that the failure to obtain an urgent CT scan in light of the red flags for an intracranial pathology was a moderate departure from the accepted standard of care.

113. Dr Dawkins considers that the follow-up arrangements were inadequate. He advised that the discharge summary should have stated advice about when Ms A should seek medical help, and that a referral for a neurological clinic review should have been made at that point.

114. I accept this advice. Dr B did not arrange a CT scan in all the circumstances, or provide Ms A with more formal follow-up, or advice about when and why to seek help after discharge. A busy environment does not remove the obligation to provide good services, and does not remove the accountability for ensuring that appropriate steps are taken. In this instance, I find that Dr B failed to provide services to Ms A with reasonable care and skill, and breached Right 4(1) of the Code.

115. I note that Dr B has reflected on these events, and has made a number of changes to his practice. He also carried out a thorough audit of patients discharged from his care in 2016, to ensure that he had provided sound care to them.

Recommendations

116. I recommend that Dr B provide a written apology to Ms A for his breach of the Code. The apology is to be sent to HDC within three weeks of the date of this report, for forwarding to Ms A.

117. I recommend that Capital & Coast DHB provide a written apology to Ms A for its breach of the Code. The apology is to be sent to HDC within three weeks of the date of this report, for forwarding to Ms A.

118. I also recommend that Capital & Coast DHB give consideration to the following recommendations, and report back to HDC on the outcome of its consideration, within three months of the date of this report:

a) Consider instigating consultant sign-off documenting oversight/review of junior doctors' cases.

b) Consider routine involvement of consultants in cases where patients re-present to ED, and where patients wish to leave the hospital contrary to medical advice.

c) Consider conducting a periodic real time or retrospective review of ED clinicians' documentation, to ensure that the written chart accurately reflects the patient's visit, addresses key medical decision-making issues, and meets best practice recommendations.

d) Consider whether in cases where a patient requires a specialist consultation, a formal consultation is requested, performed, and documented adequately.

e) Consider easy-to-access criteria for urgent CT head scans, with "red flag" symptoms highlighted. In addition, consider a rolling process of education of emergency and medical doctors in relation to this.

Follow-up actions

119. A copy of this report with details identifying the parties removed, except the experts who advised on this case and Capital & Coast DHB, will be sent to the Australasian College for Emergency Medicine, and the Australian and New Zealand Association of Neurologists, and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

Appendix A: Independent advice to the Commissioner

The following expert advice was obtained from specialist emergency medicine physician Dr Gary Payinda:

> "First may I express my sorrow at hearing of [Ms A's] difficult course and unfortunate diagnosis of brainstem meningioma.
>
> Thank you for the opportunity to provide expert advice to the Health and Disability Commissioner (HDC) on the care provided by the public hospital's Emergency Department to [Ms A] on 31 July 2016 and 5 October 2016.
>
> I do not have a personal or professional conflict in this case. I have previously made you aware that years ago I served as an emergency department supervisor at […] Hospital for a [doctor] who in this present case was a medical registrar at [the public hospital]. Your office did not consider that a conflict of interest, nor do I.
>
> I have reviewed a copy of HDC's Guidelines for Independent Advisors.
>
> I am a Specialist Emergency Medicine Physician with a fellowship in the Australasian College for Emergency Medicine. I am in the active practice of emergency medicine at Whangarei Hospital, where I have worked for the past ten years, and where I currently serve as Co-Director of Emergency Medicine Training.
>
> I have reviewed the clinical documents provided by the HDC on a USB drive, including clinical notes, letter of complaint and response, and a letter requesting expert advice. I have reviewed the emergency department notes and discharge summaries from both visits.
>
> **Background provided by the HDC:**
>
> 'On 31 July 2016, [Ms A] presented to [the public hospital's] Emergency Department. She had been collapsing and experiencing leg and arm paralysis, sweating, headaches, fatigue and vomiting. Upon discharge, [Ms A] was advised to consult her GP in a week if she developed any symptoms of infection.
>
> [Ms A] presented to [the public hospital's] Emergency Department again on 5 October 2016, following a brief episode of loss of consciousness. A number of tests were undertaken during her admission. She was again advised to follow up with her GP if she experienced ongoing issues.
>
> In late November 2016, [Ms A] was diagnosed with a brainstem meningioma. She is concerned that this diagnosis was delayed due to a lack of investigations.'

