Whanganui District Health Board

A Report by the
Deputy Health and Disability Commissioner

(Case 19HDC01783)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Contents

Executive summary

1. This case highlights the importance of critically assessing patients when they present to hospital on multiple occasions with the same symptoms within a relatively short period of time, and the importance of investigating symptoms fully and considering alternative diagnoses after multiple presentations with no improvement.

2. A man presented to Whanganui District Health Board on five occasions over two months with a recurring infection of the middle ear (otitis media). During these presentations, clinicians did not undertake adequate investigations to understand whether the man had developed complications from the otitis media. Sadly, the man died as a result of his complications.

Findings

3. The Deputy Commissioner found WDHB in breach of Right 4(1) of the Code. The Deputy Commissioner considered that the man received inadequate assessment and action in the Emergency Department (ED), including omitting to perform a CT head scan and not following up abnormal test results adequately.

4. The Deputy Commissioner was also critical of a medical officer's inaction because of an assumption that the man's symptoms were a result of intoxication.

Recommendations

5. The Deputy Commissioner recommended that WDHB provide a written apology to the man's whānau; provide evidence of its amendment of ED SMO on-call policy and its review of the process for recalling patients to ED if they have positive blood cultures; amend its ED follow-up policy for patients discharged from the ED with abnormal diagnostic results, to include timeframes in which the actions should occur; develop clear guidelines for investigating and managing chronic otitis media, including details of when a CT head scan should be undertaken; devise a protocol for managing suspected drug use; and provide training to all medical staff regarding WDHB's expectations if drug use is suspected including WDHB's expectations in relation to documentation of conversations about suspected drug use between clinicians; undertake an audit of positive blood cultures received by the ED in the last six months to identify whether timely follow-up occurred; and provide evidence to HDC of the changes made as recommended in the critical systems analysis.

6. The Deputy Commissioner recommended that the medical officer provide a written apology to the man's family; undertake self-directed learning on bias in healthcare; and reflect on his care in this case relating to his suspicion of drug use and the appropriate course of action, and his lack of documentation of discussions and observations, and provide HDC with his reflections and the changes made to his practice as a result.

Complaint and investigation

7. The Health and Disability Commissioner (HDC) received a complaint from Miss B about the services provided to Mr A by Whanganui District Health Board (WDHB) and Medical Centre 1. The concerns relating to Medical Centre 1 were resolved via a different resolution pathway and are not included in this report. The following issue was identified for investigation:

- *Whether Whanganui District Health Board provided Mr A with an appropriate standard of care in 2019.*

8. This report is the opinion of Deputy Health and Disability Commissioner Vanessa Caldwell, and is made in accordance with the power delegated to her by the Commissioner.

9. The parties directly involved in the investigation were:

Miss B	Complainant, consumer's sister
Whanganui DHB	Provider

10. Information was also obtained from:

Medical Centre 1	Medical centre
Medical Centre 2	Medical centre
Dr C	Emergency medicine senior house officer (SHO)
Dr D	Emergency medicine SHO
Dr E	Emergency medicine SHO
Dr F	Emergency medicine senior medical officer (SMO)
Dr G	Ear, Nose and Throat SMO
Dr H	Ear, Nose and Throat SMO
RN I	Registered nurse

Also mentioned in this report:

Mr J	Mr A's father
Dr K	ED Medical Director

11. Independent expert advice was obtained from Dr Anil Nair, an emergency medicine specialist (Appendix A), and Dr Martyn Fields, an otolaryngologist (Appendix B).

Information gathered during investigation

Introduction

12. This complaint relates to the delayed diagnosis of complications resulting from otitis media (an infection of the middle ear). Between 5 Month3[1] and 10 Month5, Mr A, a man in his thirties, of Māori descent, presented to the public hospital on five occasions with an ear infection. Mr A developed a temporal lobe abscess[2] (a life-threatening complication of otitis media) and further complications, and, sadly, he died on 16 Month5.

Otitis media

13. Mr A presented twice to a community health centre (on 31 Month1 and 24 Month2 respectively) complaining of discharge from his right ear. He was diagnosed with otitis media and prescribed ear drops on both occasions. He also had lesions on his leg that had become infected.

14. Chronic otitis media (COM) is a recurrent infection of the middle ear and/or mastoid air cells,[3] usually over months, in the presence of a tympanic membrane[4] perforation. A careful ear examination can establish the diagnosis, with attention aimed at determining whether there is a cholesteatoma.[5] If the COM is unresolved, the mastoid bone can become infected or inflamed, and mastoiditis[6] can develop. In patients with visible cholesteatoma or suspected mastoiditis, usually a CT scan is recommended to determine the extent of disease.

15. A temporal lobe abscess is a rare complication of COM, particularly in the era of effective antibiotics, but the complication is associated with a high mortality rate. Risk factors for the development of a temporal lobe abscess and other intracranial complications of COM include the presence of cholesteatoma or mastoiditis and poor compliance with antibiotics. Symptoms and signs suspicious of a temporal lobe abscess include altered mental state, seizures, fever, constant and persistent headache, nausea and vomiting, or focal neurological symptoms. White cell count and inflammatory markers are commonly elevated.

5 Month3 — first presentation

16. On 5 Month3, Mr A presented to the Emergency Department (ED) with a bacterial skin infection[7] on his left foot. He was reviewed by a senior house officer (SHO).[8] Blood tests suggested a likely infection with a raised white cell count and inflammatory markers.[9] An

[1] Relevant months are referred to as Months 1-5 to protect privacy.
[2] A brain abscess (a collection of pus that develops as a result of infection or trauma).
[3] Air-filled cavities that surround the inner and middle ear.
[4] Eardrum.
[5] A skin-lined cyst that begins at the margin of the eardrum and invades the middle ear and mastoid.
[6] A bacterial infection of the mastoid air cells.
[7] Cellulitis.
[8] A junior resident medical officer with approximately three years' post-qualification experience.
[9] The blood results showed a raised white cell count of 15.2 X 10^9/L (normal 4–11 x10^9/L) and C-reactive protein (CRP) of 104mg/L (normal <5 mg/L).

incidental finding of discharge in Mr A's right ear, which had been present for two weeks, was noted.

17. The SHO discussed Mr A with the Senior Medical Officer (SMO)[10] and Mr A was discharged with antibiotics and a referral made to the Ear Nose and Throat (ENT) service at WDHB for outpatient follow-up. However, the ENT referral was declined on 13 Month3, and Mr A was referred back to his general practitioner (GP) for ongoing monitoring and/or treatment.

18. Dr H, an ENT consultant, told HDC that the referral received on 5 Month3 was triaged by an ENT consultant on 11 Month3. The referral did not contain any clinical information (otological,[11] neurological,[12] or systemic systems) that would have indicated any degree of urgency.

22 Month3 — second presentation

ED assessment

19. Mr A presented to the ED at 6am with a four-week history of right ear pain, neck swelling, and fever. He was seen by SHO Dr C. Mr A's temperature and heart rate were elevated,[13] and at 6.40am his early warning score (EWS)[14] was assessed as 5. There was evidence of enlarged lymph nodes beneath the jaw,[15] and it was recorded that there appeared to be no neurological abnormalities, and no mastoid[16] tenderness. Dr C noted that in the past Mr A had used methamphetamine and cannabis but had not taken those substances for six months.

20. Mr A's blood tests, taken at 6.44am, were abnormal[17] and indicated a significant infection. Dr C arranged blood cultures[18] to check whether there was bacteria in the bloodstream, and discussed Mr A with the SMO, Dr F, who then reviewed Mr A. Dr F's impression was that it was likely that Mr A had sepsis,[19] and the sepsis pathway was initiated at 7.30am. Mr A's EWS increased to 6[20] at 8am, indicating a worsening in his condition. Antibiotics were commenced, and at 9.06am a CT scan of his neck was undertaken to look for a neck abscess and infection in the mastoid.[21]

[10] A consultant ED clinician.
[11] Relating to the ear.
[12] Relating to the brain.
[13] His temperature was 38°C and his pulse was 126 beats per minute (bpm).
[14] A tool designed to detect clinical deterioration in patients. The EWS escalation pathway states that an EWS of 5 means that the management of a fever, pain, or distress is required — consideration should be given to increasing vital observations, and staff should consider discussing the patient with a house officer or the Patient at Risk team.
[15] Submandibular lymphadenopathy
[16] Part of the temporal skull bone behind the ear.
[17] Raised white cell count of 15.7 X 10^9/L and C-reactive protein of 245mg/L.
[18] Taken at 6.55am and reported on 26 Month3.
[19] A life-threatening illness caused by the body's response to an infection.
[20] The EWS escalation pathway states that an EWS of 6 requires house officer review within 60 minutes; the Patient at Risk team to be notified; the nurse in charge to be notified; vital observations to be taken every 60 minutes; and documentation of a plan, interventions, and actions.
[21] Mastoiditis.

21. The CT was reported as showing an infection of the external ear[22] and fluid in the mastoid. However, the middle ear and the roof of the mastoid could not be visualised on the scan. No further imaging was undertaken.

22. Dr F told HDC that he called the reporting radiologist to review the mastoid for possible mastoiditis, and the radiology report was amended to state: "[T]here is surrounding sclerosis[23] more suggestive for a chronic infective process.[24]" This meant that the sclerosis showed chronic mastoiditis rather than acute mastoiditis.[25]

23. Dr F advised HDC that based on Mr A's vital signs and laboratory results, he felt that Mr A needed to be admitted under the ENT specialist, Dr G, for further review and antibiotic therapy. However, Dr F said that instead, Dr G came to the ED to review Mr A at his bedside. Dr F said that at this time, Mr A's heart rate and fever had improved.

ENT review

24. Dr G attended ED at 12.20pm to review Mr A. Dr G said that he was called to discuss a patient with a possible neck abscess, not to admit Mr A for sepsis of an unknown origin or a complicated ear infection. In response to the provisional opinion, Dr G told HDC that Mr A was not present in the ED when he arrived, and in his absence the attending clinicians discussed the case with him.

25. Dr G told HDC that when Mr A returned from outside, he was "extremely active, getting up and sitting down repeatedly and pacing the hallway and euphoric/happy", and that he had to "cajole [Mr A] to sit him down". In response to the provisional opinion, Dr G said that Mr A was "in a state of great activity and euphoria, leaving the room on a number of occasions". Dr G stated: "[Mr A] was vague in responding to my questions about his history, symptoms and pain levels." Dr G said that at that stage, Mr A stressed that he felt good and was ready to be discharged.

26. Dr G documented his impression that Mr A had otitis media/otitis externa.[26] A possible growth[27] was noted, and Dr G recommended that Mr A be discharged with eardrops, antibiotics, and an outpatient ENT appointment after the infection had resolved.

27. Dr G said that on examination, Mr A's heart rate was elevated above 150bpm. This was not documented in Mr A's clinical notes. Dr G's account differs from Dr F's account that Mr A's heart rate had decreased, and from observations documented at 12.15pm, which indicate that Mr A's heart rate was 98bpm.

28. Dr G said that on examination, he noted a very small area of granulation tissue (inflamed tissue). On review of the CT neck scan, he noted that the imaging did not show some parts

[22] Otitis externa.
[23] Localised hardening of tissue. The presence of sclerosis suggests long-term chronic inflammation.
[24] Chronic mastoiditis.
[25] A serious bacterial infection of the mastoid bone.
[26] Infection of the external and middle ear.
[27] Cholesteatoma.

of the back of the ear.[28] Dr G said that he saw no signs of sepsis or a systemically unwell patient, and the concern for which he had been called to ED (a possible neck abscess) was not present. He stated that the incidental finding of a small growth in the ear appeared routine and was appropriate for outpatient management.

29. Dr G stated that no specific comments were made to him by either Dr F or Dr C relating to admitting Mr A under ENT.

30. Dr G stated that based on Mr A's behaviour, he believed Mr A was experiencing acute methamphetamine intoxication. Dr G said that he informed ED staff[29] of his concern about Mr A's possible substance use and, while they agreed, he was advised that no particular intervention was indicated.[30] During WDHB's investigation, Dr C and Dr F reported that they had no recollection of Dr G informing them of his opinion that Mr A was intoxicated, and neither Dr C nor Dr F documented any discussion regarding this. WDHB told HDC that regularly methamphetamine use is documented in discharge summaries, but it was not documented in Mr A's discharge summary.

31. Dr G's observation of Mr A and any subsequent communication to ED staff was not documented. In response to the provisional opinion, Dr G told HDC that it is his expectation, as is standard practice, that the findings from his review conveyed at the time to the responsible ED clinicians would be documented in the immediate electronic record. Dr G stated that it is unfortunate, but not altogether surprising given the reticence to manage the issue proactively, that the discussion around suspected drug intoxication was not documented.

32. Also in response to the provisional opinion, Dr G told HDC that he did not ask Mr A whether he was intoxicated. Dr G stated that he raised his concerns with Dr F and Dr C, rather than with Mr A or his sisters directly, to obtain Dr F's and Dr C's views on the issue based on their observations and impressions of Mr A (prior to Dr G's arrival in ED), and because they were the responsible clinicians for Mr A's care in ED. Dr G said that he also raised his concerns with Dr F and Dr C because the issue was beyond his scope of practice and the remit of his attendance (ie, to assess the acute concern of a neck abscess), and because he was unfamiliar with the pathways for managing the issue in an ED context.

33. Miss B was present during Dr G's examination, and told HDC that she recalls that Dr G came to the ED and spoke to the doctors, and that his demeanour was unprofessional and he seemed really annoyed to be there. She said that Dr G looked at her and her sister and walked past them without any acknowledgement, and assessed Mr A. Miss B told HDC that she feels that Dr G assumed that as Mr A was of Māori descent, he was a drug user. Miss B told HDC that Mr A was not intoxicated.

