Health New Zealand|Te Whatu Ora Southern
(previously Southern District Health Board)

Gastroenterologist, Dr C

Registrar, Dr D

A Report by the

Health and Disability Commissioner

(Case 19HDC01543)

HEALTH & DISABILITY COMMISSIONER
TE TOIHAU HAUORA, HAUĀTANGA

Contents

Executive summary

1. This report discusses the services provided to Mr A by Health New Zealand|Te Whatu Ora (Health NZ) Southern.[1] The complaint, made by Mr A's son, Mr B, concerns the care provided by a gastroenterologist, Dr C, and a junior surgical registrar, Dr D. Mr A had had an abdominal aortic aneurysm (AAA) repair[2] in September 2017, and he presented at the Emergency Department (ED) at a public hospital in 2019 with a suspected upper gastrointestinal (UGI) bleed.[3]

2. While in the ED, Mr A was assessed by Dr D, on behalf of the vascular service. Dr D was working in Neurosurgery but covering other surgical specialties while on call overnight. With Mr A's prior AAA repair, an aorto-enteric fistula (AEF)[4] needed to be considered and ruled out. However, Dr D was unaware of this and documented that there was 'no evidence of aortic pathology'.

3. Later that evening, Mr A's care was transferred to the Gastroenterology Department. The gastroenterologist, Dr C, received a verbal handover and said that he was told that an AEF had been ruled out by the vascular service. Dr C accepted this advice.

4. Mr A remained in hospital for a few days to be monitored and underwent a gastroscopy, which found non-erosive gastritis.[5] He was discharged home with an urgent referral for a colonoscopy.[6] Sadly, the following day Mr A collapsed and died at home. The cause of death was determined to be hypovolaemic shock[7] following severe acute gastrointestinal haemorrhage.[8]

5. Although the cause of death was unrelated to an AEF and the post-mortem found no evidence of an AEF, this pathology is potentially fatal, and in Mr A's case should have been considered and ruled out. This report highlights the importance of ensuring that junior staff are well supported and equipped to perform their allocated role, and that hospital systems and culture ensure that there is effective communication, ownership, and critical thinking amongst staff.

Findings

6. The Commissioner found that Health NZ Southern did not provide services to Mr A with reasonable care and skill, and, as such, breached Right 4(1) of the Code. The Commissioner

[1] On 1 July 2022 the Pae Ora (Healthy Futures) Act 2022 came into force, resulting in all district health boards being disestablished. Their functions and liabilities were merged into Te Whatu Ora|Health New Zealand (now Health New Zealand|Te Whatu Ora.
[2] A bulge in the wall of the large artery below the heart (the aorta). An AAA repair treats the weak section to prevent it from tearing.
[3] A bleed in the upper gastrointestinal tract (generally considered to be from the mouth to the first part of the small intestine (duodenum)).
[4] An abnormal connection between the aorta or its major arterial branches and the gastrointestinal tract.
[5] Inflammation of the stomach lining without erosion or compromise of the stomach lining.
[6] A procedure in which a thin, flexible tube called an endoscope is used to look inside the colon.
[7] Rapid fluid loss (such as blood loss), which can result in multiple organ failure.
[8] A sudden, severe bleed in the gastrointestinal system.

was critical of the lack of appropriate guidance and supervision of the registrar, and the lack of effective communication, ownership, and critical thinking among staff in the missed investigation of an AEF.

7. The Commissioner found that Dr C did not breach the Code. However, the Commissioner was critical of Dr C's failure to verify the information received on handover from the ED that an AEF had been considered and ruled out, and the subsequent discharge of Mr A without having verified this information appropriately.

8. The Commissioner made adverse comment about the care Dr D provided to the man regarding the lack of consideration of an AEF and for not consulting with the on-call consultant vascular surgeon before giving advice on behalf of the vascular service.

Recommendations

9. The Commissioner recommended that Health NZ Southern provide an update on the changes made to the registrar orientation programme, particularly regarding guidance on when to consult the on-call specialist; consider providing staff with ongoing refresher updates on AEF; share an anonymised version of this case with staff as a learning resource; provide an outline of the expected pathway for an AEF to be identified and ruled out, and evidence that this has been communicated to all relevant staff; consider implementing a process whereby if a patient has been assessed after hours by a specialist service prior to admission, it is flagged to the admitting consultant teams whether or not a consultant was involved in that prior assessment; review its policies and consider whether to include a requirement for documentation of patient handover; review its policies and guidelines and consider the need for AEF to be addressed in surgical policies and guidelines; and discuss the findings of this report at the next endoscopy oversight group meeting.

Complaint and investigation

10. The Health and Disability Commissioner (HDC) received a complaint from Mr A's family about the care provided to him by Health NZ Southern.

11. The following issues were identified for investigation:

- *Whether [Health NZ Southern] provided [Mr A] with an appropriate standard of care during [Day 1 to Day 4] 2019[9] (inclusive).*
- *Whether [Dr C] provided [Mr A] with an appropriate standard of care during [Day 1 to Day 4] 2019 (inclusive).*

12. This report is the opinion of Commissioner Morag McDowell.

[9] Relevant dates are referred to as Days 1–4 to protect privacy.

13. The following parties were directly involved in the investigation:

Mr B	Complainant/son of consumer
Health NZ Southern	Provider

14. Further information was received from:

Dr C	Provider/gastroenterologist
Dr D	Provider/junior surgical registrar
Coroner	
Dr David Maplesden	In-house clinical advisor

15. Dr E, an ED clinician, is also mentioned in the report.

16. Independent advice was obtained from a gastroenterologist, Dr Richard Stein (Appendix A), and a vascular surgeon, Dr Andrew Hill (Appendix B).

Introductory comment

17. At the outset, it is important to acknowledge that HDC's formal investigation into the care Mr A received diverges from the initial concerns raised by Mr A's family. The reasons for this are set out below.

18. The complaint to HDC raised concerns that:

- Mr A was discharged when still unwell with unidentified internal bleeding and in need of an urgent colonoscopy;
- It was unclear who was responsible for Mr A's discharge, and the basis for that decision;
- It was unclear whether any other options had been considered, and, if so, why they were discounted; and
- It was unclear whether the outcome for Mr A would have been different if he had remained in hospital.

19. It is the role of HDC to determine whether Health NZ Southern provided Mr A with an appropriate standard of care during Day 1 to Day 4 (inclusive). It is not the role of HDC to determine cause of death (this falls within the scope of the Coroner or ACC), or whether the outcome may have been different had Mr A remained in hospital.

20. However, regarding the concerns raised, the reasons behind Dr C's decision to discharge Mr A are discussed below under the heading 'Decision to discharge with urgent colonoscopy referral'. A referral made to the vascular service for assessment while Mr A was in the ED, and the urgent referral for a colonoscopy, show that although an upper gastrointestinal

(UGI) bleed was the primary consideration in Mr A's care, the possibilities of an aortic pathology[10] or lower gastrointestinal (LGI) bleed[11] were also considered.

21. Unfortunately, the colonoscopy was not performed prior to Mr A's death, meaning that an LGI bleed had not been ruled out at the time of death. However, I note that the autopsy determined that the source of the fatal bleed was acute haemorrhagic gastritis,[12] which is a form of UGI bleed.

22. HDC received independent advice from gastroenterologist Dr Richard Stein, in which he raised concern that an AEF was not investigated and ruled out before Mr A was discharged. Dr Stein advised that due to Mr A's prior AAA repair, an AEF should have been investigated and ruled out before discharge.

23. Dr Stein did not identify any other concerns about the care provided to Mr A, other than concerns relating to the lack of investigation of an AEF. Dr Stein advised:

> '[I]f we ignore the fact that an AEF was not considered (or if the patient had [no increased risk of an AEF]), then discharging him with plans for an urgent outpatient colonoscopy, as the consultant felt the patient was stable, would fall within standard of care.'

24. Accordingly, the key issue in this investigation became the lack of investigation into an AEF prior to Mr A's discharge, which is the main focus of this report.

25. I extend my sincere condolences to Mr A's loved ones for their loss.

Information gathered during investigation

Summary

26. This report discusses the care of Mr A, who presented to a public hospital in 2019 with a suspected UGI bleed. He stayed in hospital until Day 4, when he was discharged home with an urgent referral for a colonoscopy. The following day, he collapsed and died at home. The post-mortem report concluded that Mr A's death was due to 'hypovolaemic shock following severe acute gastrointestinal haemorrhage'.

27. The key concern addressed in this investigation is whether the discharge of Mr A was appropriate, including whether an AEF was considered and ruled out prior to discharge.

[10] Any abnormalities or complications related to the aorta.
[11] A bleed in the lower gastrointestinal tract (generally considered to be the large intestine and the anus).
[12] A sudden inflammation and bleeding of the stomach lining.

Background

28. Mr A had a history of peripheral vascular disease (PVD)[13] and underwent an AAA repair in September 2017.

29. Around 2am on Day 1, Mr A reportedly passed stools that were 'black and tarry' (which is indicative of blood in the stools), followed by loose stools. At approximately midday, he had a sudden onset of nausea and light-headedness.