Expert advice requested by the HDC

I have been asked to:

'Please review the enclosed documentation and advise whether you consider the care provided to [Ms A] was reasonable in the circumstances, and why.

In particular, please comment on:

1. The assessment and management of [Ms A] by [the public hospital's] Emergency Department clinicians during her 31 July 2016 admission.
2. The assessment and management of [Ms A] by [the public hospital's] Emergency Department clinicians during her 5 October 2016 admission.
3. Whether a more comprehensive neurological assessment should have been undertaken during [Ms A's] 5 October 2016 admission.
4. The adequacy of the follow-up arrangements made by [the public hospital's] Emergency Department clinicians following [Ms A's] 5 October 2016 admission.
5. The adequacy of Capital & Coast District Health Board's response in relation to [Ms A's] management by Emergency Department clinicians.
6. Any other matters in this case that you consider warrant comment.

For each question, please advise:

1. What is the standard of care/accepted practice?
2. If there has been a departure from the standard of care or accepted practice, how significant a departure do you consider this to be?
3. How would it be viewed by your peers?
4. Recommendations for improvement that may help to prevent a similar occurrence in future.'

I will note that I have been asked to review only the care provided by the emergency department clinicians, and not the care provided by the medical teams. Medicine (also known as general medicine), is a separate specialty to emergency medicine, and their standard of care would best be addressed by an expert advisor who is a general medicine specialist.

Comment On:

1. The assessment and management of [Ms A] by [the public hospital's] Emergency Department clinicians during her 31 July 2016 admission.

To summarise, based on the supplied notes, [Ms A] presented to the [CCDHB] Emergency Department (ED) via ambulance. Ambulance notes described a history of multiple conscious collapses per day for the prior 18 days, with 7 episodes of dizziness and sweating that day, with pounding in the head, two vomits, and an inability to

ambulate (walk) to the car. On examination [Ms A] initially had 7/10 pain, but later was documented as having no pain. She required carrying due to weakness in the legs.

Triage nursing notes described [Ms A's] history of altered sensation on the arms and legs. Urine specific gravity showed a concentrated urine consistent with [Ms A's] described nausea and vomiting. There was no fever, negative pregnancy testing, and unremarkable vital signs and blood glucose results. Labs tests drawn ultimately proved unremarkable. [Ms A] was brought into an ED cubicle unable to weight-bear (walk) on her own.

The ED registrar [Dr G] noted a history of six collapses on that day, 31/07/2016, and leg weakness, but no altered sensation or paraesthesias (sensations such as pins-and-needles). He also noted a history of neck pain during her recent pregnancy, and described [Ms A] as having pounding type pain in the back of the neck and base of the posterior of the skull, along with vomiting and feeling hot and cold. On examination, he noted [Ms A] was shivering.

[Dr G] performed a basic neurological examination, and found [Ms A] had normal extremity strength except for reduced strength in knee flexion, and increased reflexes to the arms and legs. [Dr G] documented that in contrast to the previous (nursing) notes, [Ms A] denied altered sensation or paresthesias. [Dr G] documented that [Ms A] was able to walk independently (which was also noted by medical registrar), but had a limited ability to move her neck. And he later documented [Ms A] had no pain, which correlated with a nursing note describing no dizziness and no pain later in the ED stay.

[Dr G's] documented impression was of 'collapses ? cause, with subjective fevers, vomiting and neck pain though meningitis does not explain history of collapses. … Does not need CT head/neck imminently though these can be considered with further assessments.'

The standard of care/accepted practice for a patient with a history of headache and neck pain, multiple vomits, and an inability to walk, with examination findings of leg weakness, and arm and leg hyperreflexia (abnormally increased reflexes) would be to query a brain or spinal cord mass or lesion, and either obtain imaging in ED, or refer to medicine/neurology from the ED. Though he doesn't specifically mention a differential diagnosis, other concerns in a patient with the above signs and symptoms would be CNS (central nervous system) mass/tumour, increased intracranial pressure (pressure in the fluid compartment of the brain), arterial aneurysm (abnormal bulging of the arteries), arterial dissection (tearing within the arterial walls), or thrombosis (clotting). The differential diagnosis is broad and certainly could include many benign (non-serious) causes, but the symptoms and examination findings are sufficiently serious to warrant a referral to the general medicine team for assessment in ED.