[28] The superior mastoid, epitympanum (the roof of the middle ear), and tegmen (the thin layer of bone that covers the roof of the middle ear).
[29] In response to the provisional opinion, Dr G stated that he raised his concern with Dr F and Dr C, and clearly described the aspects of Mr A's presentation that were giving rise to this concern.
[30] In response to the provisional opinion, Dr G stated that Dr F and Dr C said that other than voluntary self-referral to a drug and alcohol service, there was no recourse for testing or diversion protocols.

34. There is no documentation from the ED staff that Mr A was observed to be intoxicated.

Discharge

35. Mr A was discharged from the ED and another ENT referral was made for assessment of the possible growth. The referral was accepted, and Mr A was advised that he would be seen within four months. WDHB told HDC that "[f]our months is the standard maximum waiting time for a non-urgent referral".

Blood cultures

37. Later that evening (a Sunday), Dr K, the ED Medical Director, received a call from the laboratory and was advised that Mr A's preliminary blood cultures were positive for the bacteria *Streptococcus pyogenes*,[31] a pathogen that can cause a wide variety of acute life-threatening infections and devastating post-infectious after-effects.[32]

38. Dr K told HDC that he attempted to contact Mr A immediately but was unsuccessful. Dr K said that he called Mr A's GP the next day (23 Month3) and explained the situation.

39. However, in Dr K's addendum to the discharge summary, he has documented that Mr A's GP was not contacted until 26 Month3 (the Friday). The addendum stated:

> "It has come to my attention that the patient had a positive blood culture called back to [Dr K] on 22 [Month3]. I have tried to contact the patient at the numbers provided and I also left a message on the voicemail for the patient to please contact me at the ED ASAP. Still pending call back 16:41 25 [Month3].
>
> [Dr K] 26 [Month3], I've left messages with the patient's contact numbers and also spoke with his GP advising return to the ED if symptoms are worsened or if any concerns. The patient is on appropriate antibiotics at this time and has received [an] ENT referral as well."

40. Medical Centre 2 has no record of a telephone call from Dr K on 23 Month3. On 27 Month3, an administrator has recorded:

> "ED [GP] called, wanting to make sure [patient] was fine, as presented with a very bad earache, [antibiotics] prescribed was to continue taking them, until finished. Return to GP [if] still no better."

41. Dr C wrote in the discharge notes:

[31] The final blood cultures were returned on 25 Month3, confirming additional growth of *Staphylococcus aureaus* and Rothia bacteria.

[32] Studies have shown that patients with positive blood cultures are 12 times more likely to die during hospitalisation than patients without positive blood cultures. Positive blood culture results more often than not indicate the presence of a serious disease. Patients who present with bacteraemia (bacteria in the bloodstream) in the ED have high mortality and generally require urgent admission for further treatment with antimicrobial agents.

> "I finished my [shift] on the [22 Month3] prior to blood culture results being phoned through by the lab. I followed up on this patient on my first shift back on [25 Month3] and discovered positive blood cultures and documentation from the lab that it was phoned through to [Dr K]. I sent [Dr K] an email to check what further actions were taken and informed [Dr F] who was on shift and knew the patient ... He attempted to call [Dr K] but was unable to get in contact. [Dr F] then called the numbers on [file] for the patient but was only able to leave a message. We then informed [the] (nurse in charge) and asked that the police be informed to try to contact the patient and ask that he return to hospital …"

42. WDHB's policy on "Follow up for patients discharged from the Emergency Department with abnormal diagnostic results" states:

> "Once the abnormality is viewed, the patient is to be contacted and advised to see their GP or return to ED for review. If the patient cannot be contacted and if there is no response to voice message, the next of kin is to be contacted and advised of the course of action the patient is to take. NOTE: The urgency of the course of action is to be clearly explained.
>
> If the patient is to return to ED and cannot be contacted, then the [Māori Health Service] or the Community Service is to be utilized to visit the patient's address and relay the message.
>
> If the above measures fail, then the Police are to be contacted to assist with locating the patient and returning them to ED.
>
> All measures taken to contact the patient to be documented in Clinical Portal listing the time and date and the measures taken by whom, plus the full name and status of the scribe."

26 Month3 — third presentation

43. Mr A re-presented to ED after Police visited his home to relay the request to return to ED. On arrival at 9.58am, he was reviewed by SHO Dr E. Mr A reported feeling better since commencing antibiotics, but noted that he had ongoing pain in his right ear.

44. On examination, no further ear discharge was identified. Mr A's vital signs had returned to the normal range,[33] and the swelling in his neck had reduced. It is documented that Dr E's impression was that Mr A had an ear infection, but it appeared to be resolving. Dr E noted that Mr A had had a CT neck scan and had been reviewed by ENT specialist Dr G on 22 Month3, and that a follow-up ENT referral had been made. However, Dr E sought advice from the ED SMO, given that Mr A had positive blood cultures.

[33] Temperature 36.0°C; heart rate 96bpm; respiratory rate 16 breaths per minute; blood pressure 128/72mmHg.

45. The ED SMO, reviewed Mr A and noted that he was clinically well, his vital signs were stable, and he did not have a fever.[34] A plan was made to repeat his blood cultures twice with an additional test for inflammatory markers. Dr E arranged further blood tests and noted that Mr A's CRP had decreased[35] but was still elevated, and that his white cell count had increased.[36]

46. It is documented that given his clinical improvement, Mr A was to be discharged home with more intensive antibiotic treatment.[37] At 3pm, Mr A was discharged with advice to return if his symptoms worsened.

47. The ED did not inform the ENT service of Mr A's positive blood cultures.

28 Month4 — fourth presentation

Assessment

48. At 9.48pm, Mr A presented to ED with pain and discharge in his right ear. He reported that this had started the previous day. Mr A was reviewed by SHO Dr D at 11.11pm. Dr D noted that Mr A had been feeling hot and sweaty, that his pain had been persistent, and that he was awaiting an appointment with an ENT clinician. Dr D documented that Mr A looked well and was not sweaty and clammy.

49. On examination, pus was noted in Mr A's right ear canal, and the eardrum was not able to be visualised. Mr A's vital signs were abnormal,[38] and his EWS was recorded as 4.[39] He was again diagnosed with recurring otitis media. A plan was made to administer antibiotics and repeat his vital signs, and, if they improved, to discharge him with ENT follow-up. Mr A's vital signs had improved by 2am, and the eardrum was able to be visualised, confirming a perforated right eardrum.

50. At 2am on 29 Month4, Mr A was discharged from ED with a prescription for antibiotics and pain medication. Dr D completed another ENT referral, requesting urgent review because of the recurring infection. An outpatient appointment with ENT was made for 10 Month5.

Supervision during Mr A's presentation

51. Dr D told HDC that at that time he was inexperienced in emergency medicine. He stated that WDHB expects all junior doctors to discuss their patients with a senior doctor prior to discharging the patient, and the importance of supervision is explained at the ED induction. However, he said that between 11pm and 7.30am there was no direct SMO supervision or experienced registrars in the ED. He stated that all patients in ED are discussed at handover in the morning, including any patients who were discharged overnight. Dr D told HDC that

[34] He was documented to be afebrile.
[35] His CRP was 224 on 22 Month3 and was 44 on 26 Month3.
[36] His white cell count was 15.7 on 22 Month3 and 22 on 26 Month3. A high white cell count indicates that the immune system is working to destroy an infection.
[37] Additional amoxicillin to add up to a 10-day course and an additional 10-day course of flucloxacillin.
[38] His temperature was 39.2°C and his heart rate was 112bpm.
[39] The EWS escalation pathway states that an EWS of 4 means that the management of a fever, pain, or distress is required; consideration should be given to increasing vital sign observations; and staff should consider discussing the patient with a house officer or the Patient at Risk team.

he adhered to this, particularly because of his limited ED experience, and he ensured that he had senior opinion on all the patients he had discharged overnight.

52. There is no record of Dr D having discussed Mr A with an SMO at any time during or after Mr A's ED presentation on 28 Month4.

53. Dr D stated that he is not aware of whether WDHB had a system of record-keeping to capture the handover discussion of patients who had been discharged during the night shift. He said that handover is limited by time and, depending on the volume and acuity of patients, discussion about night shift handovers may end up being lower priority.

54. In response to Dr D's statement, WDHB said that Dr D had supervision overnight on 28 to 29 Month4 by the ED SMO, who worked in the department until 12am on 29 Month4 and who was then on call until the morning. The DHB said that on the morning following an overnight shift, an SMO reviews the decision to discharge for all patients who were discharged overnight, and further action may be taken if clinically indicated. In addition, the DHB said that each specialty has an SMO on call overnight, and they are available for telephone consultations or to attend the department if warranted.

55. WDHB's "ED SMO on-call service" policy outlines that an ED consultant should be called when there is major trauma, resuscitation, and incident/multiple casualties. In response to the provisional opinion, WDHB said that its ED SMO on-call service policy includes an "other" category, which provides that the ED consultant should be contacted where there is:

- An apparently unwell patient with undifferentiated pathology for whom the treating doctor has serious concerns.
- Extreme behavioural disturbance/violence where interventions described in the "combative patient protocol" are unsuccessful.
- An excessive volume of category 2 and 3 patients.

56. WDHB stated that the ED SMO on-call service policy does not, and did not, reflect the practice at the time, which was that SHOs and RMOs would contact the on-call SMO for patient advice overnight, and they continue to do so. WDHB said that the SHO treating Mr A during his presentation on 28 Month4 could have consulted the on-call ENT or ED SMO.

57. WDHB told HDC that it had consulted with similar-sized DHBs around the country, and only one had SMO cover overnight in the ED, and that in the vast majority of cases presenting at WDHB's ED, the SMO on-call arrangements operate effectively with SHOs and RMOs contacting the on-call SMO for patient advice where necessary. WDHB said that it intends to review its ED SMO on-call policy to ensure that there is no ambiguity around the ability to contact the on-call SMO.

10 Month5 — ENT appointment

58. Mr A attended an outpatient appointment with ENT SMO Dr G on 10 Month5.[40] Dr G said that Mr A was three hours early for his appointment, and that he found Mr A sleeping in the waiting room. Dr G told HDC that he believed that Mr A's behaviour was a result of substance abuse. RN I told HDC that Mr A was asleep in the waiting room and he had to be woken up for his appointment. RN I explained that Mr A went back to sleep whilst he was in the examination chair.

59. Mr A's ears were examined, and it was noted that there was no mastoid tenderness or signs of cranial nerve involvement. The right eardrum showed inflammation and discharge with a possible growth (cholesteatoma) evident. Dr G told HDC that his examination was unchanged from his previous assessment.

60. In his clinic letter, Dr G documented that he reinforced to Mr A the importance of appropriate care of the ear and follow-up. A plan was made for Mr A to reinitiate topical treatment with ear drops, and a CT scan was arranged to view the temporal bone.[41] Mr A's vital observations were not recorded. Dr G told HDC that he had checked the computer chart, which showed that Mr A's follow-up appointments immediately after his ED visit had been cancelled. Dr G documented: "The patient has obviously had very poor follow up with a significant history of substance abuse and Methamphetamine use." There is no evidence that Dr G asked Mr A about his drug use or whether he had taken any substances.

61. In response to the provisional opinion, Dr G told HDC that he did not ask Mr A if he was intoxicated but asked him why he had arrived three hours early to his appointment, and why he had been asleep in the waiting room. Dr G did not outline Mr A's response, but stated that he resolved to make a referral to the Māori Health Service with the hope of fostering better, more consistent engagement between Mr A and WDHB.

62. Dr G told HDC that he was extremely concerned about Mr A, and he discussed Mr A with the clinic nurse assisting him, and she felt that he was a heavy user of methamphetamine, and was "coming down after a binge". Dr G did not document this conversation with the clinic nurse. In response to the provisional opinion, Dr G said that a point-of-care drug screening test could not be administered without Mr A's informed consent, which he felt was not likely to be forthcoming. Dr G stated that it is challenging when clinicians are treating a patient with symptoms consistent with acute drug intoxication but self-report no drug use.

63. Dr G documented that Mr A's father, Mr J, arrived at the clinic later in the day looking for Mr A, and Dr G again emphasised the need for good follow-up, including imaging, and that the ear drainage might represent a more significant underlying pathology requiring surgical intervention. Dr G told HDC that he asked Mr A's father whether the family were aware that Mr A was using methamphetamine and doing very poorly. Dr G said that Mr A's father indicated that he was aware, and had travelled back to NZ to try to help his son. Dr G told HDC that he did not disregard Mr A and ignore him because he thought he was a drug addict.

[40] From the referral to ENT outpatients on 22 Month3.
[41] The area of the skull behind the ear.

Dr G said that Mr A's apparent drug use did, however, severely compromise their communication/interaction and masked the severity of Mr A's disease when he saw him.

64. Mr A's father told HDC that he had arranged to pick up his son from the appointment. When he arrived, Dr G's receptionist informed him that Mr A had already left, and that Dr G wanted to speak to him. Mr A's father told HDC that Dr G walked up to him, visibly agitated, did not introduce himself, and said something along the lines of: "Your son has already been and I have given him some painkillers. I haven't got time to waste on people like that." Mr J has no recollection of Dr G mentioning follow-up care.

65. Mr A's father told HDC that he felt very confused and shocked, and said, "People like what?" and Dr G said, "Druggies." Mr A's father told HDC that he was speechless and did not know what to do, and Dr G turned around and went back into his room.

66. In response to the provisional opinion, Dr G stated that his primary purpose in speaking to Mr J was to emphasise the importance of Mr A adhering to his follow-up, and that he did speak about methamphetamine use but certainly not in the terms or manner that Mr J attributes to him. Dr G said that he raised it to better understand and manage what seemed to be an issue that was hard to deal with.

