South Canterbury District Health Board

A Report by the
Health and Disability Commissioner

(Case 19HDC01160)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Contents

Executive summary

1. This report concerns the care provided to a woman at South Canterbury District Health Board (SCDHB) in 2019, and highlights the importance of collaborative care, the potential for diagnostic error in immunosuppressed patients, and the benefits of putting in place a safety net for high-risk patients being discharged from hospital.

2. The woman (aged in her twenties) presented to the Emergency Department (ED) three times, with worsening abdominal pain, vomiting, and an increasing CRP level — a marker of infection. On her third admission, it was found that her small bowel lacked blood supply and was significantly compromised. The findings were deemed non-survivable, and the woman died a short time later.

3. The Commissioner considered that the issue in this case was not the failure to diagnose the woman's condition correctly, but the failure to investigate the cause of the woman's symptoms fully, given an increasingly deteriorating clinical picture.

Findings

4. The Commissioner identified a number of failures by SCDHB and its staff in the care of the woman in 2019, specifically the failure to review the woman's latest blood test results before making the decision to discharge her; the failure to seek a General Surgery review of the woman during her second admission; and the failure by multiple clinicians to provide and document adequate safety-netting advice to the woman. Accordingly, the Commissioner found that SCDHB breached Right 4(1) and Right 6(1) of the Code.

5. Adverse comment was made about an ED consultant for her documentation and history-taking of the woman in the Emergency Department. Adverse comment was also made about a physician for failing to ensure that the woman's blood tests were reviewed before making the decision to discharge her.

Recommendations

6. The Commissioner recommended that SCDHB provide HDC with a further update on the implementation and effectiveness of the recommendations made in the Serious Adverse Event Review; use an anonymised version of the woman's case as a basis for staff training; create a documentation guideline that covers various aspects of a patient's journey through the ED; consider developing a consensus between the ED specialists, physicians, and surgeons at SCDHB for the management of patients with acute abdominal pain; and provide the woman's family with a written apology for SCDHB's breaches of the Code.

7. The Commissioner recommended that the ED consultant complete a clinical notes audit with the Australasian College for Emergency Medicine.

Complaint and investigation

8. The Health and Disability Commissioner (HDC) received a complaint from Mr B about the services provided to his daughter, Ms A, by South Canterbury District Health Board (SCDHB). The following issue was identified for investigation:

- *Whether South Canterbury District Health Board provided Ms A with an appropriate standard of care in Month1[1] and Month2 2019.*

9. Ms A died while receiving care in Month2. I extend my sincere condolences to her family.

10. The parties directly involved in the investigation were:

Mr B	Complainant/consumer's father
SCDHB	Provider
Dr C	ED consultant
Dr D	ED consultant
Dr E	General surgeon
Dr F	Physician

11. Also mentioned in this report:

Dr G	House officer
Dr H	Junior doctor
Dr I	General medicine physician
Dr J	General surgeon
Dr K	Vascular specialist
Radiology service	
Dr L	CMO Radiology service
Dr M	Radiologist

12. Further information was received from:

The Office of the Coroner
An ambulance service

13. Independent expert advice was obtained from specialist physician Dr Lucille Wilkinson (Appendix A), general surgeon Dr Julian Hayes (Appendix B), and emergency medicine specialist Dr Shameem Safih (Appendix C).

[1] Relevant months are referred to as Months 1–2 to protect privacy.

Information gathered during investigation

Background

14. Ms A (aged in her twenties at the time of these events) had a complex medical history that included Asperger's Syndrome,[2] interstitial cystitis,[3] smoking, chronic abdominal pain, an elevated body mass index (BMI) of 60,[4] and vasculitis,[5] for which she had been taking prednisone[6] and cyclosporine[7] as long-term medications. About 11 days prior to these events, Ms A had also been administered one dose of the immunosuppressant omalizumab[8] for apparent chronic urticaria.[9]

15. This report concerns the care provided to Ms A by SCDHB during the period of Month1–Month2, when she presented to the Emergency Department (ED) three times.

20 Month1

Ambulance service

16. At 12.21pm on 20 Month1, Ms A's partner rang the ambulance service as Ms A was experiencing vomiting and diarrhoea. On the ambulance crew's arrival, Ms A explained that she had been vomiting since approximately 8.00am that morning, and had been experiencing diarrhoea and a cramping pain in her abdomen.

17. The crew palpated Ms A's abdomen, took her vital signs (which were noted to be within the normal range), and documented a pain score of 1 out of 10.[10] The ambulance service told HDC that Ms A was asked about her medical history but she declined to provide this information. The ambulance crew was unaware that she was on prednisone and cyclosporine.

18. According to the ambulance service's non-transport checklist, Ms A did not meet the requirements for transport to hospital, and no red flags[11] for abdominal pain were present. Ms A was given anti-nausea medication and told to visit her GP if her condition did not improve.

[2] An autism spectrum disorder.
[3] A chronic condition that causes bladder pressure, bladder pain, and sometimes pelvic pain.
[4] BMI is a tool for indicating whether a person may be a healthy weight, underweight, or overweight for their height. A BMI of 30 or greater is classified as obese.
[5] Inflammation of the blood vessels.
[6] A steroid medication mostly used to suppress the immune system and decrease inflammation.
[7] A medication used to supress the immune response.
[8] A medication originally designed to reduce sensitivity to allergens. There have been case reports of this medication being associated with blood clots.
[9] An itchy rash. Also known as hives.
[10] 1–3 on the pain scale is described as being mild pain.
[11] The ambulance service's "Clinical Procedures and Guidelines" states that red flags include severe pain, abnormal vital signs, temperature greater than 38 degrees, pregnancy, and being immunocompromised.