A CT scan could have been obtained on this patient overnight in ED, however, it is equally reasonable to defer the decision to image the brain to the medicine team. One reason to defer a decision to the inpatient team would be that an MRI might be

preferred over CT as the imaging modality of choice, and MRIs are not typically performed on ED patients, but rather after admission to an inpatient team. CT scan selection also can involve imaging with or without contrast, and choosing among various scanning protocols, including formats which image the arterial supply to the brain. It would be reasonable for an emergency doctor to defer those decisions to an inpatient medical team or neurologist.

Some reasons to get a CT overnight on an emergency basis would have been if the patient had marked and severe neurological findings, or findings which were acutely worsening, the thought being that a CT could identify those cases that might need immediate surgical or medical treatment to prevent acute decompensation or death. This was not the case that night, and a reasonable and prudent emergency physician could have appropriately deferred brain imaging decisions to the inpatient medical team.

I believe the assessment and management of [Ms A] by [the public hospital's] Emergency Department clinicians during her 31 July 2016 emergency department visit was appropriate. They performed an adequate basic neurological examination, ruled out an imminent life-threat overnight, and got her to the next appropriate step in her journey through the hospital: consideration by the medical team. She was admitted under the medicine team. She was discharged the following day. Decisions about the appropriateness or timing of further brain imaging by the medical team is beyond the scope of this review, as this review only concerns the appropriateness of the emergency department team's management.

2. The assessment and management of [Ms A] by [the public hospital's] Emergency Department clinicians during her 5 October 2016 admission.

On 5 October 2016, the ambulance officers noted the history of [Ms A] having a witnessed unconscious collapse while seated, on a background of multiple collapses over the preceding 14 weeks. The triage nursing note documented that she was very pale.

The ED house officer [Dr C] documented that [Ms A's] multiple collapses over the past several months had 'been improving lately'. He documented a history of a sudden loss of consciousness on 5 October 2016, with [Ms A] coming to after the ambulance staff had already arrived. History from her partner described [Ms A] as having 'jerk back of [sic] the couch, had eyes open but not responsive to voice/gentle slapping. Came to after –5 minutes.'

The ECG was documented as normal, a venous blood gas and basic labs tests returned unremarkable. Further history detailed social stressors and a plan to discharge home with psychiatric follow-up via GP as patient was not keen to see inpatient psychiatric services.

At 1am, nursing notes documented [Ms A] was feeling unwell and was unable to stand. The house officer also documented [Ms A] as unable to stand due to lightheadedness, and as having had two vomits after eating and drinking 2L water. [Ms A] was later documented as feeling better and wanting to go home, ultimately signing out against medical advice.

The accepted practice of an emergency doctor taking care of a patient with 14 weeks of undiagnosed recurrent/frequent conscious collapses, one new episode of sudden loss of consciousness for five minutes, followed by multiple vomits and the inability to stand or walk due to lightheadedness on reassessments in the ED would be to query serious diagnoses such as a new onset seizure disorder, worsening of an intracranial process such as increased intracranial pressure (fluid putting pressure on the brain), or a brain mass or infection. The possibility of benign (not serious) causes existed as well. Lastly, there was the possibility of psychiatric causes such as a somatic symptom disorder (a form of mental illness that causes one or more bodily symptoms, including pain) which needed to be asked about, and carefully considered. This last diagnosis however, would be a 'diagnosis of exclusion', meaning medical causes would need to be fully excluded before a psychiatric diagnosis could be established.

In the setting of approximately three months of recurrent collapses, with an acute progression to new-onset seizure-like activity on 5 October 2016, vomiting, and an inability to stand or walk in ED, the standard of care would be to perform a neurological examination of [Ms A], then to obtain urgent (but not necessarily emergent/overnight) imaging of the brain, likely as an inpatient on the medicine service. The imaging would not necessarily have to have occurred emergently overnight, as [Ms A's] condition was not worsening, she had fully regained consciousness, and she did not have any further losses of consciousness while in ED. But it should have occurred acutely, given the history as above. The ED referral for general medicine team assessment was reasonable and appropriate.