67. RN I told HDC that she knew that Mr J and Dr G were having a conversation, but she was too far away to hear what was being said. RN I stated that Dr G's demeanour was normal, and he was calm when he returned to the ENT room after the conversation with Mr J.

68. Mr A's mother told HDC that there is no factual evidence that her son was on methamphetamine, and Dr G came to this conclusion on his own accord. Miss B told HDC that her brother visited her after this appointment, and his skin was grey and his eyes kept going out of focus. She recalls that he told her that Dr G did not see him and had told him to leave.

Subsequent events

Arrival at ED

69. Mr A collapsed at home on 13 Month5 and was taken to the public hospital by ambulance. His history was taken from Mr A's family, who advised that Mr A had appeared more confused and disorientated over the last two to three days, and had been hallucinating at times. His family had seen him have multiple falls at home that evening, hitting his forehead on the ground. They reported that Mr A had not consumed alcohol that evening, and they were not aware of any recent drug use.

70. On review, Mr A's temperature,[42] respiratory rate,[43] blood pressure,[44] and heart rate were elevated.[45] He was able to squeeze the fingers in his hand on command, but was notably

[42] 38.8°C.
[43] 28 breaths per minute.
[44] 164/76mmHg.
[45] His heart rate was documented as sinus tachycardia.

moving the left side of his body more than his right. He had minor swelling above his left eyebrow. Pus was noted in Mr A's right middle ear, without mastoid tenderness or swelling.

71. The initial impression was that Mr A had a temporal abscess secondary to otitis media and infection of the mastoid. An antibiotic,[46] a steroid,[47] and fluids were administered, and a hard collar was applied as a precaution in case of a cervical spine injury from his earlier fall. A CT of the head and neck was requested. Prior to Mr A's transfer for his CT scan, his condition deteriorated and intubation was required.

Transfer to another district health board

72. The CT imaging showed an abscess[48] in Mr A's brain, arising from the bone behind his ear (the temporal bone) with associated fluid around the brain.[49] The attending clinician called the on-call neurosurgery registrar at another DHB (DHB2), who advised to continue with the antibiotic and steroid, and also administer an anti-epileptic drug.[50] Urgent air retrieval was arranged for Mr A to be transferred to DHB2 under the Neurosurgery Department. Mr A was transferred from the public hospital at 8.30am, and arrived at DHB2 at 11am.

73. Cultures taken from Mr A's temporal lobe abscess grew the bacteria *Staphylococcus aureus* and *Streptococcus pyogenes*. Blood cultures taken 18 hours later were positive with the growth of *Streptococcus pyogenes*.

74. Sadly, Mr A's condition continued to deteriorate despite intervention, and he died on 16 Month5. The pathology report outlined that the cause of death was lack of blood flow to the brain, inflammation of the brain, a brain abscess, and otitis media. Toxicology studies were not taken.

Critical systems analysis

75. WDHB undertook a critical systems analysis. The issues identified included the following:

1. Mr A presented to the hospital six times, but none of the clinicians he saw looked at the whole picture until it was too late.
2. Mr A presented to ED five times.
3. The ENT Department was not aware of Mr A's positive blood cultures from 22 Month3, so the referral process was not made more urgent. The Department was also not aware that Mr A had been recalled to ED for further assessments on 26 Month3.
4. The CT scan taken on 22 Month3 did not cover the key region of Mr A's ear and brain.
5. Mr A was thought to be intoxicated during his ED visit on 22 Month3. When he presented early for his outpatient appointment on 10 Month5 and fell asleep on the floor, this was also thought to be due to intoxication.

[46] Ceftriaxone.
[47] Dexamethasone.
[48] A collection of pus that develops in the brain as a result of an infection.
[49] Cerebral oedema.
[50] Levetiracetam.

6. Clinician bias impacted on the standard of care Mr A received.

7. Mr A's clinical record was recorded in multiple systems, including GP and accident and medical centre systems, WebPAS,[51] Clinical Portal,[52] and on paper. This makes it difficult for clinicians to see the full picture. There is no nationwide system.

8. The first referral from ED to ENT was declined.

Further information

76. Dr G told HDC that he trained in a country where narcotic and substance abuse is pervasive, and that during previous employment he participated in psychological and medical reviews, which included recognition and diversion programmes for any substance abuse.

77. Dr G told HDC that he believes that he has more experience than most doctors in New Zealand in recognising the presentation of a patient who is under the influence of illicit substances and, because of this background, he recognises the complexities of the psychosocial background that can often lead to alcohol and substance misuse, and makes a particular effort to try to assist such patients. Dr G told HDC that he recently undertook an opioid-specific refresher course. Dr G stated that within the community in which he works, methamphetamine use is rampant and presents as a common co-morbidity. Dr G said that he has observed that in New Zealand it is taboo and shameful to discuss methamphetamine use, so medical personnel shy away from the issue to avoid offending and getting in trouble.

Responses to provisional opinion

78. Mr A's whānau, WDHB, and Dr G were given an opportunity to respond to relevant sections of the provisional opinion. Where relevant, their responses have been incorporated into this report.

Mr A's whānau

79. Mr A's mother provided a copy of the pathologist report.

WDHB

80. WDHB accepted the finding of the provisional opinion that WDHB had breached Right 4(1) of the Code in respect of the services provided to Mr A. However, it disputed that the supervision process in its ED was not in line with national standards. WDHB stated that it intends to address the problems HDC's investigation has highlighted, and has undertaken to comply with recommendations made in the provisional opinion.

Dr G

81. Dr G stated that on both of the occasions on which he examined Mr A he was conscious that his presenting symptoms could obscure his underlying pathology, and he undertook thorough examinations of the mastoid area. Dr G stated that, as noted in my expert advisor's

[51] A tool that manages all information about a patient's treatment progress from admission to discharge and the continuum of care.

[52] In response to the provisional opinion, WDHB told HDC that the Accident and Medical notes, GP notes, ED nursing notes, and observation charts are not visible in the Clinical Portal, and that WDHB is taking steps to resolve this.

report, Mr A's symptoms were not consistent with mastoiditis or the development of a brain abscess. Dr G stated that he is steadfast in his opinion that cultural bias did not in any way impact the standard of care he provided to Mr A.

Opinion: Whanganui District Health Board — breach

Introduction

82. DHBs are responsible for the services provided by their staff. This case highlights the importance of critically assessing patients when they present to hospital on multiple occasions with the same symptoms within a relatively short period of time, and the importance of investigating symptoms fully and considering alternative diagnoses after multiple presentations with no improvement.

83. To help to assess the care provided to Mr A, independent advice was obtained from Dr Anil Nair, an emergency medicine specialist, and Dr Martyn Fields, an otolaryngologist.

Inadequate investigation of symptoms

84. Between 5 Month3 and 28 Month4, Mr A was seen at the ED on four occasions, with a recurring infection of the middle ear (otitis media). During these presentations, clinicians did not undertake adequate investigations to understand whether Mr A had developed complications from the otitis media.

85. On 22 Month3, Mr A presented to the ED with a four-week history of right ear pain and neck swelling. A CT neck scan showed otitis externa (an ear canal infection). A CT head scan was not performed. ENT SMO Dr F reviewed Mr A and considered Mr A's presentation to be routine and appropriate for outpatient management. Mr A was discharged and an ENT referral made.

86. On 26 Month3, following the receipt of concerning test results and a request from ED and the Police, Mr A re-presented to the ED. It was noted that Mr A had been reviewed by ENT SMO Dr F. A follow-up ENT referral had been made and Mr A was discharged with more intensive antibiotic treatment.

87. At 9.48pm on 28 Month4, Mr A presented to ED again with pain and discharge in his ear. Mr A was reviewed by Dr D (an SHO inexperienced in emergency medicine). Mr A was discharged from ED at 2am with a prescription for antibiotics and pain medication. Dr D completed another ENT referral, requesting urgent review because of a recurring infection.

88. Dr Nair advised that it is difficult to ascertain when Mr A developed a temporal lobe abscess, but noted that there were several red flags that should have alerted staff of the need to exclude intracranial complications. These included recurrent otitis media, radiological evidence of a chronic infective process in the right mastoid (the CT neck scan on 22 Month3),

persistently abnormal blood test results, bacteria in his bloodstream, poor compliance with antibiotics, and the presence of a cholesteatoma.

89. Dr Nair advised that the CT scan undertaken on 22 Month3 failed to exclude intracranial complications of recurrent otitis media, and that the addition of a CT head scan would have provided additional information to exclude intracranial complications. Dr Nair said that a CT head scan should have been considered on 22 Month3 and 26 Month3, or at the very latest, on 28 Month4. Dr Nair considers that the failure to undertake a CT head scan represents a moderate departure from accepted practice.

90. Dr Nair noted that the presence of a cholesteatoma (as identified by Dr G as possibly being present during Mr A's presentation on 22 Month3) is an important predisposing factor for intracranial complications of otitis media.

91. Dr Nair said that a reasonable expectation would have been for an ED clinician to undertake a review of Mr A's frequent presentation with otitis media to understand why this was occurring, and, more importantly, investigate whether Mr A had developed any complications. Dr Nair advised that had this occurred, it is very likely that a CT head scan would have been considered and the abnormality identified before it was too late. Dr Nair agrees with WDHB's review, which found that the ED delivered episodic care to Mr A and that clinicians did not look at the whole picture, or consider why Mr A's ear infection kept occurring.

92. Of particular concern was Mr A's presentation on 28 Month4. Dr Nair advised that had this been Mr A's first presentation with otitis media, the treatment provided would have been of an acceptable standard. However, Mr A had had recurrent otitis media for four months, and this was his fourth ED visit. Dr Nair said that there is no documentation to suggest that serious pathology like mastoiditis, or intracranial or other cranial complications had been excluded. Dr Nair advised that in most EDs, repeat presentations would trigger a senior ED clinician review.

93. Dr Nair considers that on this occasion, Mr A should have had a detailed work-up, including blood tests, blood cultures, and a CT head scan. Dr Nair noted that no swabs were taken to identify the pathogen and ensure that Mr A was on the correct antibiotic. Dr Nair also noted that the referral made contained limited information, other than the diagnosis of recurrent otitis media, and, given Mr A's symptoms, he should have had an urgent consultation or, at the very least, an expedited outpatient review.

94. I accept Dr Nair's advice, and consider that the overall standard of the care provided to Mr A by WDHB ED was inadequate.

95. As identified by WDHB's critical systems analysis and by Dr Nair, the various ED clinicians delivered episodic care to Mr A. The clinicians involved in Mr A's care failed to appreciate the significance of his repeated presentations, and failed to take into consideration Mr A's history of poorly resolving symptoms, and the possible presence of complications. Given the number of staff involved across multiple presentations, I consider that WDHB must take responsibility at an organisational level for the widespread failure in its service.

96. I note that WDHB's critical systems analysis highlighted that Mr A's clinical records were recorded in multiple systems, including GP and the accident and medical centre systems, WebPAS, Clinical Portal, and on paper, and concluded that this made it difficult for clinicians to see the full picture. Mr A's presented to ED on four occasions and these clinical records would have been accessible to the ED clinicians. Therefore, I do not accept this as a contributing factor to clinicians not being able to see the full picture.

Delay in follow-up of positive blood culture

97. Following Mr A's discharge from ED on 22 Month3, the laboratory called Dr K and informed him that Mr A had bacteria in his bloodstream. Dr K said that he tried to call Mr A immediately, but was unsuccessful. Dr K stated that he then called Mr A's GP the next day (23 Month3) and informed the practice of the situation. WDHB advised that Dr K's actions are documented in the discharge summary.

98. However, the discharge summary, as documented by Dr K and Dr C, does not suggest that Dr K contacted Mr A on 22 Month3 when he received the results, but rather on 25 Month3. I note that Dr C returned to work on 25 Month3 and noted that no action had been taken on Mr A's positive blood culture results. Therefore, I consider it more likely than not that following receipt of the positive blood culture, Dr K first made contact with Mr A on 25 Month3, after being prompted by Dr C and Dr F.

99. Dr Nair advised that there are expectations around the timely follow-up of investigations such as positive blood cultures, and there should be systems in place to ensure timely follow-up and escalation. Dr Nair said that this is particularly important for EDs, where doctors work a shift roster.

100. Dr Nair advised that WDHB's policy, "Follow up of patients discharged from the Emergency Department with abnormal blood results" provides appropriate guidance and suggests a proportionate response. However, it does not explicitly state timeframes and responsibilities. Dr Nair said that in the case of time-critical results, like positive blood cultures, patients need to be contacted immediately, or, at the very least, within 24 hours, and escalation processes, like the involvement of Police, should occur within that timeframe. Dr Nair advised that the consequences of not doing so could be catastrophic. He noted that the policy suggests contacting the Māori Health Service to visit the patient, or to use the services of the Police, but that the Māori Health Service was not contacted, and the Police were not contacted promptly.

101. Dr Nair advised that Mr A should have been contacted on 22 Month3, after the positive blood culture result was called through to the ED, and advised to return. Dr Nair said that positive blood cultures identify a patient population at high risk of death, and more often than not, it indicates the presence of a serious disease. Dr Nair considers this omission to be a moderate departure from the accepted level of care.

102. I accept Dr Nair's advice that Mr A should have been contacted on 22 Month3 either personally, or via the Māori Health Service or the Police, and that WDHB ED should have in place a robust system to ensure timely follow-up of abnormal results. It is concerning that

such a process is not in place already. EDs are a fast-paced and high-intensity environment, and it would be easy for clinicians to forget to follow up with patients. It is the responsibility of WDHB to ensure that such systems are in place, to enable its staff to provide adequate care. In my opinion, WDHB failed in its role to ensure that adequate systems were in place to alert Mr A to the concerning results.