First presentation to ED

19. At 4.45pm the same day, Ms A presented to the ED as her symptoms had not subsided. She was triaged as a category three[12] — to be seen within 30 minutes — and her pain was documented by the triaging nurse as being "moderate".

20. It appears that at the time of Ms A's presentation, the ED was experiencing high demand, with a ratio of 19 patients to 10 beds.[13] Whilst waiting in the ED, a triage nurse took Ms A's vital signs,[14] which were noted to be within the normal range, although it was documented that the nurse was unable to take Ms A's temperature.

21. Ms A was seen by an ED consultant, Dr C, at 7.00pm.

22. Dr C noted Ms A's presenting symptoms as frequent vomiting and diarrhoea, with no blood or mucus in the stool, and "crampy" abdominal pain with no associated fever. Dr C documented that Ms A was "screaming" and "crying out" with pain, and that multiple types of analgesia[15] were given with little effect.

23. A blood test was performed at 7.55pm and showed a slightly raised C-reactive protein (CRP) level of 31 milligrams per litre (mg/L),[16] as well as a raised white blood cell count of 18.5 x10^9 per litre.[17] These are signs indicative of infection.

24. Dr C palpated Ms A's abdomen and found it to be soft and diffusely tender, with no localised tenderness, guarding, or rigidity. As the physical assessment findings were limited owing to Ms A's high BMI, Dr C ordered a computerised tomography[18] (CT) scan of the abdomen and pelvis, with the indication being "right iliac fossa[19] pain, [query] appendicitis[20]".

25. The findings of the CT scan were reported at around 10.00pm and noted that the sensitivity of the scan was significantly reduced because of Ms A's body size. The radiation exposure on the scan was increased in an attempt to compensate for this, but the sensitivity of the scan was still limited. The scan concluded:

> "No clear evidence of appendicitis, acknowledging the limited sensitivity of the study. No evidence of bowel obstruction nor any other cause for patient's symptoms."

26. No medication history was obtained or documented, either by the triage nurse or Dr C, and Dr C did not obtain Ms A's full medical history at this presentation, either from Ms A

[12] On the Australasian Triage Scale, a category three is described as "Potentially life-threatening, potential adverse outcomes from delay > 30 min, or severe discomfort or distress".
[13] SCDHB Serious Adverse Event Review.
[14] Observations taken were pulse, heart rate, oxygen saturation, and blood pressure.
[15] Pain relief.
[16] An elevated CRP level is indicative of an infection in the body. The normal CRP range is less than 5mg/L.
[17] A raised white blood cell count is indicative of an infection. The normal white blood cell count range is 4–11x10^9 per litre.
[18] A scan that shows soft tissues, blood vessels, and bones in various parts of the body.
[19] The lower right region of the abdomen.
[20] Inflammation of the appendix.

herself, or from her HealthOne record.[21] Dr C told HDC that Ms A did not disclose her medical information at this time. Accordingly, Dr C was unaware that Ms A had been on steroids, and that she was immunosuppressed, or had recently been administered omalizumab.

27. In response to the provisional opinion, Dr C asserted that she did take an adequate history, taking into consideration Ms A's symptoms of vomiting and diarrhoea in the context of chronic abdominal pain; however, Dr C reiterated that Ms A did not disclose her medication history. Dr C said that she did not document this in the notes owing to time constraints, and noted that on that day she was on duty from 3.00pm to 12.00am. Further, she was the only physician working to attend 19 other patients in the 10-bed Emergency Department. While acknowledging Dr C's comments in this respect, I note that relevant and important information was available to Dr C on the HealthOne record, which she did not access.

Discharge

28. The provisional diagnosis on discharge was documented as gastroenteritis.[22]

29. The time of Ms A's discharge was recorded on the ED assessment form and discharge form as 10.00pm and 10.18pm, respectively. However, these times are in conflict with the "medication and IV [intravenous] administration" chart, which documented 20 millilitres (ml) of oral morphine[23] being administered to Ms A at 10.30pm. SCDHB has acknowledged that the exact time of discharge is unknown, but stated that nursing staff recall Ms A being present in the ED after 11.00pm. SCDHB considers that the electronic discharge summary signature timed at 11.18pm is a more accurate reflection of the actual discharge time, and that the discharge times of 10.00pm and 10.18pm were incorrect as a result of being written in retrospect.

30. No further recordings were taken, and there is no documentation of a review of Ms A after the administration of morphine, or before she was discharged.

31. Dr C told HDC that she advised Ms A that she could be admitted for ongoing pain relief, but Ms A opted to go home, as she was completely pain free at the time of their conversation. Dr C stated that she told Ms A that her CT scan was normal, and that her symptoms would improve with oral pain relief. Dr C said that at discharge, Ms A walked out of ED without any symptoms, and she knew to come back if further symptoms appeared.

32. No specific discharge or follow-up instructions (safety-netting advice) were documented in the discharge letter.

[21] A secure electronic record that stores health information, including GP records, prescribed medication, and test results.
[22] Irritation of the digestive tract caused by infection.
[23] A pain medication of the opiate family.