However, per the materials I have been provided, there is no documented evidence of a neurological examination being performed in the ED by the ED house officer [Dr C]. There is documentation that [Ms A] was referred to the medicine team, but no documentation of their review. [Dr C] documented he had discussed the case with the medical registrar, who felt [Ms A] was unlikely to benefit from medical admission and that no further investigations were required. [Dr C] then documented his intention to discuss the case with his SMO (senior medical officer), but there is no documentation that this ever occurred. I note that [Dr C] documented about 14 lines of text regarding [Ms A's] psycho-social concerns, but none documenting a neurological examination.

There is nursing documentation from later in the ED stay saying [Ms A] was feeling better, and rang her bell at 02:12, saying she wanted to go home. Per the same nursing note entry, [Dr K] (team/role not specified in the notes) said [Ms A] was allowed to go if she was feeling better, but there was no evidence of this advice having been based on an assessment of the patient, nor was there any general medicine documentation. Sixteen minutes later, she left against medical advice as described in the nursing notes.

She had a discharge summary completed by [Dr C], the ED house officer, on 6/10/16 at 11:19. This appears to have been finalised approximately eight hours after [Ms A] left the ED.

Between [Dr C's] first note and his last, approximately three hours elapsed. Despite this interval, there is no documentation of a neurological examination. It would seem there was enough time for a neurological examination to have occurred, and been documented, prior to [Ms A] leaving against medical advice hours later.

This lack of neurological examination documentation is a moderate departure from accepted practice, as an adequate neurological examination would have been essential to guide the timing of brain imaging, the decision to refer to the medicine team, the decision to admit, the need to escalate treatment/therapy, and even the discussion about risks and benefits related to leaving against medical advice. [Ms A] would not likely have been able to make an informed risk/benefit decision regarding leaving against medical advice versus remaining in the hospital without knowing the results of her neurological examination.

Whether a thorough neurological examination was performed but not documented due to an oversight is unknown. The emergency clinician was a quite junior doctor — a house officer — presumably without a wealth of experience in emergency medicine, at work in the middle of the night. The failure to document the most essential part of the physical examination would be viewed by my peers as something that occasionally happens, but which is nonetheless inadequate, and below the level of service that we would expect to provide to patients.

Ultimately, [Ms A] chose to leave against medical advice. I am unable to say (based on the documentation provided) whether the ED SMO was involved in the decision-making, whether the neurological examination was normal and reassuring, whether [Dr C] would have ultimately chosen to re-refer [Ms A] to the medical registrar had [Ms A] remained in the ED, or whether [Dr C] might have insisted on a medical team re-review or pushed for a medical admission after discussion with the ED SMO.

I consider the omission of adequate emergency medical documentation (namely the neurological examination and a note of the medical decision-making relative to [Ms A's] decision to leave against medical advice) to be of moderate significance.

We cannot know whether earlier imaging, and a more prompt diagnosis, would have occurred had [Ms A] chosen to remain in hospital. As it stands, [Ms A] chose to leave against medical advice, but did leave with an ED recommendation to follow-up with her GP in the outpatient setting, which is reasonable follow up.

It is probable that [Ms A's] tumour had been growing for years, and that the decision to obtain a scan overnight, or within the next few days to weeks would not have changed the outcome markedly, but this is supposition. A question arises regarding the appropriateness of the outpatient management of the patient's ongoing symptoms in

the 9 weeks preceding and 6 weeks following the second ED visit, prior to her ultimate diagnosis of brainstem meningioma. However questions regarding the outpatient management of this patient's case are outside the scope of this review.

It is also not within the purview of this report to examine the general medicine team's management of the case, beyond noting that if the only documentation of the medicine team's assessment of [Ms A] is what was provided, namely the ED registrar noting, 'Discussed with medical reg. Felt unlikely to benefit from medical admission. Felt nil further investigations required.' then that would be significantly below the standard expected of a general medicine referral. At a minimum, documentation must reflect that the medical registrar did their due diligence in assessing [Ms A] and reflecting on her case. This standard is not met by the documentation provided. It would be reasonable for the HDC to inquire further about this aspect of [Ms A's] care.