103. While I appreciate that in escalating the situation to the Police, Dr C and Dr F may have caused upset to Mr A's whānau, I consider this action to have been appropriate for the urgency of the situation, and I commend Dr C for initiating the escalation appropriately.

ED communication with ENT

104. Mr A was referred to the outpatient ENT clinic by the ED on 22 Month3. Following this, it was identified that Mr A had positive blood cultures.

105. Given that an ENT referral had been made, I would have expected the ED clinicians to have contacted the ENT Department to inform it of the additional information, which may have changed the prioritisation of Mr A's outpatient ENT appointment. I consider that this should have occurred on 25 Month3 when the follow-up actions were initiated, or on 26 Month3 during Mr A's ED presentation. I also note that Dr D made another referral to the ENT Department but did not include Mr A's recent positive blood cultures. It is evident that communication between ED and ENT was inadequate in this instance.

Conclusion

106. Between 5 Month3 and 28 Month4, Mr A presented to WDHB ED on four occasions with a recurring ear infection. On each occasion, with the exception of 5 Month3, there were missed opportunities to investigate whether Mr A was experiencing complications. The various clinicians involved did not appreciate the significance of Mr A's repeated presentations and poorly resolving symptoms.

107. In summary, I consider that WDHB failed to provide appropriate care to Mr A for the following reasons:

- CT head scans, including adequate views of the temporal and mastoid areas, were not undertaken on 22 Month3, 26 Month3, or 28 Month4.
- The follow-up of abnormal results policy was insufficient, and there was poor follow-up of Mr A's positive blood cultures on 22 Month3.
- The assessment and actions taken in ED on 28 Month4 were inadequate. This was largely due to an inadequate system for overnight SMO supervision, and a lack of SMO input into Mr A's care during this presentation.

108. The above issues meant that the diagnosis of complications arising from Mr A's otitis media was delayed. Accordingly, I consider that WDHB failed to provide services to Mr A with

reasonable care and skill, and breached Right 4(1) of the Code of Health and Disability Services Consumers' Rights (the Code).[53]

Supervision — adverse comment

109. Mr A presented to ED at 9.48pm on 28 Month4 and was reviewed by SHO Dr D, who was inexperienced in emergency medicine. Dr D discharged Mr A at 2am. There is no evidence of SMO input into Mr A's care during this presentation.

110. Dr D told HDC that between 11pm and 7.30am, he did not have direct SMO supervision. WDHB stated that there was an SMO on site until 12am, and then on call for the rest of the night. WDHB's "ED SMO on-call service" policy states that an ED consultant should be called when there is major trauma, resuscitation, and incident/multiple casualties, or if a clinician has serious concerns about an apparently unwell patient with undifferentiated pathology, or a patient has extreme behavioural disturbances or violence and interventions have been unsuccessful, or if there is an excessive volume of category two or three patients.

111. Both WDHB and Dr D told HDC that the usual process is to discuss all patients discharged overnight with the SMO at the morning handover. Dr D said that he would have done this in Mr A's case, as he was very careful to discuss all patients he discharged, as he was very inexperienced. However, there is no evidence to support such a discussion having occurred.

112. Dr Nair advised that ensuring the provision of a high standard of care at night is a challenging problem for EDs around Aotearoa. However, Dr Nair said that in his view, WDHB did not provide an adequate level of on-call supervision overnight for Dr D. Dr Nair said that WDHB's current safety-net for discussing patients at handover the next day does not appear to be working as intended.

113. Dr Nair raised concern that the ability to call the emergency medicine specialist (as per WDHB's ED SMO on-call service policy) is limited to a very small list of conditions. He said that junior staff should be able to contact the ED SMO for advice overnight to manage a broader range of conditions. Alternatively, staffing overnight needs to be improved, with more senior decision-makers on site.

114. I acknowledge Dr Nair's advice. I accept that WDHB's service is representative of similar-sized EDs and that overnight cover is provided by on-call SMOs. Dr D did not contact the SMO during the night of 28 Month4, and it is unclear whether he did so at the morning handover.

115. In my opinion WDHB's "ED SMO on-call service" policy is too narrow and gives a strong impression that contacting SMOs is for urgent issues only and not for consultation. I acknowledge that WDHB stated that the culture in the ED at the time was to contact the SMO for patient advice. However, this should be reflected in the policy. Dr D was a junior doctor inexperienced in emergency medicine and may have been unaware of the culture in the ED which is why ensuring policies are up to date is important. I remind WDHB of the

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

importance of ensuring that junior doctors are supported during the night shift and are clear on when to request SMO input and that this is reflected in the policy.

Suspicion of drug use — other comment

116. The ED documentation on 22 Month3 noted that Mr A was a former drug user but had not consumed drugs for six months. Dr G told HDC that during the ENT review on 22 Month3, he believed Mr A was experiencing acute methamphetamine intoxication. Dr G did not document this, and there is no evidence that he asked Mr A about his substance use or whether he was intoxicated. Dr G told HDC that he informed ED staff of his opinion that Mr A was intoxicated, and that ED staff told him that no further action was needed, but this too was not documented. Dr C and Dr F have no recollection of Dr G mentioning that Mr A was intoxicated.

117. Dr Nair advised that if Mr A was unwell from the effects of acute drug intoxication, it would be usual practice to give some medications (benzodiazepines[54]) and observe the patient until his symptoms had resolved and, in Mr A's case, it may have been helpful because he had denied recent drug use, and a negative point-of-care urine drug screen would have confirmed this.

118. Dr Nair explained that it would be appropriate in mild intoxication to discharge the patient with medications, advice, and follow-up with the GP and/or the drug addictions service.

119. I do not consider it necessary to make a finding about whether Mr A was intoxicated on 22 Month3 or 10 Month5 and/or whether Dr G in fact communicated his suspicion to staff (I have addressed this further below).

120. It is well documented that intoxication can mimic and mask many other symptoms and, if intoxication was suspected and communicated to ED staff, there was a clear expectation of care that was not delivered in this case. It is important that ED staff ensure that any suspected drug use is ruled out, so that the root cause of any symptoms (which may be assumed to be due to drug use) can be explored fully.

Opinion: Dr G

Clinical care

121. On 22 Month3, Dr G reviewed Mr A in ED. Dr G told HDC that he considered that there may have been an infection and a small growth, with no concerning features of a complicated infection. Dr G said that he saw no signs of sepsis or a systemically unwell patient, and that the concern for which he had been called to ED (a possible neck abscess) was not present,

[54] The Poison centres website (https://www.toxinz.com) suggests the following for methamphetamine intoxication: "Supportive management should primarily focus on control of sympathomimetic effects (agitation, tachycardia). In the majority of cases, a calming environment and appropriate titrated doses of a benzodiazepine will generally ameliorate most symptoms."

and the incidental ear finding appeared routine and was appropriate for outpatient management.

122. My expert advisor, Dr Fields, noted that Mr A's positive blood culture results were not available at this review, and that there was little evidence of an ENT cause that warranted admission at this time. Dr Fields stated that chronic ear discharge is very common and not an indication for admission in the absence of acute mastoiditis features. Dr Fields advised that based on the clinical information available to Dr G during Mr A's presentation on 22 Month3, the decision not to admit Mr A at that time was reasonable.

123. On 10 Month5, Mr A attended an outpatient appointment with Dr G. A plan was made for Mr A to reinitiate topical treatment with ear drops, and a CT scan was arranged to view the temporal bone.

124. Dr Fields advised that at the time of Mr A's appointment on 10 Month5, Dr G had already made a diagnosis of cholesteatoma, and a temporal bone CT scan was being arranged for work-up for surgery. Dr Fields noted that the possibility of mastoiditis was being considered, and that Mr A's unusual behaviour at various stages when being assessed was not typical of mastoiditis or of developing an intracranial abscess. Dr Fields said that in an ENT outpatient setting, it is not standard practice to carry out recording of vital observations. Dr Fields advised that in his opinion, the care provided by Dr G to Mr A on both dates was adequate and reasonable.

125. I acknowledge Dr Fields' opinion that the clinical care Dr G provided on 22 Month3 and 10 Month5 was adequate.

Suspicion of drug use — adverse comment

22 Month3

126. During the ENT review on 22 Month3, Dr G believed that Mr A was experiencing acute methamphetamine intoxication. Dr G did not document this, and there is no evidence that he asked Mr A about his substance use or whether he was indeed intoxicated. Dr G told HDC that he informed ED staff of his opinion that Mr A was intoxicated, and that ED staff told him that no further action was needed, but this too was not documented. Dr C and Dr F (the ED clinicians) have no recollection of Dr G raising his concerns about drug use. In response to the provisional opinion, Dr G told HDC that it was the treating ED clinicians' responsibility to initiate the conversation with Mr A regarding whether he was intoxicated, and that he fulfilled his role by raising his concerns with them. Dr G also stated that it is standard practice for the ED clinician to document his (Dr G's) concerns in Mr A's medical records.

127. I agree that if Dr G raised his suspicions of intoxication with the ED clinicians, and the ED clinicians agreed that intoxication was suspected, it was the ED clinicians' responsibility to manage that suspicion appropriately, including making further enquiries and initiating any relevant pathways of care. However, I am also open to the possibility that Dr F and Dr C did not share Dr G's concerns that Mr A was intoxicated, as this is corroborated by Miss B's evidence.

10 Month5

128. Dr G told HDC that he believed that Mr A's behaviour (sleeping in the waiting room and arriving three hours early) on 10 Month5 was a result of intoxication, but he did not ask Mr A if he was intoxicated. Dr G stated that he asked Mr A why he arrived three hours early and why he was asleep in the waiting area. Dr G told HDC that he did not ask Mr A for his consent to undergo drug screening tests because he felt that Mr A's consent would not be forthcoming. Dr G did not recommend that Mr A be admitted so that he could be observed until the suspected intoxication had passed.

129. Dr Fields noted that Mr A's unusual behaviour at various stages when being assessed was not typical of mastoiditis or of developing an intracranial abscess.

130. Under the heading "Providing good clinical care", the Medical Council of New Zealand's *Good Medical Practice*[55] stipulates:

> "When you assess, diagnose or treat patients you must provide a good standard of clinical care. This includes:
>
> - adequately assessing the patient's condition, taking account of the patient's history and their views, reading the patient's notes and examining the patient as appropriate
> - providing or arranging investigations or treatment when needed
> - taking suitable and prompt action when needed, and referring the patient to another practitioner or service when this is in the patient's best interests."

131. I cannot establish whether Mr A's behaviour (sleeping in the waiting room and attending his appointment early) was due to intoxication or owing to the development of the intracranial abscess. I acknowledge Dr Fields' advice that Mr A's behaviour was not typical of mastoiditis or intracranial abscess.

132. In response to the provisional opinion, Dr G told HDC that he is aware that drug use can minimise or mask the seriousness of conditions, and stated that he was in a challenging position as Mr A denied that he was intoxicated. I accept that it can be challenging for a clinician if a patient displays characteristics of being intoxicated but denies being so. However, this was not one of those occasions, as Dr G did not ask Mr A if he was intoxicated and made an assumption that he was.

133. I acknowledge Dr Field's advice that Dr G provided an appropriate standard of clinical care to Mr A. However, I also acknowledge that Dr Fields does not have experience in managing the care of patients with drug and alcohol intoxication or dependency, and has limited her advice on that issue.

134. One of the findings of WDHB's critical systems review into Mr A's care was the potential of bias. I remind Dr G of the importance of taking appropriate action to ascertain whether or not drug use is masking the root cause of a patient's symptoms. I am not at all critical that

[55] https://www.mcnz.org.nz/assets/standards/b3ad8bfba4/Good-Medical-Practice.pdf.

Dr G queried drug use as a cause of the observed behavior and agree with him that it is a stigmatized area and people are often reluctant or unsure of how to approach this issue. However, I remind Dr G that it is inappropriate to assume that a patient's symptoms are a result of drug intoxication but not confirm this with the patient or investigate further what is occurring.

135. Dr G told HDC that he checked Mr A's records and noted that his follow-up appointments immediately after his ED visits had been cancelled. Dr G documented that he spoke to Mr A's father, Mr J, and emphasised the need for good follow-up. Dr G told HDC that he also asked whether the family were aware that Mr A was using methamphetamine and doing very poorly, and that Mr J had confirmed that he was aware. However, Mr J's recollection of the conversation with Dr G differs, and he does not recall a conversation about follow-up care. I do not find it necessary to make a finding of fact as to the content of this conversation, but I am critical that Dr G discussed his assumption that Mr A was using methamphetamine without clarifying his suspicion with Mr A himself, or seeking to understand the interplay of Mr A's overall presentation.

136. In relation to speaking with whānau, I remind Dr G of the Medical Council of New Zealand's statement on cultural safety,[56] which stipulates that doctors should formulate treatment plans in partnership with patients that fit within their cultural contexts, and are balanced by the need to follow the best clinical pathway and include the patient's whānau in their healthcare when appropriate.

Concluding comment

137. E te whānau ka mihi aroha ki a koutou i tō tino mamae, tō pōuritanga o tō tama a tungāne ātaahua kua whetūrangitia. Kāore he kupu, he whakaaro hei whakaora te ngaro ka waenganui a koutou. Nō reira ka tuku a mātou nei aroha, a mātou nei rangimārie ki a koutou katoa - Mauri Ora.[57]

138. I express my sincere sympathy to Mr A's family for their loss. I acknowledge that this matter continues to cause them significant distress, and I thank them for bringing their complaint to this Office.

[56] https://www.mcnz.org.nz/our-standards/current-standards/cultural-safety/

[57] Whānau, we acknowledge your deepest pain, the grief of the loss of your beautiful son and brother who now adorns the night sky as a shining star amongst his ancestors. There are no words or thoughts to heal the loss that will be between you. So we send our love and our peace to you all — Mauri Ora.