30. An ambulance was called, and Mr A was taken to the public hospital.

Emergency Department care

31. The clinical records document that Mr A was first seen in the ED by Dr E, who noted a 'possible UGI [bleed]'.

32. As part of his examination in ED, Mr A had blood and urine tests, an electrocardiograph (ECG),[14] and a bedside ultrasound of his upper abdomen. His vital signs were stable while in ED.

33. Dr E referred Mr A to the on-call registrar for the vascular service, although the purpose of the referral is not clear from the documentation.

34. Dr D was the on-call registrar for the vascular service on Day 1. He was a junior surgical registrar who had been working in Neurosurgery at the public hospital since 2018. As part of this role, he worked after-hours shifts on call, during which he would be covering Neurosurgery, Plastic Surgery, Urology, Vascular Surgery, and General Surgery. Dr D had had approximately four and a half years' experience as a doctor at the time of events. His previous registrar experience had comprised 18 months in general medicine, and six months in general surgery.

35. Dr D reviewed Mr A around 5.40pm on Day 1 and documented that there was '[n]o evidence of aortic pathology'. Given that Mr A had reported having passed black tarry stools, and had been taking aspirin daily,[15] Dr D's impression was of a probable UGI bleed, and he recommended a referral to the General Medicine team.

Consideration of AEF

36. Dr D told HDC that he does not recall his interaction with Mr A, due to the passage of time and the fact that he saw Mr A only briefly. Dr D's response is based on his interpretation of the events using the information provided to him.

37. Dr D stated that he did not consider an AEF in his review of Mr A because he was unaware that this was a possibility. Dr D clarified that when he documented that there was 'no evidence' of aortic pathology, he meant to convey that he saw no reason to suspect any

[13] A blood circulation disorder that causes the blood vessels outside the heart and brain to narrow, block, or spasm.
[14] A test to measure the electrical activity of the heart.
[15] Long-term use of aspirin increases the risk of gastrointestinal bleeding.

aortic pathology. He did not mean that he had ruled out any aortic pathology. His conclusion was based on the fact that he was unaware of any aortic pathologies that could be connected to how Mr A was presenting. Dr D told HDC that he could not have ruled out any aortic pathology without a computerised tomography (CT) scan.

38. Dr D also stated that he did not consult with the consultant vascular surgeon on call because when junior doctors assessed patients in ED, they did not routinely consult with specialty surgeons unless they believed that the patient's surgical history might be relevant to how they were presenting. As Dr D was unaware of the possibility of an AEF, he did not make any connection between the suspected UGI bleed and any aortic pathology, and therefore he did not recognise the need for a consultation.

39. The ED Clinical Sheet dated Day 1 records that Dr E documented: '[Surgical registrar] suggests medical referral given no aortic pathology.'

40. A gastroenterology[16] medical registrar then assessed Mr A for a probable UGI bleed and recorded that Mr A was haemodynamically stable[17] and that the issue was thought to be a '[p]robable UGI [bleed secondary to] aspirin on [a background] of PVD'. This registrar also documented: '[Patient] also [reviewed] by Surgical Reg[istrar] in ED for ?AAA involvement. [Implication]: [no] acute Aortic pathology].'

41. Around 8pm on Day 1, Mr A was admitted to hospital under the care of Dr C, a gastroenterologist.

Gastroenterology care

Verbal handover

42. Dr C initially told HDC that he received Mr A via a verbal handover from an ED doctor. In Dr C's response to the provisional opinion, he refers to this doctor being Dr D. It is not clear who completed this handover to Dr C, as there is no documentation of the discussion. Dr C said that the verbal handover included advice that Mr A had been assessed by the vascular surgery team in the ED due to his history of AAA, and that an AEF had been ruled out. Dr C told HDC that consideration of an AEF was primary in his evaluation of Mr A, and that he would have followed this up if he had not received assurance that this had been ruled out.

Observations on ward

43. On the morning of Day 2 Dr C examined Mr A and documented that he was stable and that there was no evidence of ongoing or active bleeding.

44. At 1am on Day 3 a nurse observed that Mr A had passed dark, blood-stained stools.

45. On Day 4 Dr C documented that Mr A was doing well, with no further blood-stained stools. In a medical report to the Coroner, Dr C advised that Mr A showed no evidence of further or recurrent bleeding during his hospital stay.

[16] The branch of medicine that looks at diseases of the digestive tract.
[17] Stable or normal blood flow, measured by heart rate and blood pressure.

Blood tests

46. On Day 1, blood tests showed that Mr A's haemoglobin[18] levels were low (105–108 grams per litre (g/L) of blood). On the morning of Day 2, Mr A's haemoglobin had dropped to 89g/L. The test result report commented on this decrease and suggested that it could be due to 'blood loss, renal impairment, infection, inflammation and chronic disease'. Because of this decrease, Mr A was booked for a gastroscopy on Day 3. A further blood test, taken on the morning of Day 4, indicated that Mr A's haemoglobin level had stabilised at 87g/L.

Gastroscopy

47. Mr A had a gastroscopy on the afternoon of Day 3. The endoscope[19] was introduced through the mouth, and advanced to the second part of the duodenum.[20] The gastroscopy showed non-erosive gastritis. No active source of bleeding was identified, and no blood was seen in the stomach or duodenum to suggest recent UGI bleeding.

Decision to discharge with urgent colonoscopy referral

48. On the morning of Day 4, Dr C reviewed Mr A and documented in the clinical notes:

> 'Doing well with no further [dark] stools. Ambulating without any symptoms … [Impression]: [gastrointestinal bleed] — [query] source. I advised him to discontinue the aspirin … Will arrange urgent [outpatient] colonoscopy. Instructions to return if signs of bleeding discussed.'

49. Mr A was discharged later that afternoon with supplemental iron tablets to treat his anaemia,[21] and omeprazole for his gastritis. He was advised to stop taking aspirin. The discharge summary notes that Mr A was advised to seek care from his general practitioner (GP) if he had any more episodes of bleeding or dark tarry stools, or to go to ED if this occurred in large amounts. Dr C also requested an urgent colonoscopy for Mr A.

50. Health NZ told HDC that although the source of the bleed had not been found, the decision to discharge with an urgent colonoscopy referral was based on several factors:

- Mr A was haemodynamically stable on admission and he maintained this throughout his hospital stay. Haemodynamic stability on presentation is the single most important indicator as to the severity of a GI bleed and risk for further bleeding.
- The gastroscopy results and stabilisation of Mr A's haemoglobin levels indicated that there was no active source of bleeding.

[18] Haemoglobin is tested to measure iron levels. The normal range for a male is 130–170 grams per litre (g/L) of blood.
[19] A flexible tube with a light and camera attached to it to enable pictures of the digestive tract to be taken.
[20] The first part of the small intestine, which connects to the stomach.
[21] Low levels of healthy red blood cells or haemoglobin.

- The most likely cause for an ongoing and life-threatening bleed had been investigated and ruled out. Health NZ later clarified this by saying:

  'The reference … to "the most likely cause" probably referred to the upper GI endoscopy not showing any other cause for bleeding than the observed gastritis with the likelihood of any acute aortic pathology causing the bleeding being small.'

- Although a colon source for a bleed like this could not be ruled out, it would be exceedingly unusual, and colon pathology prone to bleeding will rarely result in a sudden massive haemorrhage.

- It is very common for patients with a history of GI bleeding to have no specific source found for the bleed despite extensive assessments. Patients presenting with GI bleeds are typically observed in hospital for 24–72 hours after such a bleed. Mr A was in the hospital for 72 hours without evidence of further bleeding.

51. Health NZ told HDC that the urgency of the colonoscopy related to the priority order for the procedure rather than an urgent need for the procedure.

Fatal event

52. The following day, Mr A collapsed and died at home.

53. The post-mortem report states the cause of death as 'hypovolaemic shock following severe acute gastrointestinal haemorrhage'. This cause of death is unrelated to an AEF, and the post-mortem found no evidence of Mr A having had an AEF.

Health NZ Southern policies and guidelines

54. Health NZ provided HDC with copies of the relevant policies and guidelines that were in place at the time of events. Some key excerpts from the policies and guidelines are outlined below.

Guidelines for registrars

55. The 'Registrar Handbook Version 2' (2019) sets out that consultants on call expect to be kept up to date with the day's admissions, and that registrars should pre-emptively discuss with the consultant how regularly they want to be updated, especially on night shifts. The handbook also states that consultants will want to know if there is a significant change in their patient's condition, and that all patients taken to theatre must be discussed with the consultant on call. There is otherwise no clear direction in the guideline or any other policy provided by Health NZ on when and how to consult with the consultants.

UGI bleeding policy

56. The 'Upper Gastrointestinal Bleeding' (UGI Bleeding) policy (2019) states:

> 'Patients with a history of aorto-iliac surgery should be assumed to have an aorta-enteric fistula until proven otherwise. They should always be investigated urgently, even if the initial bleed is not major.'