Overall, I find the assessment and management of [Ms A] by [the public hospital's] Emergency Department clinicians during her 5 October 2016 admission constitutes a moderately significant deviation from accepted care. Ultimately, the decision to leave the hospital was [Ms A's], albeit on the back of medical advice that was of unknown adequacy and thoroughness due to its being undocumented. The implications are that this delayed her care, imaging and ultimate diagnosis, but the clinical significance of this 5–6 October 2016 delay is likely to have been low, as there was ample time (approximately 6 weeks) for [Ms A] to have had GP-coordinated outpatient care in the community after she left the hospital.

3. Whether a more comprehensive neurological assessment should have been undertaken during [Ms A's] 5 October 2016 admission.

This question is addressed in the section above. To reiterate:

1. An adequate neurological physical examination should have been performed and documented by the emergency medicine clinician.
2. An adequate risk/benefit discussion with the patient should have been documented.
3. A discussion with the ED SMO should have been documented, or the reason for not having one noted.
4. A formal general medical assessment should have been documented, as the patient was referred to the general medicine team.

One additional point bears clarification: the purpose of CT scans performed from the emergency department (rather than those ordered in the outpatient setting or from the ward) is not to diagnose conditions which can be managed as an outpatient (such as brain tumors, or any chronic condition), but rather to identify the presence of conditions which require immediate, emergent management. If a scan can be safely and appropriately ordered from an inpatient or outpatient setting, as was the case in [Ms A's] case, then obtaining an emergent scan is not necessary nor appropriate.

Further, scans performed overnight are typically obtained in those cases where waiting until morning might result in a patient suffering acute harm overnight. In [Ms A's] case, neither emergency department visit seems to have risen to the level of requiring an emergency CT scan to be performed from the ED overnight. In both cases what was required was appropriate assessment and management after the ED visit, whether as an outpatient or an admitted inpatient.

4. The adequacy of the follow-up arrangements made by [the public hospital's] Emergency Department clinicians following [Ms A's] 5 October 2016 admission.

Given that [Ms A] left against medical advice, the clinician's role is to provide adequate follow-up that fits within the limitations of her wishes.

In this case follow-up advice was to 'see your GP about this and arrange some follow-up for this' and to 'recommend you arrange another post-natal depression counselling session' and to seek urgent medical attention if 'you develop any further episode of unconsciousness, develop fever/chills, chest pain or shortness of breath'.

This follow-up advice could have focused more on the specific neurological symptoms [Ms A] should be on the look-out for, and could have been more specific about a timeframe in which to see the her GP. But, at a minimum, the discharge instructions did provide a clear recommendation to consult a GP, and to seek medical care urgently if there was another loss of consciousness. The discharge advice was modest, but adequate.

Emergency department care is by definition limited and episodic care, rather than ongoing and comprehensive care. It would have been reasonable for the rest of the work-up, in terms of further neurological examination, neurology referral, and outpatient brain imaging, to have been coordinated in the outpatient setting by [Ms A's] GP. It is not usual practice for an emergency physician to direct or coordinate the outpatient assessment of a chronic problem which has been ongoing for months, which has previously had the input of a medical team, and which has the ongoing involvement of the patient's own GP.

Discharge arrangements made by a general medicine team may differ significantly in this regard, as they often provide ongoing care for chronic and complex patients.

5. The adequacy of Capital & Coast District Health Board's response in relation to [Ms A's] management by Emergency Department clinicians. [And] 6. Any other matters in this case that you consider warrant comment.

The response by Capital & Coast District Health Board clinicians and director is adequate as regards the first ED visit. The clinicians are correct when they say [Ms A's] symptoms had an extremely rare pattern. In almost 15 years of practising emergency medicine I haven't had, or heard of, a patient with a brain tumour whose symptoms were so marked, varied, and recurrent, yet resolved so completely that they resulted in

neurological (physical) examinations which were repeatedly normal upon assessment by several clinicians during that first ED visit.

The Capital & Coast District Health Board's response doesn't address the issues discussed in section 3 above, namely the lack of appropriate neurological examination documentation on the second visit, the absence of a documented risk-benefit discussion between ED clinician and [Ms A], the absence of an ED SMO consultation, and the lack of documentation of an adequate general medicine review (or explanation for why one was unable to be performed). Input from the medical registrar involved in the second visit, [Dr K], and the general medicine SMO involved in supervising the general medicine referral on 6/10/16 might help clarify the decision-making involved that night.