Changes made

139. WDHB advised that as a result of this event, it undertook the following:

- The case was presented at a mortality case review meeting, and included a discussion around the use of CT scanning in ED/ENT cases, and clinician bias.
- A review of the internal referral process for ENT referrals. The review included a process for recording the reason for declining a referral on the letters to the GP and patient.
- A repeat presenters' programme was re-established to review patients who present to hospital multiple times.
- A review of the process for monitoring vital observations in the outpatients department.
- A review of the process for recalling patients back to ED with positive blood cultures, including who to contact and what follow-up is required.
- A review of documentation relating to ED SMO cover to ensure that appropriate support is provided to RMOs after-hours.
- Sent a memo to all ED staff highlighting the importance of providing appropriate advice and support to patients who may be experiencing alcohol and drug addiction.

140. In response to the provisional opinion, Dr G told HDC that he has learned from this case and, in future, if he has concerns that a patient is intoxicated, he will record it in the notes and clarify that he has asked the responsible ED clinician to follow up on the concerns.

Recommendations

141. Bearing in mind the actions detailed above, I recommend that WDHB:

a) Provide a written apology to Mr A's whānau for the issues identified in this report. The apology is to be sent to HDC, for forwarding to Mr A's whānau, within three weeks of the date of this report.

b) Provide evidence to HDC of its review of its ED SMO on-call policy, changes to be made, and a timeline for this to occur, within three months of the date of this report.

c) Amend its ED follow-up policy for patients discharged from the ED with abnormal diagnostic results, to include timeframes in which actions should occur, and provide evidence of this to HDC within three weeks of the date of this report.

d) Develop clear guidelines for investigating and managing chronic otitis media, including detailing when a CT head scan should be undertaken. Evidence of this is to be provided to HDC within three months of the date of this report.

e) Provide evidence to HDC of its review of the process for recalling patients with positive blood cultures to ED, and any actions taken based on this, within three weeks of the date of this report.

f) Devise a protocol for managing suspected drug use. Evidence of this is to be provided to HDC within three months of the date of this report.

g) Provide training to all medical staff regarding WDHB's expectations if drug use is suspected including WDHB's expectations in relation to documentation of conversations about suspected drug use between clinicians and provide HDC with evidence of this, within six months of the date of this report.

h) Undertake an audit of positive blood cultures received by its ED in the last six months, to identify whether timely follow-up occurred. Evidence of this, and the results of the audit, are to be provided to HDC within three months of the date of this report.

i) Provide evidence to HDC of the changes recommended in the critical systems analysis, within three months of the date of this report.

142. I recommend that Dr G:

a) Provide a written apology to Mr A's whānau for the issues identified in this report. The apology is to be sent to HDC, for forwarding to Mr A's whānau, within three weeks of the date of this report.

b) Undertake self-directed learning on bias in healthcare. Evidence of this is to be provided to HDC within three months of the date of this report.

c) Reflect on his care in this case relating to his suspicion of drug use and the appropriate course of action, and his lack of documentation of discussions and observations, and provide a written report to HDC on his reflections and changes to his practice, within three months of the date of this report.

Follow-up actions

143. Whanganui DHB will be referred to the Director of Proceedings in accordance with section 45(2)(f) of the Health and Disability Commissioner Act 1994 for the purpose of deciding whether any proceedings should be taken. In proposing this referral I have had regard to the failures outlined at paragraphs 104–107, and to the fact that Mr A was a Māori man in his thirties who appears to have had a history of drug addiction but was otherwise in reasonable health but died due to a wholly preventable condition in spite of multiple visits to the DHB to seek help. I have had regard to the particular vulnerabilities of Mr A as outlined, and to the public interest in improving healthcare outcomes for Māori.

144. A copy of this report with details identifying the parties removed, except Whanganui DHB and the experts who advised on this case, will be sent to the Australasian College for Emergency Medicine, the Royal Australasian College of Surgeons, the Ministry of Health, and the Technical Advisory Service, and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

Appendix A: Independent clinical advice to Commissioner

The following expert advice was obtained from emergency medicine specialist Dr Anil Nair:

"**Report for the Health and Disability Commissioner: Case number C19HDC01783**

The Health and Disability Commissioner has asked me to provide advice on the care provided to [Mr A] at [the public hospital] (Whanganui District Health Board). I have read the HDC guidelines for Independent Advisors and agree to follow the guidelines. My relevant medical qualifications are FACEM, obtained from the Australasian College of Emergency Medicine in 2005 and FRACMA, obtained from the Royal College of Medical Administrators in 2017. I am currently employed as an Emergency Medicine Specialist at Auckland City Hospital. I have held this position since 2005. I am also the Clinical Director of the Adult Emergency Department at Auckland City Hospital.

My report is based on the information provided to me as detailed below:

a. Letter of complaint dated 25 September 2019
b. Whanganui District Health Board's response dated 8 November 2019
c. Whanganui District Health Board's response dated 13 March 2020
d. Timeline of care from Whanganui District Health Board
e. Clinical records from Whanganui District Health Board covering the period 3 [Month1] to 16 [Month5].
f. Additional clinical records were provided on 2 September 2020
g. Meeting notes from [Mr A's] Whānau dated 13 September 2019

The Health and Disability Commissioner has asked me to advise whether I consider the care provided to [Mr A] at [the public hospital] (Whanganui District Health Board) was reasonable in the circumstances, and why. In particular, I have been asked to comment on:

1) The adequacy of the care provided to [Mr A] by Whanganui District Health Board at each of his presentations to [the] Emergency Department between the period of 31 [Month1] and 13 [Month5].
2) The adequacy of the investigations undertaken by Whanganui District Health Board at each of [Mr A's] Emergency Department presentations, and whether further investigations should have been sought.
3) Whether the ENT referrals provided were appropriate and timely in the circumstances.
4) The adequacy of the communication with [Mr A's] family during his presentations to [the public hospital].

5) Any other matters in this case that, in your opinion, warrant comment or amount to a departure from the standard of care/accepted practice.

On each of the above questions, I have been asked to advise on the following:

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.

Summary of Emergency Department presentations

Emergency Department presentation: 5 [Month3]

Summary of visit:
[Mr A] presented to the ED at 1700 hours with 'limb pain'. At triage he was concerned that he had a foreign body in his left foot (3 days ago). He had pain, swelling, fever and erythema over the foot, making it difficult for him to walk. There is a history of a visit to the [accident and medical centre] and [Medical Centre 2] on 31 [Month1] and 24 [Month2] respectively, for right otitis media.

Observations taken at 1700 hours are as follows, temperature of 37.8 degrees Celsius, heart rate of 91 beats per minute, blood pressure of 140/71 mmHg and an oxygen saturation of 94% on air.

The medication chart (once only administration page) shows flucloxacillin, paracetamol and salbutamol charted but not administered.

Blood results show a raised white count of 15.2 X 109/L (Normal 4–10 x109/L) and C Reactive protein (CRP) of 104mg/L (Normal <5 mg/L). An X-ray has been requested, which has been reported as showing a likely foreign body, although it was not in the same location as the radiological marker.

An ultrasound has been suggested by the radiologist for further evaluation of the suspected foreign body. There is no documentation to indicate that this report has been viewed by a clinician.

There is no clinician assessment or discharge summary available in the documents provided. An outpatient ENT referral has been done, which states a diagnosis of cellulitis of the left foot and a persistent ear infection.

The nursing note documents that he was given antibiotics, Ventolin and discharged home with a taxi voucher. He was given a medical certificate for three days off work and an antibiotic pack. [Mr A] was discharged at 2228 hours.

Adequacy of care: It is difficult to assess the adequacy of the care provided, given the lack of comprehensive medical documentation (medical assessment notes, discharge summary) of the care provided. It is also unclear if medications were administered in ED although he does appear to have picked up an antibiotic pack from the pharmacy. The available information suggests that [Mr A] had cellulitis with a suspected retained foreign body and otitis media. In regards his foot, it would be reasonable to do an ultrasound to confirm/exclude the presence of a foreign body as this might need surgical intervention. [Mr A's] cellulitis has been treated appropriately with antibiotics.

Adequacy of investigations: Initial investigations — bloods and X-ray were adequate. The blood tests suggested a likely infection with a raised white count and inflammatory markers. It is unclear if the radiology report was reviewed and an ultrasound considered, as recommended by the radiologist. Some foreign bodies are not visible on X-ray and required alternate diagnostic imaging like an ultrasound. Ultrasound is a highly sensitive and accurate tool for detecting and removing radiolucent foreign bodies which cannot be visualized by routine radiography (Tantray et al., 2018).

Appropriateness and timeliness of ENT referrals: The referral was appropriate and contained relevant information. Adequacy of communication to [Mr A's] family: No information is available that a discharge summary was completed and given to [Mr A].

Emergency Department presentation: 22nd [Month3]

Summary of visit:
[Mr A] presented to ED at 0631 hours with a four-week history of right ear pain and neck swelling. He also had an episode of dizziness the week prior. He had been prescribed antibiotics but may have been non-compliant. There is no history of current recreational drug use, with the last use of the 'meth and cannabis' being six months ago.

His vital signs are a temperature of 38 degrees Celsius, Pulse rate of 126 beats per minute. His EWS score is calculated as 5 at 0640 hours and increases to 6 at 0800 hours.

On examination, there were clinical features suggestive of a right ear infection (erythematous tympanic membrane and discharge from right ear). Pertinent negatives include the absence of mastoid tenderness and no signs of meningitis. There is note of limited neck movement and evidence of submandibular lymphadenopathy on clinical examination.

[Mr A] was started on the sepsis pathway at 0730 hours and blood tests done. The blood tests were abnormal with a raised white count of 15.7 X 109/L (Normal 4–10 x109/L) and C reactive protein of 245 mg/L (Normal <5 mg/L). This suggests a significant infection. He was given antibiotics (Tazocin) at 0849 hours. The case was discussed with the ED SMO and a CT neck organized to look for neck abscess and mastoiditis. The CT did not show any neck abscess but showed an opacified right mastoid antrum with a slightly more well defined cavity and surrounding sclerosis. There was evidence of otitis externa but the middle ear and the roof of the mastoid was not visualised. It was

therefore an incomplete study of the mastoid. A CT head was not requested. The chest X-ray is normal and urine showed blood.

The ENT Specialist reviewed [Mr A] at 1220 hours. At the time he had a pulse rate of 150 beats per minute and was 'pacing, euphoric' and needed to be 'cajoled' to sit down.

The vital signs are different from the observations taken on the Adult vital signs chart at 1215 hours, which are a pulse rate of 98 bpm, respiratory rate of 18, temperature of 37.7 degrees Celsius and a blood pressure of 131/77 mmHg, giving an EWS score of 1.

[Mr A] was diagnosed with otitis externa and media and a possible attic cholesteatoma. In his response to the HDC, the ENT Specialist felt that [Mr A] also had clinical features of 'severe methamphetamine abuse and acute P intoxication' and these concerns were shared with the ED clinician. The ENT Specialist also notes that he requested that [Mr A] needed testing and documentation of the intoxication. He queried whether counselling, inpatient or outpatient treatment was available. This is however not mentioned in the ED clinical notes and there are no further observations on the Adult vital signs chart.

He was discharged on topical ear drops and oral antibiotics at 1248 hours. An outpatient ENT referral has been done at the time of discharge.

Adequacy of care: The care provided is of an acceptable standard with early initiation of the sepsis pathway, fluids, antibiotics, investigations and referral to the ENT specialist. Whilst a CT scan was done, it was incomplete and failed to exclude any intracranial complications of recurrent otitis media. The addition of a CT head would have provided additional information to exclude any intracranial complications.

There are some comments from the ENT Specialist that [Mr A] had acute methamphetamine intoxication. This is not noted in the ED notes which state that [Mr A] has been off recreational drugs for six months. It is unclear based on the information available to conclude whether [Mr A] had used methamphetamine whilst in ED resulting in the abnormal vital signs or whether this was secondary to sepsis. There can be an overlap of some signs in both conditions but a more thorough examination should be able to differentiate the two pathologies. It is unclear if this had an impact on the care delivered.

Adequacy of investigations. A comprehensive broad set of investigations were done to identify the source of infection. A CT head was not done and therefore intracranial complications of otitis media could not be safely excluded. A urine toxicology screen may be useful if there are concerns of methamphetamine abuse, although it has limited utility in the acute settings.

Appropriateness and timeliness of ENT referrals: [Mr A] had an ENT Specialist review in the ED. An outpatient referral was sent for follow up of the suspected cholesteatoma. Adequacy of communication to [Mr A's] family: There are no issues identified.

Emergency Department presentation: 26 [Month3]

Summary of visit:
[Mr A] was brought back to ED by the Police at 0958am on 26 [Month3] as he had a positive blood culture. He was seen by the ED house officer at 1145 hours. He continued to have ear pain but no discharge from the ear or fever. His vital signs were normal. The only positive findings were erythema of the ear canal and a ruptured tympanic membrane. His bloods however continue to be abnormal with an increasing white count, 22.8 x109/L (Normal 4–10 x109/L) although CRP has decreased to 44 mg/L (Normal <5mg/L). A bedside echocardiogram is done, and no vegetations are seen. Blood cultures are taken. The case is discussed with [the ED specialist] and a decision made to discharge home with a longer duration of antibiotics and analgesics. Discharged home at 1500 hours with good discharge advice.

Adequacy of care: There are no specific omissions in the care provided and it is of an appropriate standard.

Adequacy of investigations:
The investigations seem appropriate. A CT scan of the head would have been useful to do at this stage to exclude any complications. His symptoms were resolving and this may have impacted the decision not to do an urgent CT scan. An echocardiogram was done, and it is unclear if this is a credentialled ultrasound. Echocardiograms looking for bacterial endocarditis are usually done by specialized sonographers and Cardiologists. ACEM guidelines for ED Echocardiography are available (https://acem.org.au/getmedia/ee68a734-7634-425d-865a-f5e17dc8b4e4/P733_Policy-on-Credentialing-for-Emergency-Medicine-Ultrasonography_v1_Aug-2019).