57. However, Health NZ told HDC:

> 'UGI bleeding presenting in ED is a medical issue and it is not known whether [Dr D] was advised or instructed to familiarise himself with the details of the GI service guidelines on management of upper GI bleeding. It is expected that surgical registrars know the appropriate teams to refer to for different issues. They are not directed to familiarise themselves with medical policies.'

Guidelines for handover between services

58. Health NZ stated that '[t]here is no specific DHB policy for medical handover', and that the Medical Council of New Zealand (MCNZ) provides guidance on this in its 'Good Medical Practice' guideline, which states: '[When transferring patients,] [y]ou must appropriately document all transfers.'

59. Further, Health NZ stated that staff are expected to have good judgement on when to document handover discussions, and that documentation should present an 'accurate, clear and comprehensive picture of the client's needs, the interventions undertaken and the client's outcome'.

60. Health NZ also stated: 'Communication between services is extremely important and we acknowledge that to provide the best care to our patients, communication and documentation is key.'

Further information

Mr B (the complainant)

61. The complainant has expressed to HDC that Mr A's death has caused a lot of grief for the family. He also expressed concerns that Mr A was discharged following a gastrointestinal bleed with no source having been found, and that Mr A did not receive a colonoscopy prior to discharge.

Health NZ Southern

62. Health NZ Southern has extended its sincere condolences to Mr A's family and would like to acknowledge the 'upset and grief' that the family must feel. Health NZ Southern stated: 'This is a rare, unfortunate and unforeseeable event that we have been unable to find the cause [of death] when clinically evaluated or by a post-mortem.'

63. Health NZ Southern informed HDC that the vascular service would advise registrars at the 'start of run training' that the consultant vascular surgeon on call must be advised of any admissions for the vascular service. However, Health NZ Southern said that they could not specifically comment on whether Dr D underwent a formal induction to the vascular service.

Dr C

64. Dr C told HDC: 'I wish a better outcome could have been achieved in this case and I am sorry for the loss of [Mr A's] family.'

65. Dr C provided HDC with an expert advice report completed by Associate Professor F. Associate Professor F's review considered the clinical records, Dr Stein's report, the post-mortem report, and statements Dr C had given to the Medical Protection Society.

66. Associate Professor F considered Dr C's care to be of an acceptable standard. Whilst he agreed than an AEF should be considered in a patient with an AAA, and the most accurate investigation would be a CT angiogram, he considered it was the responsibility of the vascular team to conduct such investigations. He further noted Dr Stein's comments about a missed diagnosis of an AEF, and highlights that this was not a concern as Mr A did not have an AEF.

67. Associate Professor F also commented on the adequacy of the handover to Dr C, noting that it was made after adequate investigations by way of an abdominal ultrasound. Associate Professor F submitted that verbal handover is conventional practice that is not always documented in clinical notes. He further noted that a degree of trust is required between clinicians of different specialties, and Dr C would not be expected to 'interrogate' the referring doctor.

68. Regarding Mr A's discharge, Associate Professor F advised that discharge after three days is standard for a gastrointestinal bleed. He commented that the discharge may have been a day or two early if there was clear evidence of ongoing bleeding but noted that Mr A appeared stable at discharge, and staff had been informed that there were 'no further episodes of melaena'.

69. For the above reasons, Associate Professor F concluded:

> '[I]f there is any criticism of [Mr A's] management of this case, and I am not convinced there is a departure from acceptable care, then it is a failure of the hospital system. The vascular service should have arranged further inpatient follow-up the next day.'

Dr D

70. Dr D told HDC:

> '… I was greatly saddened to hear about [Mr A's] death. I would like to express my sympathy to [Mr A's] family in this tragic matter. I am also sorry for any added distress caused [by] any concerns [Mr A's] family might have about my care.'

71. Dr D said that he started his role as a registrar at Health NZ Southern at a time that was not the typical start time for registrars. He does not recall receiving specific advice about when to consult with senior surgical staff, other than word-of-mouth advice from other registrars, and has informed HDC that the vascular service did not specifically provide any information about when to seek advice, or give an opinion on behalf of the service.

72. Dr D recalls that the policy in the surgical services at the time was that the on-call registrar consulted the on-call specialist surgeon if the registrar wished to admit a patient under that service, which was not the case with Mr A. Dr D stated:

> 'As junior doctors, when we assess patients in the Emergency Department, we don't routinely consult a specialty surgeon solely because that patient had a surgical history with that service. Rather, we consult such a service if we believe that the patient's surgical history with that service might be relevant to how they are presenting. In this instance, being unaware of [AEF] as a diagnosis, I did not see how his upper GI bleed related to his previous surgery, and therefore did not consult. As junior doctors, we are a major part of the triaging process, but may occasionally have gaps in our knowledge that mean that we don't consult as a colleague with more specialist knowledge would, as we may lack the knowledge to recognise that a certain situation indicates that we should consult with a certain specialist. I believe that my primary deficiency, here, was in not being aware of [AEF], and that this was why I didn't consult.'

73. Regarding supervision while on call at the time, Dr D recalls that the on-call general surgeon (under whom most patients were admitted) provided close and active supervision, but supervision from other specialist services tended to be passive, with contact limited to when issues arose.

Responses to provisional opinion

74. Mr B was given an opportunity to comment on the 'information gathered' section of the provisional opinion. The issues highlighted by Mr B are discussed in the opinion section of this report.

75. Health NZ Southern was given an opportunity to comment on the provisional opinion and accepted the provisional opinion and recommendations.

76. Dr C was given the opportunity to comment on the relevant parts of the provisional opinion. Where appropriate, his comments have been incorporated into this report.

77. Dr C initially told HDC that he received a verbal handover from an ED doctor. However, in response to the provisional opinion Dr C said that he received the handover directly from Dr D. Dr C also raised concerns about the standard of care that should be expected, particularly the need to 'verify information received on handover from a colleague in a specialist team'. He contends that the expectation for specialists to verify assessments done by other specialty teams would create tension between services, breed a culture of second-guessing other colleagues' opinions, and add to workloads.

78. Dr C maintains that he was told that AEF had been ruled out, and he accepts that this information should have been recorded in Mr A's medical records. However, he disagrees that it was his responsibility to document the rationale for ruling out AEF and said that this would be for the vascular surgeons with the greatest experience in that area.

79. Dr C noted that there is no evidence that Mr A's subsequent bleed that resulted in his death was caused by AEF.

80. Dr D was given the opportunity to comment on the relevant parts of the provisional opinion, and he accepted the provisional opinion.

Opinion: Health NZ Southern — breach

81. Health NZ had an organisational duty to provide services to Mr A with reasonable care and skill.

82. To assist in my assessment of the standard of care provided to Mr A by Health NZ, I sought independent advice from gastroenterologist Dr Richard Stein and vascular surgeon Dr Andrew Hill.

83. Dr Stein advised that because Mr A had had a prior AAA repair, an AEF needed to be considered and ruled out. There is no evidence in the clinical notes that this happened. Dr Hill advised that consideration of the diagnosis of AEF was important as a serious pathology to be excluded, whether or not this diagnosis was or was not confirmed at the post-mortem. Further, Health NZ Southern's UGI Bleeding policy identified that patients with a history of 'aorto-iliac surgery[22]' are at risk of an AEF, and, as such, an AEF needs to be investigated urgently and ruled out.

84. While I acknowledge that an AEF was not determined to be Mr A's cause of death, I note that an AAA repair is aorto-iliac surgery and, in accordance with Health NZ's UGI Bleeding policy, and Dr Hill's and Dr Stein's advice, I consider that Mr A should have been investigated urgently for an AEF prior to being discharged. I am critical that this was not done, and I consider that the issue lies with Health NZ Southern at a service level.

85. In particular, I consider that two key factors relating to why this did not occur fall within the responsibilities of Health NZ Southern:

1. A lack of appropriate guidance and supervision provided to Dr D, which put him in a position where he made a conclusion about aortic pathology, which was a vascular issue he knew little about, and which later was misinterpreted; and
2. A lack of ownership and critical thinking among clinical staff, which meant that none of the clinical staff involved in Mr A's care identified that there was a lack of documented evidence to corroborate that an AEF had been investigated and ruled out.

Lack of appropriate guidance and supervision of Dr D

86. When Dr D assessed Mr A, Dr D was a junior Neurosurgery registrar, working an after-hours shift on call covering Neurosurgery, Plastic Surgery, Urology, Vascular Surgery, and General

[22] Surgery of, or relating to, the abdominal aorta and the iliac arteries.

Surgery. This was despite Dr D having little experience in surgical specialties other than General Surgery and Neurosurgery. Dr D concluded and documented that there was no evidence of aortic pathology. However, subsequently this was misunderstood as meaning that aortic pathology had been excluded, and, unfortunately, this was heavily relied on in subsequent management decisions.

87. My clinical advisor, vascular surgeon Dr Andrew Hill, noted that knowledge of the diagnosis of AEF by a junior surgical registrar would not be expected. However, he advised that it is a 'deficiency' to say that there is a lack of any 'acute aortic pathology' without having sought advice from a vascular surgeon, and that in a role where vascular surgery advice is given, advice from an experienced vascular surgery doctor should be sought. Dr Hill stated:

> 'The surgical departments on behalf of whom advice is given should ensure that clear guidance is given to a junior registrar about when it is appropriate to seek advice or give an opinion on behalf of the specialty.'