21–23 Month1

Second presentation to ED

33. At 8.00pm on 21 Month1 (the following day), Ms A re-presented to ED by ambulance with worsening abdominal pain and vomiting. She was again triaged as category three. The ED notes state that Ms A appeared "very drained/exhausted", "tearful", and overwhelmed. The initial observation chart documented that Ms A declined to answer when asked about a pain score, but later that night at 2.15am her pain was documented as "severe". SCDHB stated that Ms A was confused by the pain score questions, and it is unclear whether different pain score tools were used.

34. A blood test showed that Ms A's CRP level had increased markedly from 31mg/L the previous day, to 452mg/L, in addition to an increase in white blood cells. Again, these are markers of infection.

35. Ms A was seen by ED consultant Dr D. Dr D reviewed Ms A's notes and bloodwork from the previous day's discharge, and reviewed her prescribed medications as listed in HealthOne, noting that she was on prednisone and cyclosporine. The one dose of omalizumab administered almost two weeks previously was also noted. When asked about why she was taking prednisone and cyclosporine, Ms A revealed that she had vasculitis,[24] which was being managed by a private dermatologist. This information was not available in Ms A's HealthOne medical record.

36. Dr D told HDC that Ms A was distressed, with a heart rate of 140–150bpm, she was afebrile, and she had a soft but diffusely tender abdomen. His provisional diagnosis was documented as: "Abdominal pain secondary to infective agent in immunosuppressed patient."

37. Dr D contacted the on-call general surgeon, Dr E, for advice. Dr E advised Dr D to repeat a CT scan of Ms A's abdomen. The CT scan request documented: "Ongoing abdominal pain with diarrhoea. Vomiting. CRP increased from 31 to 452." As in Ms A's previous admission, the radiation exposure on the scan was increased in an attempt to compensate for her body size.

38. The CT scan reported no free fluid, free air, or abdominal pelvic collection, as well as no focal bowel wall thickening or evidence of obstruction. It also reported satisfactory enhancement of the aorta[25] and the superior mesenteric vein.[26] The report concluded:

> "Unchanged appearance of the abdomen and pelvis in comparison to the previous imaging [from 20 Month1]. No clear source for the patient's elevated CRP is evident."

39. Whilst in the ED, Ms A was treated with broad-spectrum IV antibiotics, anti-nausea medication, opiate pain relief, and IV fluids, and a venous blood gas was performed, revealing a slightly elevated lactate of 3.2mmol/L.[27]

[24] A general term for several conditions that cause inflammation in blood vessels.
[25] The main artery that carries blood away from the heart to the rest of the body.
[26] A large vein located in the abdomen.

40. Given the above findings, Dr D referred Ms A to be admitted under Dr E in General Surgery. However, Dr E told HDC that the provisional diagnosis of gastroenteritis did not indicate a "surgical disease". He further stated:

> "[Ms A] was immunosuppressed and had recently been treated with a new class of biological agents [omalizumab] with a wide range of unpredictable side effects with which, as a General Surgeon, I am relatively unfamiliar."

41. Dr E said that for those reasons, he considered that Ms A's admission to a medical ward under a physician was more appropriate. He told HDC that he recalled telling Dr D that if the physicians would not admit her, she should be admitted under his care.

42. Dr E was not asked to review Ms A physically at this time.

43. Dr D subsequently contacted the on-call physician, Dr F, and explained Ms A's history of symptoms, her immunosuppression, and her unremarkable CT scan. Dr D told Dr F that Dr E had felt that there was no surgical cause for Ms A's symptoms, and asked if Dr F would admit Ms A under his care.

44. Dr F told HDC:

> "[Dr D] thought she needed hospitalisation; the working diagnosis was gastroenteritis. Given her immunosuppression, and use of ranitidine,[28] I advised broad spectrum antibiotics, as organisms such as Salmonella[29] can become 'invasive' (ie enter the bloodstream) in those circumstances. I agreed with [Dr D's] assessment that she needed to be in hospital, and as she had been declined surgical admission (which I felt might be more appropriate) I accepted her for admission under my care."

45. SCDHB stated that "[i]t was Dr F's clear understanding" that a surgical review had already been sought at this time. Ms A was admitted to the Medical Ward under Dr F's care at approximately 4.00am on 22 Month1.

Hospital admission

46. On admission, Ms A was described as: "Miserable in pain. Clutching abdomen. Nauseous." Basic neurological observations were undertaken, a cardiovascular examination was noted as normal, and an abdominal examination showed that Ms A's abdomen was soft and generally tender. Bowel sounds were not heard.

47. The impression of the junior doctor at the time of Ms A's admission was documented on the medical admission form as follows:

[27] Lactate is one of the substances produced by cells as the body turns food into energy. A high lactate level in the blood means that the disease or condition a person has is causing lactate to accumulate. A normal blood lactate level is 0.5–1mmol/L.
[28] A medication that decreases stomach acid production.
[29] A common bacterial disease that affects the intestinal tract.

"Nausea + vomiting, abdominal pain — multifactorial

1. ?Gastroenteritis — risk of atypical infection as immunosuppressed
2. Vasculitis flare up [secondary to] above and [secondary to] 2 days off medications, acute withdrawal of prednisone.
3. Menstruation"

48. The management plan at the time of admission was for IV fluids, a stool specimen, and a blood culture, along with analgesia and anti-nausea medication. In addition, Dr G, the admitting house officer, noted Ms A's heart rate of 140 beats per minute, and documented that she was "not for code blue due to tachycardia [a heart rate over 100 beats per minute] ([secondary to] pain +++). Contact RMO [resident medical officer] if HR [heart rate] >150."