It is possible that the ED Specialist was credentialled or had acquired specialist radiology training to evaluate for bacterial endocarditis.

Appropriateness and timeliness of ENT referrals: No referrals were made as there was a referral sent on 22 [Month3].

Adequacy of communication to [Mr A's] family: [Mr A's] family felt that the request to return back to ED should have been channelled through [the Māori Health Service]. This may be a more appropriate way to communicate with the patient and Whānau.

Other matters:
[Mr A] had a positive blood culture on 22 [Month3], and the ED Specialist was contacted by the laboratory with the preliminary results (gram positive cocci) at 2150 hours on 22 [Month3]. It is unclear why no immediate action was taken to get the patient reviewed again in the hospital that day. The final results were available on 25 [Month3] at 1642 hours and showed a growth of streptococcus pyogenes, staphylococcus aureus and Rothia. [Dr K] has documented that he attempted to contact the patient on 25 [Month3] at 1641hours. A message was left on the patient's voice mail. His GP was contacted on 26 [Month3] advising the patient to return to ED if symptoms worsened or other

concerns. [Mr A's] family however report not receiving any calls. Dr C, who discharged the patient, was unaware of the positive blood cultures until his next clinical shift on 25 [Month3]. He initiated a number of actions including informing the ED Clinical director, his supervisor and the Charge nurse of the shift. As they were unable to contact the patient or family, Police were contacted to locate [Mr A] and bring him to ED. This would be the process in most EDs after all other options are exhausted and reflects the seriousness and time critical aspects of a positive blood culture.

Emergency Department presentation: 28 [Month4]

Summary of visit:
[Mr A] presented to ED on 28 [Month4] at 2148 hours with fever, pain in his right ear, discharge and a blocked ear for a day. His vital signs at 2155 hrs are a temperature of 39.2 degrees Celsius, tachycardic (112/minute) with a combined Early Warning score (EWS) of 4. His pain score was 9/10 and paracetamol was administered. He was seen by an ED doctor at 2311 hours. Pertinent positive findings are pus in the right ear canal and inability to visualise the tympanic membrane. The diagnosis is of recurrent otitis media, and the patient is given a dose of antibiotics in the department. An ENT clinic appointment is sent requesting a review in 2–4 weeks. His fever and tachycardia settled and his EWS score was zero at discharge. [Mr A] was discharged at 0203 hours on 29 [Month4] with a prescription for Co-Amoxiclav and analgesics.

Adequacy of care and investigations: If this was [Mr A's] first presentation with otitis media, the treatment provided would have been of an acceptable standard. [Mr A] however had recurrent otitis media for four months and this was his fourth ED visit. There is no documentation to suggest serious pathology like mastoiditis, intracranial or other extra cranial complications have been excluded. In most Emergency departments repeat presentations would trigger a Senior ED clinician review.

Adequacy of investigations: He should have had a detailed work up including blood tests, cultures and a CT scan. No swabs were taken from his ear to identify the pathogen and ensure he was on an appropriate antibiotic.

Appropriateness and timeliness of ENT referrals: An outpatient referral was made. There is limited information in the referral other than the diagnosis of recurrent otitis media. Given his symptoms, he should have had an urgent consult or at the very least an expedited outpatient review.

Adequacy of communication to [Mr A's] family: There is no information available about communication with [Mr A's] family.

Emergency Department presentation: 13 [Month5]

Summary of visit:
[Mr A] presented to the ED on 13 [Month5] at 0212 hours by Ambulance. He was triaged as a category two. He had a temperature of 38.8 degrees Celsius, respiratory rate of 23/minute. All his other vital signs are normal. He was seen promptly by a clinician at

0215 hours. It is noted that he had collapsed at home and for the preceding three days been confused, disoriented and hallucinating. There was no history of alcohol or recent drug use. His GCS is documented as 12/15 with fully dilated left pupil and a fixed lateral gaze on the right pupil (4mm size). There is swelling above the left supraorbital ridge. He is noted to have an 'angry' right tympanic membrane with pus in the middle ear. There was no mastoid tenderness or swelling. The clinical impression was an intracranial abscess secondary to otitis media and mastoiditis. He was given antibiotics, steroids and fluids. His GCS dropped to 9/15 whilst in ED, and his airway was secured by intubation. Chest X-ray was normal with the tip of the endotracheal tube noted as high. This resulted in the endotracheal tube being repositioned. Blood tests were done, which showed a raised white count of 43.7 (Normal 4–10 x109/L) and a CRP of 79 (Normal <5mg/L). There was no laboratory evidence of renal or liver failure. CT was done at 0447 hours and discussed with the clinician at 0505 hours. It showed a right temporal lobe abscess with associated cerebral oedema arising from a middle ear cavity infection. There was dehiscence of the tegmen tympani. Ceftriaxone was administered at 0225 hours. [Mr A's] transfer was discussed with the Neurosurgical registrar at [DHB2]. He was briefly transferred to the Critical Care Unit at 0600 hours and then to [DHB2] at 0930 hours. Cultures from the temporal lobe abscess grew staphylococcus aureus and streptococcus pyogenes. Blood cultures taken were positive 18 hours later with the growth of streptococcus pyogenes. Unfortunately, [Mr A] died on 16 [Month5].

Adequacy of care, investigations and referrals: The care provided is of an appropriate standard, and there are no identified gaps in the provision of care. [Mr A] was triaged appropriately, had timely administration of antibiotics, appropriate investigations and decisions made early for definitive care at [DHB2].

Adequacy of communication to [Mr A's] family: Clinical notes document discussion with [Mr A's] sister about the plan. Concerns have however been raised by [Mr A's] sister about some inappropriate comments, lack of communication and the inability to be present with her brother in CCU. There are also concerns about cultural support available at the time. On a positive note, she has complimented the communication by the ED Māori nurse, who consoled her and provided information about [Mr A].

Other care

There are a number of visits to [the accident and medical centre], which I presume is an Accident and Medical Centre that is not part of the ED. No documentation was available for these visits. The case timeline notes visits to [the accident and medical centre] on 31st [Month1] and 18 [Month3] for an ear infection. I have not commented on the ENT outpatient reviews and this was not part of my remit. The ENT appointment on 10 [Month5] raises concerns about a 'more significant underlying pathology requiring surgical intervention'. An outpatient CT scan was organized at the time. Information about triage category was not provided, except for the visit on 13 [Month5]. [Mr A] was seen promptly on his second and fifth ED visit and within 2 hours for his other ED visits.

Standards of care

Standard of care: In general, [Mr A's] care in the Emergency Department was of an acceptable standard for the management of uncomplicated otitis media. [Mr A] had investigations and appropriate treatment (antibiotics and analgesics) completed and follow up was organized. There are however variations in the degree to which investigations were pursued in some of the ED visits. This may have contributed to the late diagnosis of a temporal lobe abscess, a known but rare complication of otitis media.

There are two main areas where in my opinion, there are gaps in care: Delay in diagnosis of complications of otitis media: Patients presenting with otitis media are typically managed in primary care, although they occasionally present to Emergency departments. Some patients progress to chronic otitis media (COM). In developed countries, the incidence rate of chronic otitis media has dropped to 0.04% due to early antibiotic treatment. Unfortunately, the mortality rate remains high at 8–26.3% (Sun&Sun, 2014). The reported overall extracranial complication (EC) and intracranial complication (IC) rates related to chronic otitis media vary from 0.7% to 3.2%. (Osma et al, 2000).

The presence of cholesteatoma is an important predisposing factor for intracranial complications and has an incidence rate ranging from 78% to 100% in cases of COM with complications. A high index of suspicion and imaging studies are recommended in patients with COM (Lin et al., 2009). CT scanning is helpful and reliable for the diagnosis of this disease, with a diagnostic rate of 92.75%. (Migirov et al., 2005).

[Mr A] developed a life-threatening intracranial complication of otitis media. It is difficult to ascertain the exact time that he developed a temporal lobe abscess given he did not have a CT head on any of his first four visits to ED. The pathology was picked up too late, on his fifth visit to the Emergency Department.

There were several red flags in [Mr A's] presentations that should have alerted staff. These include recurrent otitis media, radiological evidence of a chronic infective process in the right mastoid, persistently abnormal blood tests, bacteraemia, poor compliance with antibiotics and the presence of a cholesteatoma. Whilst complications are rare, they have a high mortality, if undetected.

It would be a reasonable expectation that an ED clinician would undertake a review of [Mr A's] frequent presentations with otitis media to understand why this was occurring and more importantly investigate whether he had developed any complications. If this was done, it is very likely that a CT scan would have been considered and the abnormality picked up before it was too late.

I note that [the] General Manager, Patient Safety and Quality at WDHB in her letter dated 8 November summarizes this well and states 'The ED was delivering episodic care; however no-one was looking at the whole picture, or asking why [Mr A's] ear infection kept recurring'. Follow up of abnormal results: There are expectations around the timely follow up of investigations like positive blood cultures and abnormal radiology

reports. There should be systems to ensure timely follow up and escalation of unaccepted reports. This is particularly important for Emergency departments where doctors work a shift roster. There were two occasions where abnormal results were not acted upon in a timely manner.

The first was the ED visit on 5 [Month3] when the radiology report suggested there was a foreign body on the foot X-rays. This does not seem to have impacted clinical care, as his symptoms appear to have resolved on his subsequent visit. Despite that, it is crucial to have a system for follow up of abnormal radiology reports and act on recommendations from the radiologists. It is difficult to ascertain based on the documentation available, if the report was viewed or any actions were taken by the ordering clinician.

The second was the follow up of positive blood cultures on 22 [Month3]. In this case, the cultures demonstrated bacterial growth 12 hours after discharge, and this was communicated to the clinician on 22 [Month3] at 2150 hours. The first documentation of any action was on 25 [Month3]. On that day there appears to have been difficulty in contacting the patient and Police assistance was sought the following day. This seems an appropriate course of action given the seriousness of positive blood culture. [Mr A] should have been contacted on 22 [Month3] and advised to return to the ED. Positive blood cultures identify a patient population at high risk of death.

Studies have shown that patients with positive blood cultures were 12 times more likely to die during hospitalization than patients without positive blood cultures (Bryan, 1989). Positive blood culture results more often than not indicate the presence of a serious disease (Epstein et al., 2001). Patients who present with bacteraemia in the ED have high mortality and generally require urgent admission for further treatment with antimicrobial agents. (Lin et al., 2009). The overall mortality rates of all bacteraemia cases in the ED were as follows: 3-day mortality, 4.0%; 7-day mortality, 6.8%; 14-day mortality, 10.3%; 21-day mortality, 11.4%; and 28-day mortality, 12.6% (Lin et al., 2009).

Other issues

Inadequate clinical documentation. There was one presentation where documentation was not available (5 [Month3]). Cole's medical practice of New Zealand stresses the importance of good clinical documentation both as a tool for management and for communicating with health professionals. In this particular instance, no discharge summary has been done. The discharge summary is an important tool to communicate with the GP and provide information to the patient. It is unclear if this was done.

Inadequacy of cultural support: There have been concerns from the family about their ability to be involved in [Mr A's] care and also the availability of cultural support. Managing his care with the help of his Whānau and [the Māori Health Service] team may have improved communication and addressed issues around medication compliance. Guidance on this is available from the Medical Council of New Zealand which stresses the importance of involving whānau in patient care.

Any deviations from the standard of care

There were several opportunities to exclude intracranial complications secondary to otitis media. Heightened awareness, early diagnosis and timely treatment are crucial for reducing the incidence and mortality of this disease (Sun&Sun, 2014).

A CT scan of the head should have been considered on the ED visits on 22/26 [Month3] or at the very least on 28 [Month4]. This could have resulted in the earlier detection and treatment of COM and possibly prevented the development of any complications. In my opinion not performing the CT head represents a moderate departure from the accepted level of care. There appears to be a lack of a robust system for following up abnormal results specifically blood culture results.

The Australasian College of Emergency Medicine has clear policies in this regard with the onus falling on the ordering clinician and the department (https://acem.org.au/getmedia/8aa38420-fcaa-488b-bdc6-325575326d6a/P54_v02_Followup_resultsordered_from_EDs_Jul-14.aspx).

The delay in timely follow up of positive blood culture in a patient with sepsis, represents a moderate departure from the accepted level of care.

Documentation: In general documentation was completed and of an appropriate standard. There was no clinical documentation available for the ED visit on 5 [Month3]. It is possible that these were done. If these were not done, it represents a moderate departure from acceptable standards.

Recommendations for improvement

Management of otitis media. Development of clear guidelines for managing otitis media will assist in early detection of COM and prevention of complications. It would also reduce the variability in the care provided as seen in some of the ED presentations. There should be a low threshold for performing a CT head, if complications are suspected.

Abnormal results follow up. This is an integral part of delivering safe, high-quality care. Emergency departments need to have a robust process in place to ensure timely follow up of abnormal radiology and microbiology results. It is unclear if this represents an isolated case. It would be useful to audit this at the DHB and if there are systemic issues identified, to put in place a system with sufficient safety measures. Involvement of the family and cultural support workers in care has significant benefits for patients especially Māori. Staff may benefit from training which is available through multiple organizations including the Australasian College of Emergency Medicine.

Repeat presentations to ED: Patients who present multiple times to the ED for the same issue can represent a high risk group. In most EDs these patients are reviewed by an ED Specialist to reduce clinical risk. Developing a policy to mandate this will improve patient safety.

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The following further advice was received from Dr Nair:

"The Health and Disability Commissioner has asked me to provide further advice on the care provided to [Mr A] at [the public hospital] (Whanganui District Health Board).