Further Discussion:

A layperson might wonder why, in light of the limitations of the neurological examination, emergency CT scans are not more frequently obtained on patients with non-emergent conditions. One of the significant reasons is increased cancer risk. An emergency doctor's desire to obtain accurate diagnoses via CT is tempered with the reality that irradiating the brain of a patient without cancer can cause cancer. The risk is low, but real.

In one study looking at over half a million patients receiving a CT in Australia over a period of years, the conclusion was that one brain cancer would have been caused for approximately every 4000 CT scans of the brain performed.[1] Avoiding unnecessary scans is one of an emergency doctor's priorities, and although imperfect, using the neurological examination to screen patients into high- and lower-risk categories is acceptable. In a review of head CT in non-trauma patients in the journal Radiology, the authors noted:

> 'The existing studies, though typically small, suggest that head CT scans in this population are of low diagnostic yield and range from 0% to 15%, depending on the population that is studied (eg, patients with delirium or cognitive impairment, dizziness or vertigo, or syncope). These studies also suggested that almost all nontrauma patients with abnormal head CT findings have abnormal findings on neurologic examinations, and that the majority of patients who had abnormal (CT] findings would be over 65 years of age.'[2]

Another 2013 review article reaffirms the relevance of the normal neurological examination,

[1] Mathews John D, Forsythe Anna V, Brady Zoe, Butler Martin W, Goergen Stacy K, Byrnes Graham B et al. Cancer risk in 680 000 people exposed to computed tomography scans in childhood or adolescence: data linkage study of 11 million Australians BMJ 2013; 346:f2360.

[2] Head CT for Nontrauma Patients in the Emergency Department: Clinical Predictors of Abnormal Findings, Xi Wang and John J. You, Radiology 2013 266:3, 783–790.

> 'Patients with abnormal neurological examinations are much more likely to have a significant brain pathology as detected by MRI or CT, whereas a normal neurological examination indicates a decreased likelihood of a significant cerebral lesion' [Cala and Mastaglia, 1976; Carrera et al. 1977; Duarte et al. 1996; Larson et al. 1980; Mitchell et al. 1993].[3]

Factors that might commonly lead an emergency physician to obtain an emergency head CT include a sudden worst-of-life headache or abnormal neurological findings on physical examination. Even with these high-risk features, a benign (not serious) cause of headache is most commonly found.

One additional caveat is that emergency doctors are highly trained in the assessment of patients with acute headache, not those with chronic/recurrent/complex headache, who are typically referred back to their GPs or occasionally an outpatient specialist.[4] The imaging criteria that apply to chronic/recurrent/complex headaches are different than that which apply to acute headaches, and whether these criteria were met would be best discussed with an expert advisor from a GP, general medicine, or neurology background — medical specialists concerned with managing patients in an ongoing fashion. The expert opinion in this report concerns only the management of [Ms A] by the emergency doctors involved in this case.

Recommendations for improvement that may help to prevent a similar occurrence in future:

1. SMO sign-off documenting oversight/review of house officers' or other junior doctors' cases.
2. Routine involvement of SMO in cases of patients who are higher-risk users of the emergency department: especially recurrent presenters to ED, and those patients leaving against medical advice.
3. Periodic real-time or retrospective chart review of emergency department clinicians'[5] documentation to ensure the written chart accurately reflects the patient's visit, addresses key medical decision-making issues, and meets best practice recommendations.
4. The elimination of informal 'curbside consults' where a specialty is consulted informally, with an abbreviated assessment and substandard documentation. If a patient requires a specialist consult, then a formal consult should be requested, performed, and adequately documented.

[3] Holle D, Obermann M. The role of neuroimaging in the diagnosis of headache disorders. Therapeutic Advances in Neurological Disorders. 2013;6(6):369–374. doi:10.1177/1756285613489765.
[4] Davenport R, Acute Headache in the Emergency Department, Journal of Neurology, Neurosurgery Et Psychiatry, 2002;72.
[5] Critical aspects of emergency department documentation and communication. Yu KT, Green RA. Emerg Med Clin North Am. 2009 Nov;27(4):641–54, ix. doi: 10.1016/j.emc.2009.07.008.