49. A heart rate of over 140 beats per minute is categorised as being in the "blue zone". As per SCDHB's "Adult vital sign and early warning score measurement, recording and escalation" policy,[30] a patient with any vital sign in the blue zone is noted as having an "immediately life threatening critical illness", and the mandatory escalation pathway involves pressing the emergency bell or dialling the emergency number for assistance, and to support the airway, breathing, and circulation of the patient. As such, Ms A's heart rate of 140 beats per minute should have prompted a "code blue" emergency response.

50. Dr G told HDC:

> "The reason for changing the EWS [(Early Warning Score)] parameters was because as soon as [Ms A] reached the ward, she would qualify for a code blue immediately if the [early warning scores] were not modified. Having been in observation in ED for 7.5 hours at the same heart rate, I did not think it was appropriate to be calling a code blue solely for the heart rate. I did not change the parameters for any other vital signs … My plan was for this EWS modification to stand only until 0800[31] when she will have a formal SMO [senior medical officer] review."

51. There is no evidence that this decision was made with input from an SMO. Dr G stated that there are two house officers as the only medical staff for the entire hospital overnight, and they are encouraged to call for SMO attendance only when a patient's clinical condition is deteriorating. Ms A was given IV pain relief, which was later documented to have reduced her pain score from 9/10 to 4–5/10.

52. Dr F reviewed Ms A on the morning of 22 Month1, at approximately 9.15am. He noted that she was tired and unwell and that no one else in the household was ill. He obtained a history of the sudden onset of profuse diarrhoea and vomiting associated with cramping mid-abdominal pain from two days previously. Dr F told HDC that he felt that Ms A's

[30] The policy also states that modification to the EWS associated with a vital sign parameter must never be used to normalise abnormal vital signs in clinically unstable patients, or to prevent appropriate escalation of care.
[31] This review occurred at 9.15am.

symptoms were most likely due to a viral infection. He documented in Ms A's clinical records:

> "Imp[ression]: Norovirus … ? Bacterial
>
> Plan: Stool culture for norovirus. Encourage [oral] intake"

53. Dr F told HDC:

> "I did not feel there was anything in the history or examination to indicate a surgical cause for her symptoms, especially given 2 normal CT scans in the previous 48 hours. I thought we should await stool culture results and observe a further 24 hours; there seemed no indication for further investigation."

54. At 11am on 22 Month1, it was noted that Ms A had been "yelling out that she was in pain +++", vomiting, and tearful at times. Nursing cares were completed, and pain relief was given as required. A stool sample was unable to be obtained as planned.

Discharge decision

55. On the morning of 23 Month1, Ms A was noted to be in pain and was given morphine at 5.00am, and again at 7.00am. At 7.30am, her pain score was documented as 0/10.

56. Dr F reviewed Ms A at 9.00am. He told HDC that he was "struck" by how much better she looked, and further stated:

> "[Ms A] reported no further diarrhoea and although she was nauseated at times she was tolerating oral fluids. She reported ongoing cramps, which she said was related to passing urine and was a long-standing problem. She was keen to get home, and felt she would be 'fine' if she had adequate pain relief for the cramps in her abdomen … I saw no reason to keep [Ms A] in hospital, and agreed she could go home if she was tolerating [a] light diet."

57. Dr F cannot recollect his exact conversation around safety-netting advice during this review, but noted that it is "universal to his practice" to allow patients to return to hospital should there be any further problems. There is no documentation in Ms A's notes about any safety-netting advice given by Dr F at this time.

58. A blood test taken at 9.45am showed that Ms A's CRP level was still high at 478mg/L. SCDHB told HDC that this is a much higher level than would be expected for viral gastroenteritis.

59. It was documented in Ms A's clinical notes that she had been cleared for discharge as she had "tolerated diet and fluids well", had "minimal pain this morning", and there were "0 other concerns". SCDHB stated that Ms A was keen to get home and manage with anti-nausea and pain-relief medication.

60. In contrast, Mr B told HDC that his daughter was concerned about being sent home after being given powerful painkillers to "mask the problem", without anyone knowing the

cause of her pain. He stated: "[Ms A's] final sentence on her phone call to me was 'why would they send someone home who is as sick as me'."

61. Ms A was discharged at approximately 11.58am with a high CRP and without a confirmed cause of her symptoms. Dr F told HDC that he was not aware of the marked rise in CRP on the day of discharge, and acknowledges that this was an oversight, as it would have affected his decision to discharge. He apologised to Ms A's family in this regard.

Discharge summary

62. The discharge summary from Ms A's hospital admission stated that the preliminary diagnosis was likely viral gastroenteritis. It documented:

> "Presented to ED with 3/7 days history of abdominal pain, diarrhoea and vomiting. She reported diffuse pain comes in waves 8/10 at times. Radiates to her lower back. Not able to tolerate any oral intake of medications for the last 2 days.
>
> …
>
> Investigations:
> CT ABDO: no free fluid/air or collection
> BLOODS: HB 166[32] WCC 14.0[33] NEUTS 10.9[34] CRP 452 Renal function NAD[35]
>
> Impression:
> Abdominal pain ? gastroenteritis risk of atypical infection as immunosuppressed.
>
> Management:
> Admitted for IV fluid, analgesia and antiemetics. Stool specimen and blood culture sent. Diarrhoea and vomiting resolved. Pain manageable to analgesia and Buscopan.[36]
> Discharge home on 5 days of Buscopan and Codeine."