My report is based on the additional information provided to me as detailed below:

1. Response from Whanganui DHB dated 16 October 2020 and its attachments including further clinical notes, statements from relevant staff and Critical Systems Analysis review report;
2. Expert advice reports from ACC.

I have been asked to comment on:

1) Whether it causes you to amend the conclusions drawn in your initial advice, or make any additional comments.

2) Any comment about any systemic issues at Whanganui DHB. If there are systemic issues, please elaborate on these with reference to how other hospitals operate in those respects.

3) Any other matters in this case that you consider warrant.

Response

1) Thank you for providing documentation of [Mr A's] visit to the Emergency department on 5 [Month3]. There is adequate documentation of the clinical care provided, including the discussion with an ED Specialist. The radiology recommendation was considered and a decision made not to do an ultrasound. The care on 5 [Month3] meets the required standards of care. As such, the note on page 10, point 2(iii) on deviations from standards of care in relation to this visit no longer apply.

2) The ED clinicians involved in [Mr A's] on 22 [Month3] felt that he had sepsis and needed to be admitted to hospital. This differed from the opinion of the ENT specialist. When [Dr G] saw [Mr A], he had a heart rate of 150 beats per minute and had difficulty in getting him to sit down for an examination, which [Dr G] attributed to 'acute P intoxication'. In my view, the decision by ED to discharge him should have been reconsidered at the time. If not then, the patient should have been recalled and reassessed after a positive blood culture was notified later that day.

   The CT scan done was an incomplete study of the mastoid as the middle ear and the roof of the mastoid was not visualised. It would have been reasonable to get a CT of the temporal bones for a complete study of the mastoid. In my view a CT head would not have been unreasonable, although I agree it was not essential given the absence of any symptoms suggesting an intracranial complication.

   Interestingly when [Mr A] was seen on 10th [Month5], he still had no mastoid tenderness or localizing neurological signs, even though he may have had a temporal lobe abscess at that time. This illustrates the challenges in evaluating patients with COM for intra/extracranial complications. Developing guidelines on when to do a CT scan in CSOM may help prevent delays in diagnosis.

   [Mr A] had sought care several times over the five months prior. In my view, the only way that a diagnosis of intracranial complications could have been made was by doing a CT scan of the temporal bones and a CT head.

3) I have noted my view on the management of positive blood cultures. I acknowledge that [Dr K] unsuccessfully tried to contact [Mr A] and has documented his efforts on 26 [Month3]. There was an appropriate escalation of activity to get [Mr A] back to ED on 25 [Month3]. This should have happened on 22nd [Month3] and not been delayed for four days. There needs to be a robust process to recall patients back to

ED immediately, when they have abnormal results that are deemed critical/life threatening. I note that the DHB is working on developing guidelines following their internal review.

4) The report from [Dr D] raises concerns about supervision of house officers at night. [Dr D] notes that he had limited Emergency Medicine experience and had no supervision on his night shift. [Mr A] at that stage most likely had chronic suppurative otitis media (CSOM) rather than an isolated episode of otitis media. This was also his fourth presentation to ED and this should have triggered a senior review. [Dr D] acknowledges he should have sought assistance from a more experienced clinician and organized a CT. Unfortunately with his limited experience, this did not occur and in my opinion represents a systems issue. Ensuring the delivery of safe high quality care at night is an issue that the DHB will need to address. It is acknowledged that provision of a high standard of care at night is a challenging problem for EDs around the country.

5) I would like to thank the DHB for accepting the recommendations for improvements in care.

Electronically signed

Anil Nair"

The following further advice was received from Dr Nair:

"**Report for the Health and Disability Commissioner: Case number C19HDC01783**

The Health and Disability Commissioner has asked me to provide further advice on the care provided to [Mr A] at [the public hospital] (Whanganui District Health Board).

I have been asked to comment on:

1. Whether any of the additional information received would cause you to change your previous advice in any way. Please state reasons for why your advice has changed or remains unchanged.
2. Whether the supervision provided to [Dr D] on the evening of 28 [Month3] was reasonable. Please explain the accepted level of supervision for junior doctors on an overnight shift.
3. If accepting [Dr G's] previous statement that [Mr A] appeared to be under the influence of methamphetamine on 22 [Month3] and this was discussed with ED staff, should ED staff have taken any further action in relation to this? If so, please outline what these steps would be.
4. Whether staff should have engaged the [Māori Health Service] at any stage.
5. The adequacies of the policies/protocols provided.
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 (mild, moderate, or severe) 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.

Response

1. There are no changes from the initial advice provided. This is primarily because there is no new information provided regarding the substantive aspects of the case.
2. The supervision provided to [Dr D] during the night shift was inadequate.

   a. [Dr D] had limited Emergency Medicine experience and was therefore appropriately provided on-site supervision during the daytime. This was not available overnight, which increased the clinical risk for patients. The safety net in the system for discussing patients at hand over the next day, does not seem to be working as intended. [Dr D] notes that these discussions can often be quite hurried or 'missed' and is of low priority. There is also no documentation of these discussions.

   b. In my view, Whanganui DHB did not provide an adequate level of on-call supervision overnight for [Dr D]. The ability to call the EM specialist is limited to a very small list of conditions (major trauma, resuscitation and incidents and some specific conditions). This is concerning as junior staff have limited experience and skillset. There should be the ability for junior staff to contact the ED SMO for advice overnight to manage a broader range of conditions. Alternatively, staffing overnight needs to be improved with more senior decision-makers on-site.

   c. The Australasian College of Emergency Medicine has developed guidelines on staffing Emergency departments

      (https://acem.org.au/getmedia/91f69ba9-67be-4841-acc9-5df62986498c/G23-Guidelines-for-constructing-a-senior-EM-workforce)
      In addition, the College has published a policy on supervision of junior medical staff
      (https://acem.org.au/getmedia/afbeb137-a983-41ec-9cbf-ca38397dffb0/P53-v02-Supervisionof-of-Jun-Med-Staff-in-the-ED-(Nov-13).aspx).
      The minimum staffing recommended on night shifts is a Non-FACEM senior decision-maker (SDM). This is defined as a physician who has the appropriate clinical care skills to manage a critically ill patient unsupervised or until a specialist emergency physician (FACEM) becomes available and can assist. This can encompass training (i.e. ACEM trainees) and non-training roles (e.g. Career Medical Officer).

It is acknowledged that achieving this is challenging for smaller Emergency departments.

3. Additional actions to be taken by ED staff if the ORL clinician suspected drug intoxication.

   a. There is a difference in opinion on whether [Mr A] was suffering from drug intoxication. The ORL clinician notes that [Mr A] had 'acute P intoxication.'

   b. If [Mr A] was unwell from the effects of acute drug intoxication, it would be usual practice to give some medications (benzodiazepines) and observe the patient till his symptoms were resolved. It would also be appropriate in mild intoxication to discharge the patient with medications, advice and follow up with the General Practitioner/Addiction services (AOD service).

   c. The Poison Centres website (https://www.toxinz.com) suggests the following for methamphetamine intoxication — 'Supportive management should primarily focus on control of sympathomimetic effects (agitation, tachycardia). In the majority of cases, a calming environment and appropriate titrated doses of a benzodiazepine will generally ameliorate most symptoms.'

   d. A urine drug screen has minimal utility in managing acute intoxication. However, in this case, it may have been helpful. This is because [Mr A] denied recent drug use and a negative point of care urine drug screen would have confirmed this.

4. It would be appropriate that [the Māori Health Service] was contacted. It would have ensured delivery of care in a culturally safe manner and ensured supports were in place.

5. The policies provided are comprehensive. It is unclear if they were in place at the time the incident occurred.

   a. The policy on 'Follow up of patients discharged from the Emergency Department with abnormal blood results' provides appropriate guidance and suggests a proportionate response. It, however, does not explicitly state time frames and responsibilities. In the case of time-critical results, like positive blood culture, patients need to be contacted immediately or at the very least within 24 hours. Escalation processes like the involvement of the Police should occur within that time frame. The consequences of not doing so could be catastrophic. In this particular instance, the patient was non-contactable. The policy suggests contacting [the Māori Health Service] to visit the patient or use the services of the Police. This was not done ([the Māori Health Service]) or done promptly (Police). Given that this is a new policy, it may be prudent to audit compliance.

   b. The guideline 'Speciality referrals from Emergency Department' which includes a pathway for escalation is adequate.

6. It is pleasing to note that recommendations from the Critical system analysis have been implemented.

Electronically signed, **Anil Nair**"

Appendix B: Independent clinical advice to Commissioner

The following expert advice was obtained from otolaryngologist Dr Martyn Fields:

"I have been asked to provide an opinion regarding the above complaint. I have read the HDC guidelines for Independent Advisors and agree to follow the guidelines.

My qualifications are: BDS(Sheff), LDSRCS(Eng), FDSRCS(Eng), MBChB(Sheff), FRCSEd(Maxillofacial), FRACS(Otolaryngology). I initially trained as a Dentist then Oral & Maxillofacial Surgeon in the UK before training as an Otorhinolaryngologist, Head & Neck Surgeon in New Zealand. I have been registered as a specialist Otorhinolaryngologist (ORL/ENT Surgeon) since 1995 and have practised as an ORL surgeon in a teaching hospital in New Zealand and in private specialist practice since then. I am a general ORL surgeon with a sub-specialist interest in Otology and Rhinology. I have been involved in training ENT surgeons in New Zealand since 1995 and have previously been chairman of the New Zealand Otolaryngology Training, Education and Accreditation Committee and a board member of the New Zealand Society of Otolaryngology, Head & Neck Surgery. I am currently Clinical Director for the Department of Otolaryngology, Head & Neck Surgery, Southern District Health Board.

Disclosure: I have not had any previous contact with and do not know [Dr G], ENT surgeon personally.

I have been asked to comment on specific aspects of [Mr A's] care under [Dr G], Whanganui District Health Board between [Month3] and [Month5] relating to his right ear condition and complications. My report is based on the information provided:- letter of complaint, hospital response & clinical records provided. I have had the CT & MRI scan images transferred from Whanganui and [DHB2] to the Southern DHB to enable me to review the actual films obtained at the time.

HDC Questions:

1. The appropriateness of Whanganui DHB to decline [Mr A's] first ENT referral.
2. The reasonableness of the delays in [Mr A] receiving an ENT appointment.
3. The care provided to [Mr A] by [Dr G] at the ENT appointment on 10 [Month5], including the adequacy of the investigations undertaken and whether mastoiditis should have been considered as a reason for [Mr A's] behaviour on this date.
4. Any other matters in this case that, in your opinion, warrant comment or amount to a departure from the standard of care/accepted practice.

For each

a. What is the standard of care/accepted practice?

b. If there has been a departure from the standard of care or accepted practice, how significant a departure do you consider this to be?

c. Please quantify the significance of any departures you identify by using the terms **mild, moderate** or **severe**.

d. How would it be viewed by your peers?

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

Background The summary of events provided by [Dr K], Emergency Department Medical Director dated the 30th August 2019 & the letter from [the] General Manager, Patient Safety and Quality (Whanganui District Health Board) to the HDC dated the 8th November 2019 sets out the sequence and detail of events from the medical perspective. The information & interpretation of events is compatible with my review of the medical records provided. I will not repeat this summary of events again but will focus on the ENT aspects of the care provided. [Mr A] had chronic ear discharge due to bacterial infection. This was found to be secondary to a cholesteatoma resulting in a chronic mastoiditis/masked mastoiditis that initially responded and was partially treated by multiple courses of antibiotics (some given for infections elsewhere on the body). He developed an uncommon complication, developing an intracranial abscess that ultimately led to his death. The presentation was atypical and complex making the diagnosis challenging. Multiple factors appear to have contributed to the outcome.

Question 1 The appropriateness of Whanganui DHB to decline [Mr A's] first ENT referral.

[Dr G's] response:- *'ENT Consultant reviewed referral. 'I viewed it as a patient who presented with cellulitis of the foot, and enquiry of systems, found to have a 2 week history of discharge. No other relevant otological history or other examination findings. Given this, it is reasonable for the patient to be seen in his primary care setting, assessed, treated, (as they treat most of the discharging ears in our community), and then referred to secondary if then be. The fact that cholesteatoma is mentioned, is irrelevant as there is no degree of urgency, in the referral itself.'*

I agree with this decision. On 06 [Month3] [Mr A] presented to the Emergency department with a foot infection when an incidental finding of ear discharge was noted by the SHO and referral made to the ENT service. This was declined as the initial medical management of ear discharge is normally carried out by the GP with referral to the ENT service at a later date if unsuccessful. Due to limited funding and resources most ENT departments in New Zealand receive more referrals each month than they are able to see in Government mandated time frames. This means that clinicians have to triage referrals and prioritise who can be seen and how urgently. Guidelines are available and are used to try and prioritise those that need to be seen (such as likely cancer). This is not an exact process and also depends on the quality & accuracy of the information provided in the referral. 'Health pathways' have been developed to try and help the GP manage the initial presentation and referral on to the specialist service should only occur when basic management/treatment options have failed. There does not appear to have been a departure from standard practice. Improvement would involve more ENT resourcing, allowing all referrals to be seen & assessed in a timely manner.

<u>Question 2</u> The reasonableness of the delays in [Mr A] receiving an ENT appointment.

This is linked to question 1 above. [Dr G] will be faced daily with having to make triage decisions based on service workload and priorities. With the benefit hindsight, a more urgent assessment would have been preferable but may not have prevented the development of an intracranial abscess. Ear discharge is very common (95% of children prior to the age of 5 will have at least one episode). It is less common in adults and in most situations it is managed by the GP medically and referral to the ENT service would not be considered urgent, with a 3+ month wait for assessment being quite common in this country. The majority of adults with ear discharge have Chronic Otitis Media (COM) with a drum perforation but no Cholesteatoma. Initial management is medical with antibiotics/antibiotic drops which can be managed by the GP. An ENT assessment by [Dr G] occurred in the Emergency department on the 22 [Month3] (CT scan showing mastoid changes). This is when the level of concern may have increased, however incidental mastoid changes on CT are very common with chronic ear discharge. [Dr G's] assessment at the time was not straight forward (see his letter summarising the events when [Mr A] was assessed). Based on the findings at the time of assessment, the delay in arranging a further assessment/ENT appointment appears to have been appropriate.