I hope this opinion was useful. If there are any questions or concerns I am happy to be contacted via the Health and Disability Commissioner's office.

Respectfully,

Gary Payinda
MD MA FACEM
Whangarei, 26/10/2017"

On 27 February 2019, Dr Payinda provided the following further advice:

"I have had the chance to carefully review the documents you provided, including my advice to [HDC], the CCDHB response, a statement from [Dr C], and the policies in place in the ED at the time.

I have been asked whether these alter my previous advice in any way. They do not."

On 6 March 2019, Dr Payinda provided the following further advice:

"Regarding your question, 'Can you please advise whether you would have expected the neurological examination to be carried out even though the referral to the general medical team had been made?'

Given the patient's presenting symptoms, an adequate neurological examination was a necessary part of the initial ED assessment. This should have been performed by the ED clinician prior to referral.

Once referred medically, an adequate neurological examination still remained necessary. At this point, though, further examination would typically be performed by the medical team, as part of their assessment of the referred patient."

Appendix B: Independent advice to the Commissioner

The following expert advice was obtained from consultant physician in general and respiratory medicine Dr Paul Dawkins:

> "I have been requested by the Health and Disability Commissioner to provide an independent medical opinion on the care provided by [the public hospital] Medical Service to [Ms A].
>
> I am Consultant Physician in general and respiratory medicine employed by Counties Manukau District Health Board. I have been practising medicine for 25 years and have been a consultant in general medicine since 2006. I have participated in general medical on-call for all of this time. My qualifications are: MBChB BSc(Hons) MD MMedEd FRCP(UK) FRACP.
>
> I have been asked to review the documentation and offer my advice under the following headings:
>
> **1. The assessment and management of [Ms A] by [the public hospital's] Medical Service clinicians on 1 August 2016.**
>
> [Ms A] attended the Emergency Department at [the public hospital] on the 31st of July 2016 with a history of multiple episodes of collapse over the previous three weeks and six episodes of collapse on the day of presentation. She would generally feel dizzy with weak legs, but no loss of consciousness. Previous whiplash neck injury from several years previous was noted, and the fact that this pain had got worse during the pregnancy. She was noted to have a history of pounding in the head and to have had an episode of vomiting on the day of presentation. She was also noted to have sweating episodes. There is an entry by the registered nurse in the notes saying that 'the patient was very weak and unable to weight-bear on her own, required help from husband'. The clinical impression of the Emergency Doctor was that this was a conscious collapse episode likely to be multifactorial with a possible stress component. She was treated with intravenous fluids. There is also documentation on the treatment charts that she was given intravenous metoclopramide (antiemetic) and oral paracetamol and oral Voltaren (oral analgesics). She was referred to the medical registrar who assessed the patient separately. The history was corroborated in terms of dizziness, legs giving way, pounding in the head and neck, feeling hot and clammy, nausea and an episode of vomiting. The previous neck injury seven years ago was again noted. The recommendation of the registrar was to encourage oral fluids and to admit for observation with consultant review the following day.
>
> There is handwritten documentation of the consultant round on the 1st of August 2016, where the history was summarised and the decision was that this was a combination of neck pain, exhaustion and stress, and the patient was to be discharged. The typed discharge summary summarises the admission and has a final diagnosis of 'symptoms

probably related to stress, lack of sleep and chronic neck pain'. There was advice to see the GP in one week, but no advice given to seek medical help if the symptoms persist.

There is further documentation from an ED visit on the 5th of October 2016. At this stage it had been noted that she had continued episodes of collapse over a 12 week period. This ED admission was precipitated from falling unconscious from a chair and she was unresponsive for around five minutes. She remained weak. She had a vomiting episode in the ED. The impression of the emergency doctor was that she had chronic fatigue and the diagnosis of stress was explored with suggestions for psychiatric follow up. The case was discussed with the medical registrar who did not feel the patient needed admission. She was discharged on the same day with advice 'if she develops further unconscious, fevers/ chills or shortness of breath to seek medical attention'.