88. With reference to that advice, I consider that if Health NZ Southern rostered junior doctors to cover specialties in which they had little to no experience, it had an obligation to ensure that those doctors were provided with appropriate guidance, supervision, and support from more senior doctors in those specialties.

89. This is particularly so in an on-call environment, when there are few senior consultants on site. There needed to be robust structures and expectations for junior doctors on call to know whom to call and when, if consulted on matters outside their experience or knowledge, and to have a low threshold for consulting the specialist on call in those circumstances. There also needed to be a culture of on-call consultants being available, open, and willing to provide advice in those circumstances.

90. There is no evidence from Health NZ that information was given to Dr D about when to consult senior surgical staff. The 'Registrar Handbook Version 2' provides guidance on when to update consultants; however, updating a consultant on the status of a patient is different from requesting a consultation on a patient. There is no clear advice in the guideline, or any other policy provided by Health NZ, on when a registrar should consult with the consultant. Dr D recalled that the general surgeon on call provided close and active supervision, but supervision from other specialist services tended to be passive, with limited contact. He stated that the only guidance he received about when to consult senior staff was by word of mouth from other registrars. Dr D also recalled that at the time it was common practice for registrars to consult only if the registrar wished to admit a patient under that service.

91. I am concerned by the lack of structure and support for junior doctor decision-making and escalation of concerns. Dr D was placed in a position whereby he documented an ambiguous conclusion about a vascular issue, which led to a misunderstanding that aortic pathology had been excluded. In my view, Health NZ Southern must take responsibility for this failure at a service level.

Lack of effective communication, ownership, and critical thinking in the missed investigation of an AEF

92. I consider that there were multiple occasions during Mr A's time in hospital where the fact that an AEF had not been investigated and ruled out could have been identified. In my opinion, the key factor in this not occurring was a pattern of behaviour across individuals and departments where staff failed to communicate effectively, deferred to others, and passed on the responsibility without using critical thinking or making individual assessments. As noted by Dr Hill: '[T]his diagnosis was also not considered by the ED staff, the Medical team under which [Mr A] was admitted and the Doctor performing the UGI endoscopy.'

93. Given that an AEF is a life-threatening diagnosis that needs to be investigated urgently, there was a concerning lack of responsibility taken by anyone to ensure that this had been done.

94. First, the diagnosis was not investigated and ruled out in ED. It is unclear whether Dr E referred Mr A to be assessed by the vascular service specifically to investigate the possibility of an AEF, or whether it was to rule out any aortic pathology generally, given Mr A's prior AAA repair. If Dr E was aware of the possibility of an AEF, he could have explicitly requested that this be investigated and ruled out when he referred Mr A to Dr D as the on-call surgical registrar for the vascular service. Further, if Dr E was aware of the possibility of an AEF and had referred Mr A to the vascular service for this to be ruled out, then I would have expected him to have followed up specifically to ensure that this had occurred. Instead, Dr E took Dr D's advice without question, despite a lack of documented evidence that the necessary procedures for ruling out acute aortic pathology had been undertaken.

95. There was further opportunity for staff to identify that an AEF had not been ruled out at the handover of Mr A's care from ED to gastroenterology.

96. I am concerned that the ED doctor who handed over Mr A's care to the gastroenterology service told Dr C during the verbal handover that an AEF had been ruled out by the vascular service. From the information HDC has received, it appears that the ED doctor drew this conclusion from Dr D's assessment that there was no evidence of acute aortic pathology, as there is no direct reference made to an AEF being investigated and ruled out in the clinical documentation. If the ED doctor had thought critically when reviewing the assessment by Dr D prior to the handover, the ED doctor may have questioned the lack of evidence that an AEF had been ruled out, or why a junior registrar had given advice on behalf of the vascular service without evidence of a consultation with the consultant vascular surgeon on call.

97. However, my criticisms of this ED doctor are mitigated by the fact that Mr A was being transferred to another department (rather than being discharged), and the ED doctor could have reasonably assumed that the Gastroenterology Department would undertake an adequate assessment and use critical thinking around what assessments had been done.

98. On arrival in the Gastroenterology ward, the diagnosis of AEF was again not investigated and ruled out. Dr C said that he was told that it had been ruled out by the vascular service. I note that my advisor, Dr Stein, advised that 'if [Dr C] was specifically told that the vascular service ruled out an AEF, his deferring to the opinion of the vascular service would seem

reasonable'. However, Dr Stein also advised that it would be incumbent on the gastroenterologist receiving the verbal report that an AEF had been ruled out to ask how it had been ruled out (ie, whether a computerised tomography (CT) angiogram[23] had been performed), and to document the rationale for ruling out an AEF as a diagnosis. Dr C did not take either of those steps.

99. This is another example in which a lack of effective communication, ownership, and critical thinking meant that it was not identified that an AEF had in fact not been investigated and ruled out. As these issues have been identified among multiple individuals and departments, I consider it to be indicative of a flawed system — one in which there was a critical breakdown in communication and no clear ownership of the responsibility to ensure that an AEF had been investigated and ruled out, which then led to multiple individuals 'passing the buck' and deferring to other clinicians without using critical thinking or making their own full assessments. Again, Health NZ Southern must take responsibility at a service level for these failures.

Conclusion

100. Due to the lack of appropriate guidance and supervision of Dr D, and the lack of effective communication, ownership, and critical thinking in the investigation of an AEF across multiple staff and departments, the diagnosis of AEF was not considered and ruled out by multiple clinicians involved in Mr A's care. It is my opinion that Health NZ Southern failed in its organisational duty to provide services to Mr A with reasonable care and skill, and, as such, breached Right 4(1) of the Code of Health and Disability Services Consumers' Rights (the Code).[24]

101. I acknowledge that following this event, Health NZ Southern made changes to the training and supervision of registrars, particularly regarding cases where an AEF should be considered.

Opinion: Dr C — adverse comment

102. Dr C was the consultant gastroenterologist responsible for Mr A's care and was the discharging doctor. I am critical of his lack of critical thinking and diligence in receiving advice from another service, and his decision to discharge Mr A given that it had not been verified that an AEF had been ruled out.

103. My independent advisor, Dr Stein, advised:

> 'Under most circumstances, in a scenario where a patient presents with [blood in the stools] and no source for bleeding [is] found, it is current practice in New Zealand to

[23] An imaging test that looks at the arteries that supply the heart with blood.
[24] Right 4(1) states: 'Every consumer has the right to have services provided with reasonable care and skill.'

> discharge a patient with a plan for further outpatient work up, assuming vital signs and haemoglobin are stable, and there is no evidence of further bleeding.'

104. Dr C had assessed that Mr A's vital signs and haemoglobin were stable, and that there was no evidence of further bleeding.

105. However, Dr Stein also advised that '[w]hile AEF is arguably a rare condition, it should have been considered by the specialty services involved'.

106. Dr C told HDC that during the verbal handover he was advised that Mr A had been assessed by the vascular surgery team that an AEF had been ruled out, and he had relied on this advice. Dr C stated: '[H]ad I not received this assurance then I certainly would have followed up on the possibility of an AEF.'

107. Dr C initially told HDC that the handover to him was from an ED doctor. However, in response to my provisional opinion, he said that he received the handover from Dr D. He submitted that he should not be required to verify information received on handover from a colleague in a specialist team.

108. The available evidence does not support Dr C's statement that Dr D provided the handover to him. According to Dr D and the clinical record, Dr D's sole involvement in Mr A's care was a review in ED at 5.40pm on Day 1. Mr A was not admitted to Dr C's care until 8pm, which was after a medical registrar had reviewed Mr A. It would not have been Dr D's role, in those circumstances, to hand over Mr A's care to Dr C. In the absence of evidence to support Dr C's submission, I consider it is more likely than not that the handover was not directly from Dr D. While I agree that it would have been reasonable for Dr C to have relied on any information received directly from a specialist team (and having the consequent ability to question them directly), there is no evidence that that happened in this case.

109. Dr Stein advised:

> '[I]f [Dr C] was specifically told that the vascular service ruled out an AEF, his deferring to the opinion of the vascular service would seem reasonable, given that the vascular surgeons [are] considered to have the greatest expertise in this area.'

110. However, Dr Stein also advised that in a scenario in which the receiving gastroenterologist receives a verbal report that an AEF has been ruled out by the vascular service, it would be incumbent on that gastroenterologist to:

1. Ask how an AEF had been ruled out, ie, ask whether a CT angiogram had been performed; and
2. Document in the medical records the rationale for ruling out the diagnosis of an AEF.

111. Dr Stein stated:

> 'If the admitting doctor did not query how an AEF was ruled out at the time of accepting the patient (in the absence of any documented discussion of an AEF in the medical records), in my opinion this represents a moderate departure from standard of care.'