<u>Question 3</u> The care provided to [Mr A] by [Dr G] at the ENT appointment on 10 [Month5], including the adequacy of the investigations undertaken and whether mastoiditis should have been considered as a reason for [Mr A's] behaviour on this date.

[Dr G] had already made a diagnosis of Cholesteatoma and a temporal bone CT scan was being arranged as part of a work up for surgery. The possibility of mastoiditis was being considered at each assessment from various recorded comments eg. 'mastoid was non tender/not swollen, cranial nerves intact'. [Mr A's] different/unusual behaviour at various stages when assessed was not typical of mastoiditis or developing an intracranial abscess (euphoric/happy — ED assessment, or sleepy/tired in the ENT clinic). This was put down to drug use, which would be compatible with the most likely cause for the behaviour at that time. [Dr G] was able to hold a conversation with [Mr A] and explain what would be involved with surgery on the 10th [Month5]. The first CT scan carried out on the 22 [Month3] did not show the brain above the temporal bone. If it had, it may still have appeared normal at that stage of the disease process and may not have helped with the diagnosis. If an abscess had been present in [Month3] I would have expected a more rapid deterioration prior to the [Month5] 13th diagnosis. 26 [Month3] ED record states:-

Feeling improved since starting antibiotics. Ongoing pain in ear. Not taking pain relief. No further ear discharge. Feels generally much better. No further fevers. Has been out and about. Swelling reduced in neck. Eating and drinking normally. No alcohol, non-smoker. Right ear exam: Red ear canal, burst tympanic membrane, no discharge. Left ear exam: Not red. Tympanic membrane intact, no discharge. Minimal lymphadenopathy. Resolving otitis media/externa.

This indicates that [Mr A] was clinically improving at that stage, but in reality, may have had an ongoing 'masked mastoiditis'. Possible future improvements — radiology protocol: scanning higher to include the brain, if ear disease is present may be appropriate, however the radiation dose to the brain is a consideration.

Any other comments considered pertinent to make not covered above.
The annual incidence of cholestatoma is reported as about 3 per 100 000 in children and 9.2 per 100 000 in adults (more common in males). This equates to a lifetime risk of developing a cholesteatoma at about 0.5% of the population. Neuroradiology of Cholesteatomas K. Baráth, et al. American Journal of Neuroradiology. February 2011, 32 (2) 221–229; DOI: https://doi.org/10.3174/ajnr.A2052 Intracranial complications from infection related to Cholesteatoma are uncommon in New Zealand due to early/ easy access to antibiotics and access to surgery. In addition, with New Zealand's small population is it difficult to obtain meaningful figures regarding incidence and complications. I have therefore looked at overseas data from a larger populations:- Management of cholesteatoma complications: Our experience in 145 cases. Indian Journal of Otology 2014: Vol 20, Issue 2, p: 45–47 Aziz Mustafa, Shkëlzen Kuçi, Arsim Behramaj

	N	*N/year*
Patients with COM	2765	160
Patients with CCOM	502	30
Patients with complications of CCOM	145	8
Patients who died because of CCOM complications	5	0.3

COM: Chronic otitis media, CCOM: Cholesteatomatous chronic otitis media

In this paper — 2765 patients presented with ear discharge (Chronic Otitis Media). Of these, 502 had cholesteatoma (18%) and about 5% developed complications (including meningitis) with a total of 5 dying from complications (0.18%). ***Intracranial complications of cholesteatoma*** *Acta Otorhinolaryngol Belg 1993;47(1):33-6. Z Maksimović, M Rukovanjski* ***Abstract*** *The incidence of cholesteatoma and its intracranial complications in 1450 patients treated for chronic middle ear disease at the ENT Department of the General Hospital in Osijek (Croatia) over a 15-year period is reported. Nearly 7.5% of patients suffering from chronic middle ear disease with cholesteatoma developed intracranial complications. The most frequent complication was meningitis. The mean age of patients with intracranial complications was 34.6 years. The average duration of the disease was 11.9 years.* This paper is from 1993 and found a slightly higher risk of complications for those with Cholesteatoma. The average duration of symptoms of was 11.9 years. Hence the reason that urgent treatment is not required in the majority of presentations. No death incidence provided. In the Southern DHB, a typical adult referral with a chronic ear discharge (having failed medical therapy by the GP) would be prioritised as 'routine' (see within 4 months) and when assessed, if they had a Cholesteatoma they would be listed for surgery as 'routine' (within 4 months).

If they presented with complications, this would alter the priority at the time depending on the presentation symptoms.

Conclusion: Questions asked:- What is the standard of care/accepted practice?
The incidence of death as a complication of cholesteatoma/mastoiditis in New Zealand is fortunately rare. This means that the likelihood of an ENT surgeon in New Zealand dealing with a case of intracranial abscess resulting in death during their career is quite small. We are all taught that there is always a risk of intracranial complications developing and it should always be in the differential diagnosis when assessing an acutely unwell patient with ear discharge. From the information recorded, this possibility was considered on several occasions. With [Mr A's] various presentations, there appear to have been mitigating factors making the diagnosis difficult. There is a condition called 'Masked mastoiditis' when acute infection symptoms are modified and become less typical due to repeated antibiotic prescriptions partially treating the infection, this leads to failure of resolution, with a low grade granular osteitis developing in the mastoid bone. This may well have been the case, with [Mr A] receiving antibiotics for his ear discharge as well as infections elsewhere in the body. Masked Mastoiditis may cause headache, earache and general malaise, but more often it is a silent disease. Its danger lies in the fact that it can have the same consequences as acute mastoiditis — i.e. abscess formation as a result of necrosis (that may be intracranial).

If there has been a departure from the standard of care or accepted practice — how significant a departure do you consider it is?
Whilst the outcome for [Mr A] and his family has been distressing and tragic, the circumstances leading to his death appear to be due to an unfortunate unpredictable combination of circumstances. Whilst there were delays in treatment/diagnosis, they are understandable. If there has been a departure from the standard of care I would consider it minor.

How would it be viewed by your peers?
I empathise with the family and all medical/nursing staff involved in the stressful series of events. Ongoing education and awareness of rare potential risks for all presenting to the health system should be the aim. Protocols & guidelines can reduce but not eliminate risk. Whanganui DHB appear to be trying to achieve this. I would expect my peers to view this as an understandable but very unfortunate combination of events.

Yours sincerely

Martyn Fields

I provided an initial report on the 5th September 2020 focussed on the ENT care provided.

I have been asked to review the additional information provided and comment on the following:-

- Whether it causes you to amend the conclusions drawn in your initial advice, or make any additional comments.

- Any comment about any systemic issues at Whanganui DHB. If there are systemic issues, please elaborate on these with reference to how other hospitals operate in those respects.
- Any other matters in this case that you consider warrant.

I have read the additional information (37 pages) provided relating to [Mr A's] care.

The Whanganui DHB review of the care provided appears to have been thorough and there is a process in place (Critical Systems Analysis) to learn from this, to try to reduce the risk of a similar event and improve care in the future.

[An] (ENT surgeon) has also provided a report. Extracts & his additional comments have been provided rather than the whole report. My report does not conflict with any of the comments provided made by [the ENT surgeon], however the emphasis we have placed on various factors differs a little. This does not change my overall view of the events. I did not consider the possibility that excessive use of non-steroidal anti-inflammatories (NSAIDs) may have contributed to the infection, however this may have been a contributing factor.

The conclusions in my original report remain the same, having reviewed this additional information.

Yours sincerely

Martyn Fields

I provided an initial report on the 5th September 2020 focussed on the ENT care provided. I provided an additional supplementary report on the 31st December 2020.

I have now been provided with the following information (43 pages):-

1. A copy of my initial advice report
2. Further response from Whanganui DHB dated 11 May 2021
3. A response from [Dr G] dated 10 May 2021
4. A copy of ACC emergency medicine advice
5. A copy of HDC emergency medicine advice

I have been asked to review the documentation and advise on the following.

My comments are limited to an ENT perspective of the management of the presentations to the Emergency department and ENT clinic and the treatment provided.

1. Whether it causes you to amend the conclusions drawn in the previous advice you have provided.

The conclusions in my original report remain much the same, having reviewed this additional information.

2. Please provide further comment on the adequacy of the care [Dr G] provided to [Mr A] on 22 [Month3], including:

i. The reasonableness of the decision not to admit [Mr A] at this time.

Based on the clinical information [Dr G] had at presentation, I feel it was reasonable not to admit [Mr A] at that time. The blood culture result was not available when [Dr G] assessed [Mr A]. Once available, [Mr A] was no longer in the Emergency department and was difficult to contact. [Dr G] was not informed of the positive blood culture and this appears to have been managed by the Emergency department. If a bacteraemia was suspected by the Emergency department & they felt admission was indicated, they would have initiated this and it may have been more appropriate under a general medical/surgical team. No definite/specific cause had been identified at the time as there appear to have been multiple possible sources for the infection. At the time [Dr G] was involved directly — there was little evidence of an ENT cause that warranted admission under the care of the ENT service. Chronic ear discharge is very common and is not an indication for admission in the absence of acute mastoiditis features.

ii. The adequacy of the assessments/investigations [Dr G] carried out on [Mr A].

With the benefit of hind sight — the initial CT scan could have included a wider area (brain) but there is no certainty that there would have been any intracranial changes visible on the scan at that time. I would have expected the patient to have had more symptoms if there was an intracranial infection at the initial presentation. [Dr G] appears to have carried out an appropriate clinical assessment in challenging circumstances and considered the possibility of mastoiditis.

iii. The timeliness of the follow-up ENT appointment offered to [Mr A].

In the majority of patients presenting to an ENT service in this way, the timeliness of follow-up would have been acceptable. This is not to say it is ideal — but in a health system with significant funding and resourcing constraints, the delay that occurred would be common and generally accepted and normally would not have resulted in the outcome that occurred for [Mr A].

3. Please provide further comment on the adequacy of care provided to [Mr A] by [Dr G] on 10 [Month5], including:

i. Given the circumstances of his presentation, the reasonableness of the decision not to undertake [Mr A's] observations.

In my opinion, the care provided by [Dr G] would be considered adequate & reasonable in a normal situation/presentation. The ENT clinic appointment would have focussed on assessment of the ear condition. In an ENT outpatient setting it would not be standard practice to carry out recording of blood pressure, pulse, temperature etc. as part of an outpatient assessment. This would be done when/if admitting a patient to the ward or if seen acutely in the Emergency department (by Emergency department staff). Whilst [Mr A] was found sleeping in the clinic, [Mr A] provided a reason for this and his assessment followed. [Dr G] states that he was able to explain what was required and

the importance of attending for the CT scan and planned surgery. He also spoke to [Mr A's] father later that morning to provide additional information/advice.

ii. The adequacy of [Dr G's] response to his observation that [Mr A] was experiencing acute methamphetamine intoxication including whether further communications with, or referral to other services was warranted.

[Dr G] has provided information regarding his experience overseas dealing with drug intoxicated & drug dependent patients. He appears to have had considerable exposure to the variety of presentations of patients with drug use issues and how to assess this clinically. I have little/no personal experience of this in my time in NZ/Dunedin. His comments appear reasonable and in keeping with my limited knowledge.

4. Any other matters in this case that you consider warrant comment.

In the majority of patients presenting with a discharging ear, cholesteatoma surgery is not considered urgent and initial medical therapy is appropriate whilst investigations are carried out. Many do not undergo surgery for some months after presentation (often 4+ months in the Dunedin unit & sometimes up to a year later). Acute mastoiditis can result in acute admission and urgent surgery, however [Mr A's] presentation was not classical for this, making the diagnosis difficult. He may have had a 'masked mastoiditis' partly due to recurrent (sub-therapeutic?) antibiotic prescriptions with recurrent presentations and possible variable use of them. This may have allowed a subacute infection to spread intracranially from the middle ear/mastoid and result in this uncommon complication.

For each question, please advise:

a. What is the standard of care/accepted practice?

For all of the above questions, in the majority of situations, the care provided would have been acceptable and reasonable. The outcome on this occasion was rare and unfortunate.

b. If there has been a departure from the standard of care or accepted practice, how significant a departure (mild, moderate, or severe) do you consider this to be?

If there has been a departure from standard practice, I would consider this to be minor.

Whilst repeated presentations may indicate a more serious problem, [Mr A] appeared to improve with each treatment option tried at the earlier presentations with a positive response to the antibiotics prescribed (reduced CRP, reduced white cell count, temperature etc.).

c. How would it be viewed by your peers?

I feel that most would understand the difficulty faced by the Emergency department & ENT staff in dealing with an atypical & complex presentation, in addition to social and cultural issues present. The outcome would have been difficult to predict and prevent. Better resourcing may have allowed for earlier surgical intervention, however most

DHBs face similar problems with staff shortages, bed availability & theatre access. This is not something that front line staff can address in isolation.

The possibility of mastoiditis and development of complications was considered by [Dr G] on several occasions but at the time, the history and clinical picture did not fit with an intracranial complication occurring until the final presentation to the Emergency department.

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

The hospital clinical staff/management have already carried out an extensive review of the unfortunate series of events leading to [Mr A's] death. Changes have been made to try and prevent this occurring again in the future. It is impossible to completely remove all risk but appropriate measures appear to have been taken.

Yours sincerely

Martyn Fields"