63. The discharge summary documented the CRP result from Ms A's initial blood test taken in the ED on 21 Month1 (452mg/L), but not the latest CRP result from the morning of discharge (478mg/L). It also documented that a stool specimen had been sent for analysis, although this was not the case, as a stool sample was unable to be obtained during this admission. No safety-netting advice was documented on the discharge summary.

64. Dr H, the junior doctor who signed the discharge summary, reported that it is her usual practice to review all patients prior to their discharge, and that this occurred as usual with Ms A. Dr H stated that in the course of this review, Ms A was verbally advised to return to hospital should her condition deteriorate. Dr H said that she recognises that it is best practice to include return instructions on the written discharge documentation, and apologised for not doing so on this occasion.

[32] Haemoglobin level. Normal range is indicated as 115–155.
[33] White cell count. Normal range is indicated as 4.0–11.0.
[34] Neutrophils (a type of white blood cell). Normal range is 1.9–7.5.
[35] No abnormality detected.
[36] A medication used to treat crampy abdominal pain.

26–27 Month1

Third presentation to ED

65. At 5.33pm on 26 Month1, Ms A again presented to the ED via ambulance, with ongoing abdominal pain, vomiting, and constipation since her discharge on 23 Month1. Mr B told HDC that Ms A's partner was so concerned that the ED would not see Ms A for a third time that he contacted Healthline[37] instead, who arranged for the ambulance to take Ms A to hospital.

66. Ms A was again seen by Dr D in the ED.

67. Blood tests were taken and indicated an increased CRP of 635mg/L, leucocytosis,[38] declining renal function, and a lactate of over 9mmol/L. Dr D discussed Ms A's case with the on-call General Medicine physician, Dr I, who noted that in light of the presenting symptoms, including worsening abdominal pain with vomiting, Ms A should be reviewed by the on-call general surgeon, Dr E.

68. Dr E requested a CT scan of the abdomen. The report at 9.35pm indicated a small bowel obstruction.

69. Dr E told HDC that whilst the CT scan raised the possibility of a small bowel obstruction, this seemed at odds with Ms A's two previous presentations of diarrhoea and vomiting. He noted that CT scans of patients with gastroenteritis can demonstrate an apparent "small bowel obstruction". He stated that he was concerned by the absence of a clear diagnosis for the underlying problem, and was reluctant to perform an exploratory laparotomy, as this "would have served only to exacerbate [Ms A's] clinical situation".

70. Dr E discussed his concerns with Dr I, and both doctors personally reviewed Ms A in the ED. Dr E told HDC that they discussed a range of differential diagnoses, including the possibility that omalizumab had caused blood-flow problems. At that time, he considered the most likely diagnosis to be severe gastroenteritis or enterocolitis.[39] Dr E admitted Ms A to the Intensive Care Unit (ICU) under his care at approximately 12.30am on 27 Month1.

ICU admission

71. The documented plan on admission was for Dr E to review Ms A's CT scan images with Radiology, and to organise an abdominal ultrasound.

72. At 9.00am on 27 Month1, Dr E reviewed the CT scan images with the radiologist, whose documented impression was that of a "closed loop bowel obstruction". The initial admission plan was altered to cancel the ultrasound, and send Ms A to theatre as soon as possible for a laparotomy.[40]

[37] A free telephone health advice service.
[38] A high level of white blood cells.
[39] Inflammation of the digestive tract.
[40] A surgical procedure that involves a surgeon making one large incision in the abdomen to examine the abdominal organs and to aid diagnosis of any problems.

73. Ms A was taken to the operating theatre at 10.05am. A small bowel infarction[41] and non-viable[42] small bowel were found — that is, her small bowel appeared to have died owing to a lack of blood supply. The findings were deemed non-survivable, and Ms A was transferred back to the ICU to be ventilated and sedated. Ms A's family were informed of the operative finding and were advised that the prognosis was "very poor".

Subsequent events

27 Month1–6 Month2

74. Dr E told HDC that because of the gravity of the findings, a second opinion was sought from another general surgeon, Dr J, who agreed that the bowel infarction was not a survivable event and that there was no operable solution. Dr E stated that both he and Dr J expected that Ms A would die within a few hours.

75. Dr E told HDC that the next day, on 28 Month1, he met with Dr I and two other doctors in the ICU to review Ms A's condition. Dr E said that at this meeting it was acknowledged that there were uncertainties with regard to Ms A's clinical condition, why she had widespread small bowel infarction, and what management was appropriate for her prognosis.

76. Following this discussion, Dr E contacted a vascular specialist at a main centre district health board (DHB2), Dr K, to discuss the clinical scenario and findings. Dr E also sent Dr K a copy of the intraoperative photograph (taken during the surgery on 27 Month1). Dr E said that Dr K agreed that this appeared to be a non-survivable illness, and indicated that there was little to offer in terms of vascular input.

77. Ms A's condition remained stable over the next 24 hours. On 29 Month1, Dr E performed a "second look" laparotomy, and again the conclusion was that there was no further surgical solution.

78. A plan was made and documented to "keep [Ms A] heavily sedated and analgesed … and wait for nature to take its course". It was also documented that the plan was discussed with Ms A's parents and her partner. Regular nursing cares in the ICU continued to be provided to Ms A.