112. As noted at paragraph 65 above, Dr C provided HDC with an expert advice report from Associate Professor F. On receipt of this report, it was shared with Dr Stein, who confirmed his (unchanged) view that an AEF needed to be investigated, and the only way to do this was by CT angiogram. Dr Stein does not agree that it is relevant whether or not Mr A had an AEF, as the accepted standard for someone with his presentation was to assess for one.

113. There is a clear difference in expert opinion between Dr Stein and Associate Professor F as to whether Dr C provided Mr A with care of an appropriate standard. Both advisors agree that an AEF should have been considered given Mr A's history of an abdominal aortic graft. However, Associate Professor F places this responsibility with the vascular team and considers it was investigated adequately by ultrasound prior to the handover to Gastroenterology.

114. In contrast, Dr Stein advised that the investigation for an AEF is a CT angiogram, which was not performed, nor is there any clear documentation showing that an AEF was considered. It is his view that adequate investigations to rule out an AEF were not completed, and it was Dr C's responsibility at handover to ensure that this had been done.

115. I have carefully weighed the competing expert advice and have considered it alongside the other evidence obtained in the investigation. Noting the difference in clinical opinion, and the degree of uncertainty regarding the conversation at handover (and in the absence of documentation of such), it is my opinion that Dr C did not breach the Code. This decision is finely balanced and has been significantly influenced by the discordance in opinions between expert advisors, which I am unable to reconcile.

116. Notwithstanding this, I am critical that Dr C relied on the verbal handover of the ED consultant that an AEF had been assessed and ruled out, and did not confirm this by review of the clinical records. I consider it important for continuity of care that a practitioner receiving handover of a patient ensures that the key diagnosis has been considered and excluded. Dr C advised that he was explicitly told that an AEF had been assessed and ruled out. I am unable to verify this given that the handover was not documented. In my view, due to the significant risk of an AEF, and as Dr C did not have direct contact with the vascular service, he should have confirmed, by review of the clinical record, that the appropriate investigations had been completed.

117. I acknowledge that Dr C has reflected on how he accepts information from other providers and is now more diligent in this respect. I consider this to be appropriate and to serve to minimise the risk of such an event happening in the future.

Opinion: Dr D — adverse comment

118. Dr D was the on-call surgical registrar who assessed Mr A in the ED on behalf of the vascular service and concluded that there was no evidence of aortic pathology. Dr D was a junior surgical registrar at that time, working in Neurosurgery but covering other surgical specialties while on call overnight. While I do not consider that Dr D breached the Code, I am critical that he did not consult with the on-call consultant vascular surgeon before making ambiguous conclusions on a vascular issue and giving advice on behalf of the vascular service. Further, I have commented on his standard of documentation.

Lack of consideration of AEF

119. I sought advice from a vascular surgeon, Dr Andrew Hill, regarding the reasonableness of the assessment conducted by Dr D, given Mr A's presenting symptoms and clinical history. Dr Hill advised that the assessment was deficient owing to 'the failure to consider a major cause for an UGI bleed when there has been open aortic surgery in the past'.

120. Dr D acknowledged that he did not consider an AEF when assessing Mr A and said that this was because he was unaware of an AEF as a possible pathology.

121. Dr Hill quantified this as a mild deficiency and advised: 'Knowledge of the diagnosis of AEF by a Junior surgical registrar would not be expected. The lack of surgical knowledge is a minor deficiency.'

122. The UGI Bleeding policy identifies the risk of an AEF in patients with a history of aorto-iliac surgery. Health NZ told HDC that it is not known whether Dr D was advised or instructed to familiarise himself with the details of this policy. Health NZ said that the UGI Bleeding policy is a medical policy, and surgical registrars are not directed to familiarise themselves with medical policies.

123. On the above basis, I accept that it was reasonable for Dr D not to have known of the possibility of an AEF.

Lack of advice from vascular surgeon

124. I am concerned that Dr D documented that there was no evidence of aortic pathology when this was a vascular issue, and he had not sought advice from a vascular surgeon.

125. Dr Hill advised that it was a moderate deficiency to state that there was a lack of acute aortic pathology without having sought advice from a vascular surgeon. However, Dr D stated that what he meant when he documented that there was 'no evidence' of aortic pathology was that he saw no reason to suspect any aortic pathology. He did not intend to convey that there was no aortic pathology. Dr D acknowledged that he could not have ruled out any aortic pathology without a CT angiogram having been done.

126. Dr D also considers his lack of knowledge of AEF to be the reason for having given advice on behalf of the vascular service without first consulting with the on-call consultant vascular surgeon. Dr D told HDC that junior doctors did not routinely consult with a specialty surgeon just because the patient had a history with that service; rather, they would consult if they

believed that the patient's surgical history with that service could be relevant to the patient's presentation. In this case, Dr D did not consult as he was unaware of any possible connection between how Mr A was presenting and his AAA repair history.

127. I am concerned that the way Dr D phrased his advice, and the lack of documentation of his findings, impression, and plan contributed to the misunderstanding that led other clinicians to be falsely reassured that an AEF had been investigated and ruled out.

128. As outlined above under the heading 'Lack of appropriate guidance and supervision of [Dr D]', I consider it more likely than not that Dr D did not receive adequate guidance from the vascular service on when to seek advice or give an opinion on behalf of the service, and that he did not receive appropriate guidance on when to consult with senior surgical staff.

129. Accordingly, while I consider that Dr D should have consulted the on-call consultant vascular surgeon before giving advice on behalf of the vascular service, I acknowledge that as a junior surgical registrar, Dr D lacked the knowledge and guidance needed to recognise what he did not know, and that consultation was needed. For these reasons, I do not find Dr D in breach of the Code. I also acknowledge that Dr D has reflected on these events and made changes to the way he documents in clinical notes. I consider that these changes are appropriate and will serve to minimise the risk of such a miscommunication happening in future.

Changes made since events

Health NZ Southern

130. Health NZ Southern told HDC that following this incident it improved its registrar orientation programme, particularly for registrars who start halfway through the run. The updated orientation programme ensures that all subspecialty questions/queries for on-call surgical registrars are discussed with the relevant specialists.

131. The vascular team have also incorporated reminders to all incoming surgical registrars during their orientation to notify the on-call vascular senior medical officer when patients previously under vascular care, or with related concerns, come in acutely.

132. Education among surgical and medical specialties has been co-ordinated, including:

- A two-hour teaching session with surgical registrars and ED on the use of CT angiograms was held in January 2020.
- A teaching session to highlight the importance of considering AEF in patients with gastrointestinal bleeding and a history of AAA repair was held on 30 October 2020 for all registrars and senior medical officers (ie, consultants/specialists).

133. This case was discussed at a surgical audit meeting that included senior medical officers and registrars from all surgical specialties.

134. Currently, Health NZ Southern is reviewing localised endoscopy user groups in the area where appropriately this would be discussed.

135. Further, Health NZ Southern stated that communication and documentation are two areas that form the basis for many complaints, and are areas they are always actively trying to improve.

Dr D

136. Dr D left Health NZ Southern in 2019.

137. Dr D advised that hearing about this case has affected him deeply, and he has spent considerable time reflecting on the events. He believes that he practises very differently now. He consults more broadly and in more depth, giving more regard to the limits of what he knows. He also strives to be comprehensive and unambiguous in how he documents in clinical notes, and he takes pains to document the clinicians to whom he has spoken in reaching a conclusion.

Dr C

138. Dr C advised that he has reflected on this case and the improvements that could be made to the system of care in the future. He said that he focuses on being very diligent in requiring clear written opinions/advice, or direct verbal communication that is documented from other providers. For example, cryptic notes in the record and/or second-hand reporting would not be accepted.

Recommendations

139. I recommend that Health NZ Southern:

a) Provide HDC with an update on the changes made to the registrar orientation programme since these events, with particular regard to guidance given on when to consult the on-call specialist.

b) Consider providing staff with ongoing refresher updates on AEF.

c) Share an anonymised version of this case with staff as a learning resource to highlight the importance of critical thinking at each stage of care.

d) Provide an outline of the expected pathway for an AEF to be identified and ruled out, and evidence that this has been communicated to all relevant staff.

e) Consider implementing a process whereby if a patient has been assessed after hours by a specialist service prior to admission, it is flagged to the admitting consultant teams whether or not a consultant was involved in that prior assessment.

f) Review its policies and consider whether to include a requirement for documentation of patient handover and provide a response to HDC outlining whether or not such a requirement will be included and why.

g) Review its policies and guidelines and consider the need for AEF to be addressed in surgical policies and guidelines.

h) Discuss the findings of this report at the next endoscopy oversight group meeting.

140. The information requested above is to be provided to HDC within three months of the date of this report.

Follow-up actions

141. A copy of this report will be sent to the Coroner.

142. A copy of this report with details identifying the parties removed, except Health NZ Southern and the advisors on this case, will be sent to the Medical Council of New Zealand and the Royal Australasian College of Physicians, and they will be advised of Dr C's name in covering correspondence.