2. Whether brain imaging or neurological referral should have been considered prior to discharge or as an outpatient.

From the information available on the assessments on the 31st of July 2016 and 1st of August 2016, the symptoms of multiple episodes of collapse, dizziness, weakness in the legs, headache and vomiting should have led to a decision for an urgent CT scan of the head. The diagnosis of a psychological or stress related aetiology should have been a diagnosis of exclusion in the context of these presenting symptoms. Best clinical practice would have been to have done the CT head within 24 hours of admission. In large hospitals CT scans are nowadays quite accessible out of hours. At least, urgent neurological clinic review (within two weeks) should have been made if the emergency CT head was not considered appropriate at the time.

3. The adequacy of follow-up arrangements.

The follow up arrangements following the discharge on the 1st of August 2016 were to see the GP in one week. There was no specific advice on when to seek medical help in the discharge summary, and as far as I can see no arrangements for her to be referred to the neurology teams at that point in time. In this respect I would consider the follow up arrangements were inadequate.

Regarding the follow up arrangements after the ED attendance on the 5th of October 2016, the patient was advised to contact medical help if she developed further episodes of unconsciousness, fevers/chills or shortness of breath. However there were no specific follow up appointments as far as I could see with neurology or psychiatric services. She was advised to arrange another post-natal depression counselling session. She was also advised at this point to arrange GP follow up within one week. In my opinion at this point in time with 12 weeks of persistent symptoms, this should have triggered a medical admission with urgent CT head or an urgent neurological outpatient referral.

4. The adequacy of Capital & Coast District Health Board's response in relation to [Ms A's] management by Medical Service clinicians.

I have had access to the responses by [Dr B] (General Physician) and [the] (Clinical Leader Emergency Medicine) in relation to this case. Both doctors explained the difficulty of identifying a serious cause of the presenting symptoms when there are a wide variety of possible causes for them. Both doctors expressed regret at the fact the correct diagnosis was not made at an earlier stage. I agree with their statements, but I think it would have been better for both doctors to acknowledge explicitly that an urgent CT head should have been done after her initial presentation at the Emergency Department on July 31st 2016.

I have been given access to a response by [a neurologist] to a GP referral made on behalf of [Ms A] regarding the symptoms on an outpatient basis. Since I have not had access to the GP referral or the date of it, I am not able to offer any comment on the neurologist's statement.

I have also been asked to provide advice on what is the standard of care and accepted practice. In a patient who is presenting with an episode of collapse and significant neurological symptoms with associated vomiting and headache, it is important that organic causes are excluded before we label the condition as psychiatric or related to stress. When a patient presents with significant 'red flag' symptoms for a brain tumour it is inappropriate to label them as non-organic until the appropriate scan has excluded a physical cause. The significance for [Ms A] of the departure from this standard was that there was a delayed diagnosis in the case and consequent morbidity associated with this.

I have been asked how this case would be viewed by peers. In the clinical practice at the hospital where I work (a large secondary and tertiary level centre), I believe that in a patient presenting with these symptoms the standard would have been to get a CT head during the emergency admission. I note that the case was put through the Morbidity and Mortality Meeting at [the public hospital], but I do not have access to these records.

I was asked for recommendation for improvement. To help prevent a similar occurrence in the future, I would recommend that the hospital has easy to access criteria for urgent CT head, with red flag symptoms highlighted. There should be a rolling process of education of emergency and medical doctors in relation to this.

I declare that my statements represent my true and complete professional opinions on the matters to which they refer. I do not have any conflict of interest in relation to this case.

Yours sincerely,

DR PAUL DAWKINS
Respiratory Consultant
Middlemore Hospital"

Further advice from obtained from Dr Dawkins on 11 October 2017:

"1. I would grade the departure from standard of care (namely the failure to obtain an urgent CT Head with red flag criteria in the history for an intracranial pathology) as moderate.

2. GP documentation indicates a telephone encounter with neurology on 11/10/16 with an appointment within 6 weeks in order to exclude seizure. The response of [the neurologist] indicated that this time frame (semi-urgent) was reasonable in order to investigate the possibility of seizure, which was what the GP was requesting. It is not clear from the documentation provided if the GP provided the neurology service with information regarding the ongoing weakness, headaches, vomiting and diplopia that should have triggered an urgent outpatient appointment, since it was a telephone encounter with neurology services. In this context I feel the response by [the neurologist] is reasonable.

Paul Dawkins"