79. On 1 Month2, Ms A was documented as remaining "in status quo", ventilated and sedated, with no substantial deterioration or prospect of recovery. Ms A continued to receive regular nursing cares in the ICU, and the situation was still considered to be palliative. The clinical notes recorded:

> "Discussed situation with [Ms A's] parents. They have understanding and acceptance of the situation. Plan continue respiratory support and to keep her comfortable."

80. On the morning of 5 Month2, Ms A was noted to be stable, but her diagnosis of small bowel infarction had not changed. A discussion was held with the treating clinicians

[41] Obstruction of the blood supply to an organ or region of tissue, causing local death of the tissue.
[42] Not capable of living.

regarding Ms A's diagnosis, progress, prognosis, and treatment options, and the following three management strategies were considered:

1) Continue with the palliative cares as they were;

2) Withdraw ventilator support while continuing sedation;

3) Resume more active treatment.

81. The doctors considered that the main concern with option one was how hard it would be for Ms A's family and friends if the palliative process was drawn out. Option two was considered to be the kindest option for Ms A and her family, but it was noted that there would be major ethical and possibly legal barriers to this course of action. Option three was rejected, as the diagnosis and prognosis remained unchanged.

82. The decision was made to seek legal advice regarding option two. Palliative cares were continued in the meantime. Ms A's partner and family were informed about the plan, and were documented to be "amiable to the decision to consult the legal team in order to guide the decision making process in the right direction". It was noted: "[The family] all think that we should cease life support including ventilation and allow [Ms A] to die quickly." A statement from Ms A's father was also documented in her clinical notes, which included:

> "We have discussed at length [Ms A's] wishes and what would be considered best for her. [Ms A's] body is decaying and other organs are being kept intact due to the life supporting ventilation she is being given. I understand that once the ventilation support is turned off that [Ms A's] life will quickly be terminated. I have discussed this with [Ms A's mother] who fully supports the decision to turn off all life supporting systems."

Ms A's death

83. On 5 Month2, an email with legal advice was received indicating that ceasing ventilation in this situation would be an appropriate course of action. At 1.20pm that day, Ms A's ventilator was turned off and, shortly afterwards, Ms A died.

84. A subsequent autopsy report revealed that Ms A had a foramen ovale, a hole between the right and left upper chambers of the heart that would have been present since birth. The report noted that rarely, the foramen ovale can allow a blood clot or "thrombus" to cross into the left side of the heart and block an artery (in Ms A's case, the artery supplying blood to the small bowel). The pathologist stated that, in his opinion, Ms A's death was caused by "[p]eritonitis[43] due to small intestinal infarction due to probable paradoxical embolism[44] due to patent foramen ovale and venous thrombus[45]".

[43] Inflammation of the peritoneum — a membrane that lines the inner abdominal wall and covers the organs within the abdomen.
[44] Passage of a clot from a vein to an artery.
[45] A blood clot in the vein.

85. The pathologist also noted that omalizumab is associated with occasional arterial blood clot complications. He said that while it is possible that the blood clot could have formed as an effect of the drug, on appearance the clot appeared to be of a venous origin (that is, it could have formed spontaneously).

86. In contrast, many of the clinicians involved in Ms A's care consider that omalizumab "played some role" in the events that led to Ms A's death.

87. Mr B told HDC that when Ms A's terminal condition was confirmed after surgery on 29 Month1, she should have been allowed to pass with dignity. He stated:

> "To put [Ms A] on a ventilator to keep her alive while her body decomposed, liquefied and was disposed [of] in plastic bags over the following 8 days could never be [construed] as in the best interests of the patient. [Ms A] would have remained on the ventilator for an unknown length of time but for a robust meeting between the family and the medical staff after which we were required to give a written statement confirming that we wanted the removal of the ventilator, knowing [Ms A] would die. We should not have been required to do that."

Further information

88. SCDHB told HDC that Ms A's journey through the hospital brought her into contact with a significant number of medical and nursing staff, and that many staff have been profoundly affected by her unexpected diagnosis and passing. SCDHB stated:

> "Please convey to [Mr B] and family our formal and sincere apology for the delay in diagnosis and we are very sorry that [Ms A] felt that staff were dismissive of her pain … We are very motivated to ensure that patients presenting in the future with bowel infarction will be diagnosed and treated in a manner resulting in the best possible outcome."

Serious Adverse Event Review (finalised January 2020)

89. In response to these events, SCDHB performed a Serious Adverse Event Review. The review looked at Ms A's three presentations to the ED, her admission to the Surgical Ward, radiology scans and reporting, and the impact of Ms A's body size and immunosuppression therapy on determining a diagnosis.

90. The review noted that once staff were aware of Ms A having had immunosuppression treatment, obtaining a clear diagnosis became more problematic, as it raised suspicion of sepsis secondary to immunosuppression, and the possibility that Ms A's high CRP level was due to her underlying vasculitis rather than some other cause.

91. The review team also considered that a "more collegial approach that included a 'hands on' surgical assessment, particularly at the second ED presentation and admission", may have elicited a more critical discussion with a radiologist and identified an alternative CT scan protocol, which may have improved the care and treatment provided. The review team also found deficiencies in documentation and assessment at the first ED presentation.

92. The review concluded:

> "Differential diagnosis of ischaemic bowel in a young person with no history of risk factors makes this a very rare diagnosis. The high BMI, immunosuppression plus background Asperger's and incongruent behaviour around pain and smoking contributed to making clinical assessment very difficult and challenging."