143. A copy of this report with details identifying the parties removed, except Health NZ Southern and the advisors on this case, will be 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 Dr Richard Stein:

'To: Office of the Health and Disability Commissioner
Re: Expert Advice Request C19HDC01543
7 March 2020

I have been asked to provide an opinion to the Commissioner on case number C19HDC01543 and have read and agree to follow the Commissioner's Guidelines for Independent Advisors.

I am a gastroenterologist who has been in practice since 1986. I have been living and practicing in NZ since 2007. I received my undergraduate degree from Columbia University in New York, my medical degree from the University of Illinois in Chicago, did my postgraduate training at University of Illinois Hospital (Internal Medicine) and Emory University in Atlanta (Gastroenterology Fellowship). I have academic appointments at Otago Medical School in Wellington (Clinical Senior Lecturer) and at the University of Washington in Seattle (Assistant Clinical Professor of Medicine). I have vocational registration in New Zealand, am a Fellow of the RACP, the American College of Gastroenterology, and the American Gastroenterological Association. I worked as a Consultant in Gastroenterology at Hutt Valley DHB from January 2010 through June 2019, and have a private practice at Rutherford Clinic in Lower Hutt. I also worked for eight years as a Consultant in Gastroenterology at Wairarapa DHB and three years as a visiting Consultant at Northland DHB. I am the RACP representative to the NZ Conjoint Committee for Recognition of Training in GI Endoscopy, an elected member of the Hutt Valley District Health Board, and a member of the quality committee at Hutt Hospital.

I have reviewed all of the enclosed documents including:

Letter of complaint dated [2019]
Southern DHB's response dated [2019]
Clinical records from Southern DHB covering the period [Day 1] to [Day 4].

I have been asked to address the following questions:

1. Whether it was reasonable to discharge [Mr A] on [Day 4] without having established a source for the bleeding?
2. Whether the gastroscopy was performed and reported with reasonable care and skill?
3. Whether additional investigations should have been considered prior to discharge?
4. Whether [Mr A's] overall management plan was reasonable given the clinical scenario presented?
5. Whether there are any other comments to be made to his gastroenterology management?

Summary of case number C19HDC01543:

[Mr A], a [man in his sixties] with a history of an abdominal aortic aneurysm repair in September 2017, presented to the ED at [the public hospital] on [Day 1] at approximately 2pm with sudden onset of nausea, lightheadedness, weakness. He had an episode of melaena the previous night, having awakened at 2am to pass black, tarry stool. In the ED, his haemoglobin was 105 (baseline of 151). He was initially evaluated for a primary vascular event and seen by the surgical registrar, [Dr D], apparently covering the vascular surgical service (it is unclear from the notes whether this was a vascular surgical registrar). His/her examination showed a small area of erythema adjacent to his AAA scar, pulses were normal, and a bedside ultrasound demonstrated no obvious aortic pathology. [Dr D's] impression was "No evidence of aortic pathology, ? MI given trop 24, ? UGI bleed given melaena/aspirin, suggest medical referral". The patient was then referred to the gastroenterology service for admission, work up, and management of his GI bleed. The patient was seen by the GI consultant, [Dr C] on the morning of [Day 2]. The history of a AAA repair was noted as well as a history of intermittent melaena over the past month. It was felt that the patient's history was most consistent with peptic ulcer disease. An inpatient gastroscopy was planned for [Day 3].

During the hospitalisation there was a second episode of melaena noted the morning of [Day 3]. [Mr A] underwent a gastroscopy later that afternoon, showing a medium sized hiatus hernia and non-erosive gastritis. No obvious source for bleeding was identified.

The patient's haemoglobin fell to 87 during the hospitalisation, but there was no evidence of further GI bleeding. The patient was discharged to home with the plan to perform an urgent colonoscopy within two weeks to rule out a lower GI bleeding source. Written instructions were for the patient to see his GP if any further problems. [Mr A] was seen by [Dr C] on the day of discharge. He was noted to be asymptomatic, with no further melaenic stools. Haemoglobin was noted to be 87 and the impression was "GIB — ?source. I advised him to discontinue aspirin. He is given a Rx for iron TID. Will arrange urgent o.p. colonoscopy. Instructions to return if signs of bleeding discussed".

On [the day] following discharge, [Mr A] died following a severe gastrointestinal bleed.

Questions to be addressed:

1. **Whether it was reasonable to discharge [Mr A] on [Day 4] without having established a source for the bleeding?**
   Under most circumstances, in a scenario where a patient presents with melaena and no source for bleeding found, it is current practice in New Zealand to discharge a patient with a plan for further outpatient work up, assuming vital signs and haemoglobin are stable, and there is no evidence of further bleeding. In the setting of a prior AAA repair, however, an aortoenteric fistula (AEF) needs to be considered and ruled out. Bleeding from an AEF is usually massive and fatal and often preceded by smaller "herald bleeds". While I cannot conclude from the information available

that this was the cause of his massive bleed, it is incumbent on practitioners to rule out an AEF in a patient who presents with GI bleeding, a history of a AAA repair, and no clear source of bleeding found on routine tests such as gastroscopy.

While the patient had a vascular surgical evaluation on admission to the ED, I can find no evidence in any of the hospital notes that an AEF was considered by the vascular surgical registrar, house surgeons, or the GI consultant. While a bedside ultrasound was performed in the ED, it is not a useful test to identify an AEF. Diagnosis would rest on a high clinical suspicion and mandates performing CT angiography. While the CT angiography still may not have identified an AEF, it should have been performed prior to discharge.

While AEF is arguably a rare condition, it should have been considered by the specialty services involved. This represents a moderate departure from standard of care.

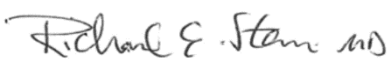
2. **Whether the gastroscopy was performed and reported with reasonable care and skill?**
   Yes, it appears that the gastroscopy was performed with reasonable skill and care.

3. **Whether additional investigations should have been considered prior to discharge?**
   As noted above, a CT angiogram should have been performed.

   Consideration could also have been given to repeating the gastroscopy with a paediatric colonoscope to reach further into the duodenum or performing an urgent video capsule study. However, performing a CT angiogram would be the procedure of choice.

4. **Whether [Mr A's] overall management plan was reasonable given the clinical scenario presented?**
   In the setting of his history of a prior AAA repair, I think his management fell short of standard of care (as I noted in my response to question 1).

5. **Whether there are any other comments to be made to his gastroenterology management?**
   While an AEF is a rare occurrence, the importance to rule it out is imperative in this clinical setting, given the dire consequences of missing the diagnosis. It should have been considered by the specialty services involved (vascular surgery and gastroenterology). There is no mention of AEF in any of the clinical records and the patient did not receive an appropriate work up to rule out an AEF prior to his discharge.



Richard E. Stein, MD, FRACP, FACG, AGAF'

Addendum to Dr Stein's advice:

'Re: C19HDC01543
26 July 2020

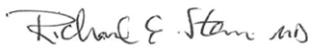
This is an addendum to my advice to the Health and Disability Commissioner dated 7 March 2020.

I have reviewed the responses from [Health NZ Southern].

Firstly, there is reference to the post mortem examination which labeled the cause of death as acute hemorrhagic gastritis, rather than an AEF. The cause of death, however, is irrelevant when considering standard of care in a patient's management. I was asked "whether the overall management plan was reasonable given the clinical scenario presented". For this reason, I was specifically denied access to the post mortem exam prior to rendering my advice. I have not changed my opinion that [Mr A] should have had a CT angiogram prior to his discharge from the hospital. I note that this was also the opinion of [Health NZ Southern].

However, it was helpful to read [Dr C's] response. He writes "I can confirm that consideration of an AEF was primary in the evaluation of this patient. I was told that [Mr A] had been assessed by the vascular surgery team in the ED due to his history of an infrarenal aneurysm repair and that AEF had been ruled out". If [Dr C] was specifically told that the vascular service ruled out an AEF, his deferring to the opinion of the vascular service would seem reasonable, given that the vascular surgeons would be considered to have the greatest expertise in this area. In this case his management would meet the standard of care. There should have been, however, documentation of this conversation or mention of consideration of an AEF in the medical records by either [Dr C], the vascular surgeon, or the ED physician. If the post mortem had shown an AEF, the importance of such documentation would be very apparent.

Input from the vascular surgical registrar would be helpful as there is no detailed first-hand documentation of his/her recommendations following the ultrasound.



Richard Stein, MD, FRACP, FACG, AGAF'

Clarification of advice from Dr Stein:

'Re: Question regarding appropriateness of discharging [Mr A] on [Day 4] with a referral to perform an urgent colonoscopy within two weeks.

In my previous advice, I stated that, "Under most circumstances, in a scenario where a patient presents with melaena and no source for bleeding found, it is current practice in New Zealand to discharge a patient with a plan for further outpatient work up,

assuming vital signs and haemoglobin are stable, and there is no evidence of further bleeding".

I then focused on the fact that [Mr A] had a history of an AAA repair, and a CT angiogram should have been performed prior to discharge to rule out an aorto-enteric fistula. In my opinion, failure to do this represented a moderate departure from standard of care.