Radiology service imaging review

93. As part of SCDHB's Serious Adverse Event Review, Dr L and Dr M from the radiology service performed an imaging review of the three abdominal CT scans Ms A had whilst at the public hospital. They noted that two of the radiology requests did not document a suspicion of ischaemic gut or bowel obstruction, and that all three scans were technically compromised by Ms A's size, despite the increase in radiation exposure to try to compensate for this.

94. In regard to the first CT scan performed on 20 Month1 and the third CT scan performed on 26 Month1, Dr L and Dr M concurred with the original reports. In regard to the second CT scan performed on 21 Month1, they noted that there was subtle thickening of the loops of the mid small bowel wall, and opacification of the superior mesenteric artery (SMA)[46] (the artery looked opaque). However, they stated that this was extremely non-specific and, under ordinary conditions, they would not expect the average radiologist to detect or describe this finding.

95. The radiology service's review noted that all patients who are referred for CT imaging where ischaemic gut is a possibility should have dual phase arterial and portal phase imaging, and stated that in hindsight, these protocols should have been considered. However, none of the scan referrals documented ischaemic gut as a possibility. The review stated that CT scanning remains the recommended way of assessing acute and chronic abdominal pain where possible intra-abdominal infection is a possibility.

96. The report concluded that the radiologists' interpretations of Ms A's three CT abdominal scans in this case were not unreasonable given the technical limitations described, and the nature of the disease process that Ms A experienced.

Response to provisional opinion

97. Ms A's family were provided with the opportunity to comment on the "information gathered" section of the provisional opinion, and reiterated their concerns about the care provided to Ms A by SCDHB.

98. SCDHB was provided with an opportunity to comment on the provisional opinion, and had no comments to make. It thanked HDC for taking the time to review this case.

99. Dr F was provided with an opportunity to comment on the relevant sections of the provisional opinion, and had no comments to make.

[46] A major artery of the abdomen.

100. Dr C was provided with an opportunity to comment on the relevant sections of the provisional opinion and her comments have been incorporated into the report where relevant. She stated:

> "Once again I sincerely apologise this unfortunate event occurred to [Ms A], and I will assure that I would not let this happen to any other patient in future, I will take utmost care to document all relevant information here forth."

Opinion: Southern Canterbury District Health Board — breach

Introduction

101. From the outset, I acknowledge the difficulty in making the diagnosis of Ms A's ischaemic bowel, especially in the context of her young age, high BMI, and immunosuppression, as noted by SCDHB in its Serious Adverse Event Review and by my expert advisors.

102. My role is to assess whether, with the information available to Ms A's healthcare providers at the time of events, those providers acted appropriately and in accordance with accepted standards of practice. When retrospectively assessing the care provided, it is important that I make that assessment free from hindsight bias notwithstanding the tragic outcome. I consider that the issue in this case is not the failure to diagnose Ms A's condition correctly, but the failure to investigate the cause of Ms A's symptoms fully, given an increasingly deteriorating clinical picture. This case illustrates the impact that a series of errors can have on a patient's care.

103. In order to assist my assessment of this matter, I sought independent expert advice from specialist physician Dr Lucille Wilkinson, general surgeon Dr Julian Hayes, and emergency medicine specialist Dr Shameem Safih. I will refer to this advice in my discussion below.

First ED presentation

104. On 20 Month1, Ms A first presented to SCDHB's ED with frequent vomiting, diarrhoea, and "crampy" abdominal pain. She was seen by ED consultant Dr C, who undertook a blood test, basic observations, and a physical examination, and ordered a CT scan to investigate the cause of Ms A's symptoms. My expert emergency medicine specialist, Dr Shameem Safih, advised that overall the physical assessment and investigations performed at this presentation met the standard requirements. However, Dr Safih was critical of the documentation and medical history obtained during this consultation, which I will discuss further at paragraphs 177–182.

Second ED presentation and General Surgery admission

105. On Ms A's second presentation to SCDHB's ED, she was seen by ED consultant Dr D. She was noted to have worsening abdominal pain and vomiting, and her CRP level had increased markedly (from 31mg/L the previous day, to 452mg/L). A repeat CT scan was taken, and showed no clear source for her elevated CRP. Dr D contacted the on-call

general surgeon, Dr E, to request that Ms A be admitted under the care of General Surgery. Dr E considered that admission to a medical ward under a physician was more appropriate in the circumstances and told HDC that this was because the provisional diagnosis of gastroenteritis did not indicate a "surgical disease".

106. Dr D subsequently contacted the on-call physician, Dr F, and explained Ms A's history of symptoms, her immunosuppression, and her unremarkable CT scan. Dr D told Dr F that Dr E felt that there was no surgical cause for her symptoms, and asked if Dr F would admit Ms A under his care. Dr F accepted Ms A into his care, with the understanding that an in-person General Surgery review had occurred.

107. My expert general surgeon, Dr Julian Hayes, advised that in the hospital where he works, nearly all patients with acute abdominal pain are reviewed early in the admission by the acute surgical unit. Noting that the public hospital is a small provincial hospital where the medical and surgical services may not always be resourced adequately, he advised that a surgical review prior to Ms A being admitted under Dr F's care would have been the "counsel of perfection" in his opinion. By contrast, my expert emergency medicine specialist, Dr Shameem Safih, stated that in his opinion, an in-person review by the general surgeon in the ED was warranted. He said that admission under a medical team should occur by mutual agreement (between the physician and the surgeon), and does not preclude a further surgical opinion at a later time.