If we consider the scenario where the diagnosis of an aorto-enteric fistula was not considered, the question is raised whether discharge with plans to perform an urgent outpatient colonoscopy was appropriate, or if further inpatient observation and/or investigations were indicated.

It can easily be argued that the second episode of melaena on [Day 3] was related to the original bleed as patients often continue to pass melaenic stool for a few days following an acute bleeding episode. Furthermore, bleeding secondary to a lower GI source is rarely life-threatening. While best practice might dictate that the patient should have been observed in the hospital longer, with plans to perform further inpatient work up as the next step, the consultant felt the patient was stable and without evidence of ongoing bleeding. In determining whether management falls within standard of care, I must view the management as it compares to current practice in New Zealand. With this in mind, and under the circumstances outlined above, I think the urgent referral to have a colonoscopy in two weeks was not a departure from standard of care.

Richard Stein, MD, FRACP, FACG, AGAF'

17 March 2022:

'To clarify, I do think it was a departure from standard of care not to rule out an AEF prior to discharge.

However, if we ignore the fact that an AEF was not considered (or if the patient had no history of an AAA repair), then discharging him with plans for an urgent outpatient colonoscopy, as the consultant felt the patient was stable, would fall within standard of care.

I hope this makes sense and would be happy to talk today on the phone to clarify.'

19 July 2022:

'Kia Ora …,

If the accepting gastroenterologist received a verbal report from the ED doctor that an AEF was ruled out by the vascular service at the time of [Mr A's] presentation, it would be incumbent on him/her to:

1. Ask how an AEF was ruled out, i.e. to ask specifically if a CT angiogram was performed.

2. To document the rationale for ruling out this diagnosis in the medical records.

Kind regards,

Richard Stein, MD, FRACP, FACG, AGAF'

20 July 2022:

'Kia ora …

If the admitting doctor did not query how an AEF was ruled out at the time of accepting the patient (in the absence of any documented discussion of an AEF in the medical records), in my opinion this represents a moderate departure from standard of care.

Kind regards,

Richard
Richard Stein, MD, FRACP. FACG, AGAF
Gastroenterology'

3 May 2024:

'Re:19HDC01543

I provided the expert advice on the above case on 7 March 2020 and have been asked to review my findings in light of the two additional documents referenced below that were submitted following my advice. My comments regarding these documents follow.

1. The expert opinion provided by Associate Professor [F]:

Regarding the expert opinion of Professor [F], there does not seem to be any disagreement that [Mr A] should have been considered for the presence of an aortoenteric fistula (AEF). He writes that "an aorto-enteric fistula should be considered in a patient with an abdominal aortic graft". However, he goes on to imply that the fact that [Mr A] had "no abdominal pain, no fever, or other signs of sepsis" made the diagnosis unlikely. He supports this by referencing a small retrospective study of nine patients and concludes that "entero-entero (sic) fistula is usually due to chronic infection at the graft and the patient usually has pain, weight loss, fever, or other signs of sepsis such as septic shock, pulmonary effusions or multi-organ failure." In most comprehensive reviews of AEF, it is noted that these clinical signs are often not present in AEF[1].

Professor [F] further states that "I agree that the most accurate investigation would have been a CT angiogram", but qualifies this by stating "this would not have changed management" due to [Mr A] being a very high operative risk, based on information from the patient's post-mortem exam.

Prof. [F] may be unaware that reviews for the Health and Disability Commissioner are made independent of findings from a post mortem. Assessors are specifically instructed to disregard post-mortem findings in their evaluations. Opinions are based solely on information available at the time of management. [Dr C] had no knowledge of [Mr A] being a high surgical mortality risk when making decisions whether or not to perform diagnostic tests. And the fact that he was not found to have an AEF on autopsy is irrelevant; it does not justify not performing the appropriate tests to rule it out. Without knowledge of the post-mortem findings, most gastroenterologists would agree that the presentation, history, and poor outcome secondary to the significant GI bleed which [Mr A] suffered after discharge were consistent with the diagnosis of an AEF.

I do agree with the statement of Professor [F] that hospital procedure requires a degree of trust in other specialist services. However, I disagree with his assertion that discussing another specialist's rationale for a making or excluding a diagnosis amounts to an "interrogation". It is good clinical practice and standard-of-care for consultants in different specialties to discuss how decisions are made. Such discussions are part of the regular, collegial relationships shared among consultants in New Zealand.

I also disagree with Professor [F's] statement that the referral was made after "adequate investigation". An ultrasound is not an appropriate exam to exclude an AEF[2]. It appears that the ultrasound by the surgical registrar was not performed to rule out an AEF, but to exclude a leak from the vascular graft; as Professor [F] notes, "the initial referral was to the vascular team because the symptoms were not clearly related to a GI bleed". Nowhere in the medical records is there any documentation or mention made of an AEF being considered as a possible diagnosis.

It should be noted that knowledge of the studies needed to diagnose an AEF and when to consider that work up falls as much within the purview of the expertise of the gastroenterologist as that of the vascular surgeon. Most patients with gastrointestinal bleeding are typically managed by the GI service. If a patient has a history of an aortic graft, it will usually fall on the gastroenterologist to consider the diagnosis of an AEF and arrange the appropriate work up.

In this case, a collegial discussion between a senior gastroenterologist and the surgical registrar would likely have raised the possibility of an AEF and a discussion of the appropriate work up.

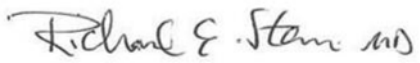
2. The statement of [Dr C] that was included in the letter to the Deputy Health and Disability Commissioner on 30 October 2023 [Dr C's] statement does offer new information that was not available from my previous review of the medical records. He states that, when he spoke with the ED consultant, he was specifically told that an AEF was ruled out by the vascular service. He adds, "it would not be normal for me to second-guess information handed to me or demand an explanation from the vascular service as to how an AEF had been ruled out."

If [Dr C] was unaware of the recommended work up for an AEF, his acceptance of the ED doctor's handover without further information would be understandable.

In the scenario, therefore, where [Dr C] was specifically informed by the ED doctor that an AEF was ruled out by the vascular service and, if he was unaware of the work up needed to exclude an AEF (accepting that there can occasionally be gaps in any consultant's expertise), I would change my opinion that there was no or only slight deviation from standard of care, with the caveat that there should have been documentation of this in the chart and that asking how an AEF was ruled out may have led to the appropriate work up being performed.

1 Wiangphoem N. Secondary Aorto-Colonic Fistula: A Case Report and Literature Review of a Rare Complication after EVAR. Case Rep Surg. 2022 Dec 8;2022:8412460. doi: 10.1155/2022/8412460. PMID: 36530176; PMCID: PMC9754831.

2 https://doi.org/10.1148/rg.2021210004



Richard Stein, MD, FRACP, FACG, AGAF 22 April 2024'

29 June 2024:

'Hi …

You queried: "Can you please advise whether in the case that [Dr C] was aware of the necessary workup to exclude an AEF, what departure, if any, would there be from the accepted standard of care?"

In the scenario where [Dr C] was aware of the necessary workup to exclude an AEF and did not do the necessary tests, it would be a moderate departure from accepted standard of care. If, on the other hand, in the scenario in which he was unaware of the necessary workup for an AEF and was told by the ED doctor that the vascular surgical registrar specifically ruled out an AEF, it would not be a significant departure from standard of care.

Kind regards

Richard
Richard Stein, MD, FRACP, FACG, AGAF'

Appendix B: Independent clinical advice to Commissioner

The following advice was received from Dr Andrew Hill:

'28/3/21

…

Health & Disability Commissioner
PO Box 1791
Shortland Street
Auckland 1140

Attention:

…

Complaints Assessment Team Leader

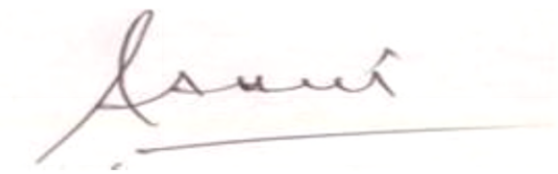
…

Please find below expert advice about the care provided to [Mr A] on [Day 1].

Complaint: [Dr D] (Southern District Health Board).

Ref: C19HDC01543

Yours Sincerely



Andrew A Hill
MBChB, FRACS, ONZM
Vascular Surgeon
Auckland City Hospital
Park Rd
Grafton 1032
Auckland

I am a Specialist Vascular Surgeon in fulltime practice at Auckland City Hospital. I declare I have no conflict of interest.

RACS Number	140876
NZMC	13403
MB ChB (Otago)	1984
Fellow Royal Australasian College of Surgeons (General Surgery)	1994

Royal Australasian College of Surgeons Certificate Vascular Surgery	1997
Specialist Vascular Surgeon Auckland District Health Board (ADHB)	1997–current
Service Clinical Director Vascular Services ADHB	2017–current

Accredited

Auckland Healthcare — Auckland City Hospital, Starship Hospitals
MercyAscot Integrated Hospital, Auckland

Societies

Chairman Vascular Society of NZ	2004–2013
President Australian and New Zealand Society of Vascular Surgery	2019–2020
President World Federation Vascular Societies	2019–2020
Member Board in Vascular Surgery Royal Australasian College of Surgeons	1997–2004, 2014–2016
Member International Society of Endovascular Specialists	1997–current
Examiner Royal Australasian College of Surgeons Fellowship	2008–2018
Senior Examiner RACS, Vascular	2014–2016
Honorary Senior Lecturer University Of Auckland, School of Medicine	

I am a full time vascular surgeon with specific interests in endovascular therapy. In 1997, I established, with Dr Andrew Holden, the Aortic Stent Graft Programme at Auckland Hospital, Auckland, New Zealand. I have performed or mentored over 500 stent graft cases including Thoracic and fenestrated cases. I practise in open Vascular Surgery also with interests in Vascular Access, distal/tibial bypass grafting and Aortic surgery.

I am the co-director of the Vascular/Interventional Research Group at Auckland Hospital which specialises in First in Human Vascular Intervention and is a member of the Vascular Research Consortium of New Zealand.

Work Practice

Consultant Vascular Surgeon in Auckland since 1997, with full-time Public Hospital Practice at Auckland City Hospital. Consults at Starship Children's Hospital, Whangarei Public Hospital and MercyAscot Private Hospital.

Background

Summary of events:

[Mr A] was brought in by ambulance to [the public hospital] on [Day 1]. He complained of nausea, light headedness and had passed a black tarry stool. Anemia was noted (hemoglobin drop from 151 to 105) and a history of abdominal aortic aneurysm repair 2 years previously. He was reviewed by ED staff who referred [Mr A] to the Surgical Registrar, [Dr D], who concluded that there was "No evidence of aortic pathology". The main provisional (and final) diagnosis was a gastro-intestinal bleed.

[Dr D] says "I also note that I gave written advice that there wasn't evidence of acute aortic pathology; I perhaps specified this because I didn't know whether Emergency Department medical staff had established that [Mr A] had presented with an upper gastrointestinal bleed. I believe I likely gave this advice on clinical grounds, as I wasn't aware of any underlying diagnosis relating to acute aortic pathology that would have explained [Mr A's] presentation with an upper gastrointestinal (UGI) bleed."

He was recommended admission to hospital under the "gastroenterology pathway".

No discussion was had with the on-call vascular surgeon. [Dr D] says with regard to "steps taken to contact the on-call vascular surgeon, it is my practice to routinely document consultation with senior colleagues, so I don't believe I did make any such steps to contact this person, because, as I have mentioned above, there was no underlying diagnosis that I was aware of relating to [Mr A's] vascular surgical history which would explain his presentation with an upper gastrointestinal bleed".

[Mr A] was admitted under Medical Services and had an UGI endoscopy with examination of the esophagus, stomach and the first two parts of the duodenum on [Day 3]. This showed gastritis (inflammation in the stomach) only.

[Mr A] was discharged home on [Day 4].

[Mr A] died at home [the following day].

A post mortem was performed, the outcome of which I am unaware.

1. The reasonableness of the assessment conducted by [Dr D] given [Mr A's] presenting symptoms and clinical history.

1a What is the standard of care/accepted practice?

The assessment was deficient. The reason for this was the failure to consider a major cause for an UGI bleed when there has been open aortic surgery in the past. The diagnosis of aorto-enteric Fistula (AEF) formation is the development of a communication between the bowel (usually the 3rd or 4th part of the duodenum) and the aorta (usually the upper end sutured anastomosis of the aortic graft). This is an uncommon pathology which usually presents with a painless UGI bleed. This is typically with one or more small bleeds and then a larger bleed which is often fatal.

1b If there has been a departure from the standard of care or accepted practice, how significant a departure do you consider this to be?

Moderate departure. Although the outcome was severe, with the death of [Mr A], the diagnosis of aorto-enteric fistula formation is often not considered by staff unfamiliar with Vascular Surgery. This is predominantly due to the uncommon nature of the pathology. Knowledge of the diagnosis of AEF by a Junior surgical registrar would not be expected. The lack of surgical knowledge is a minor deficiency. A moderate deficiency is stating there is a lack of any "… acute aortic pathology …" without seeking advice from a vascular surgeon. Of note it appears that this diagnosis was also not

considered by the ED staff, the Medical team under which [Mr A] was admitted and the Doctor performing the UGI endoscopy. The diagnosis can often be made at the time of an UGI endoscopy but specific efforts must be undertaken to visualise far enough round the duodenum where the abnormality most commonly exists in the 4th part of the duodenum.

1c How would it be viewed by your peers?

The diagnosis of AEF would be expected to be considered by experienced vascular surgery staff but is commonly not considered by staff not familiar with Vascular Surgery. Consideration of the diagnosis of AEF is important as a serious pathology to be excluded whether or not this diagnosis was or was not confirmed at the post mortem.

1d Recommendations for improvement that may help to prevent a similar occurrence in future.

In a role where vascular surgery advice is given, advice from an experienced vascular surgery doctor should be sought.

2 Whether additional investigations should have been considered prior to [Mr A] being transferred to the Gastroenterology Department.

2a What is the standard of care/accepted practice?

A CT scan is often performed but this would not be mandatory prior to UGI endoscopy when the diagnosis of AEF is to be considered.

2b If there has been a departure from the standard of care or accepted practice.

No departure

2c How would it be viewed by your peers?

NA

2d Recommendations for improvement that may help to prevent a similar occurrence in future.

NA

3 Whether [Dr D] should have discussed [Mr A's] care with the on-call vascular surgeon.

3a What is the standard of care/accepted practice?

Advice from a vascular surgeon should be sought prior to giving an opinion such as stating there is a lack of any "'… acute aortic pathology …". Consideration of the diagnosis of AEF is important as a serious pathology to be excluded whether or not this diagnosis was or was not confirmed at the post mortem.

3b If there has been a departure from the standard of care or accepted practice.

Moderate

3c How would it be viewed by your peers?

Deficient

3d Recommendations for improvement that may help to prevent a similar occurrence in future.

In this instance, assessment was given by [Dr D] in his role as the on call surgical registrar where he might be covering several sub-specialties. The surgical departments on behalf of whom advice is given should ensure that clear guidance is given to a junior registrar about when it is appropriate to seek advice or give an opinion on behalf of the specialty.

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

Some education should be undertaken within other services within the hospital who undertake assessment of patients with an UGI bleed. This includes medical, gastroenterology and endoscopy staff. In particular at the time of an UGI endoscopy for suspected AEF specific efforts must be undertaken to visualise far enough round the duodenum where the abnormality most commonly exists in the 4th part of the duodenum.'

Appendix C: In-house clinical advice to Commissioner

The following advice was received from Dr David Maplesden:

'**CLINICAL ADVICE — MEDICAL MEMORANDUM**

TO	:	[HDC]
FROM	:	David Maplesden
CONSUMER	:	[Mr A] (dec)
PROVIDER	:	Southern DHB
FILE NUMBER	:	C19HDC01543
DATE	:	11 April 2022

In answer to your questions:

1. *Would an abdominal aortic aneurysm repair fall within the category of aorto-iliac surgery? (The purpose of this is to determine if particular information in DHB guidelines is relevant to the case or not)*

The term aorto-iliac surgery is usually used in the context of occlusive disease of the aorta and iliac vessels (peripheral vascular disease) when bypass of the occlusion is required (usually when first line endovascular procedures have been ineffective or are inappropriate and often by way of aorto-femoral bypass). By contrast, an aortic aneurysm refers to a weakened ballooned area of the aorta (rather than an obstruction) which is repaired either by endovascular stenting or open grafting of the aneurysm, and would generally be referred to specifically as aortic aneurysm repair/surgery. However, there may be some instances when a blanket term such as aorto-iliac surgery is used to refer to any surgery involving the aorta or iliac vessels which would then include both bypass surgery and aneurysm repair, and my impression is that it was used in this context in the DHB guideline "Upper Gastrointestinal Bleeding" as the complication referred to (aorto-enteric fistula) is most commonly associated with previous aneurysm repair although can occur after aorto-femoral bypass surgery.

2. *Would it be considered a patient management decision if a registrar who has assessed a patient in ED on behalf of the vascular service, documents that there is no evidence of aortic pathology and suggests a referral to medical. My thought is that it is not as it is just advice, but on the flipside it is advice that also determined that the patient would not be admitted under the vascular surgery service. I'm on the fence as to whether this would fall under "patient management decision". This is also a clarification to determine the relevance of some guidelines.*

This may end up being a semantics issue as the advice offered by the vascular registrar (which I would call diagnostic advice) directly affected the subsequent management of the patient (admitted under medical rather than vascular). By opining there was no obvious vascular cause for the patient's symptoms the registrar is essentially (although not necessarily overtly) declining to take over the care of the patient under the vascular

service which therefore has a direct effect on the management plan as you say. It could also be said that by stating there was no evidence of aortic pathology, the registrar has indicated subsequent management need not involve any further vascular investigation (in this case CT angiography) which again means he has directly affected patient management by implying what is not necessary in terms of ongoing management rather than by ordering a specific investigation.'