108. Ms A was then admitted under the care of Dr F, and remained under his care until approximately 11.58am on 23 Month1. She was not reviewed at any time by a general surgeon during this admission. My expert specialist physician, Dr Lucille Wilkinson, considered the lack of surgical review of Ms A prior to her discharge on 23 Month1 to be "a moderate departure from an acceptable standard of care". She advised further that potentially such a review would have increased the chances of Ms A's serious underlying diagnosis being appreciated earlier.

109. My expert advisors — general surgeon Dr Hayes, specialist physician Dr Wilkinson, and emergency medicine specialist Dr Safih — all consider that review by a general surgeon would have been warranted, either during Ms A's second ED presentation on 21 Month1, or prior to her discharge on 23 Month1. Furthermore, SCDHB's Serious Adverse Event Review also stated that a more collegial approach that included a "hands on" surgical assessment, particularly at the second ED presentation and assessment, may have elicited a more critical discussion with a radiologist and resulted in the use of an alternative CT scan protocol, which may have improved the care and treatment provided.

110. I accept the above advice, and — noting that there may be contention as to when a General Surgery review should have occurred — consider that a General Surgery review of Ms A was warranted at some point during her second admission, whether this was in the ED or prior to her discharge from hospital. I am critical that this did not occur.

111. I also consider that it was SCDHB's responsibility to foster a culture where specialties work together to support patient-centred care. In my view, SCDHB should have ensured that its

staff had clear guidance on when surgical review should occur, particularly in light of Ms A's recent ED presentation. More guidance from SCDHB in this area would have been beneficial to the clinicians involved, and may have allowed for Ms A to be reviewed by a general surgeon earlier. As it was, the lack of consensus or clear guidance to staff on that issue meant that Ms A was not admitted by the surgical team, without a consultant review or a consultant-to-consultant discussion.

EWS modification

112. On Ms A's admission to the Medical Ward in the early hours of 22 Month1, her heart rate was noted to be 140 beats per minute (and had been this high consistently during her observation in the Emergency Department). Dr G, the admitting officer, documented in the management plan that Ms A was "not for code blue due to tachycardia [a heart rate over 100 beats per minute] ([secondary to] pain +++). Contact RMO [resident medical officer] if HR [heart rate] >150."

113. As discussed previously, a heart rate of over 140 beats per minute is categorised as being in the "blue zone". SCDHB's "Adult vital sign and early warning score measurement, recording and escalation" policy states that the mandatory escalation pathway for a patient with any vital sign in the blue zone involves pressing the emergency bell or dialling the emergency number for assistance, and supporting the airway, breathing, and circulation of the patient.

114. Dr G told HDC that the reason for the change in early warning score parameter for heart rate was because Ms A would have qualified for a code blue as soon as she reached the ward if it was not modified. Dr G stated that as Ms A had been in observation in ED for 7.5 hours at the same heart rate, she did not think it was appropriate to be calling a code blue solely for the heart rate.

115. My specialist physician expert, Dr Wilkinson, noted that the decision to modify Ms A's EWS appears to have been made by a junior doctor, and there is no documentation of a discussion with a senior medical officer about the decision. Dr Wilkinson advised:

> "Considering that [Ms A] was a high risk patient (immunosuppressed), had abnormal blood tests (very high CRP, raised lactate, high white cell count) and remained in severe pain, I consider that it would have been appropriate for a consultant to be notified of her persistent tachycardia and involved with the decision to alter the EWS parameters. I consider this to be a minor departure from the expected level of care predominantly because I am aware that this situation occurs commonly in New Zealand hospitals at this time. This practice is predominantly driven by pressure to move patients out of the Emergency Department and is therefore driven by system issues rather than negligence on behalf of the junior medical staff involved."

116. My emergency medicine specialist, Dr Safih, was also critical of the alteration of the heart rate parameter, and stated:

> "In the first admission (at the second presentation) the admitting RMO specifically writes that [Ms A] was not for code blue (Emergency Review) for increased heart rate

> if due to severe pain only. [S]he goes on to say that the RMO (House officer) should be contacted only if the heart rate is above 150. This shows a lack of understanding of pain management. [S]he is using the EWS in the wrong context. Severe pain should be managed promptly, and severe pain driving the heart rate to 150 should not be tolerated."

117. SDHB's "Adult vital sign and early warning score measurement, recording and escalation" policy stipulates that modification to the early warning score associated with a vital sign parameter must never be used to normalise abnormal vital signs in clinically unstable patients or to prevent appropriate escalation of care.

118. A heart rate of 140 beats per minute was not "normal" for Ms A. It was a secondary response to the pain and distress that she was experiencing, and, as per SCDHB's policy, the vital sign parameter should not have been adjusted. I accept Dr Wilkinson's advice that a consultant should have been notified of Ms A's persistent tachycardia and been involved in the decision to alter the early warning score parameters. I also note Dr Safih's advice, and I am concerned that Ms A's severe pain was accepted.

119. However, I acknowledge Dr Wilkinson's comment that this situation occurs commonly in New Zealand hospitals at this time, and that predominantly the practice is driven by pressure to move patients out of the Emergency Department. In addition, Dr G told HDC that there are two house officers as the only medical staff for the entire hospital overnight in the hospital, and that they are encouraged to call for SMO attendance only when a patient's clinical condition is deteriorating. In this context it is my view that wider systems issues at SCDHB influenced Dr G's decision-making in this regard.

Failure to review blood test results before discharge on 23 Month1

120. Dr F reviewed Ms A at 9.00am on the morning of 23 Month1, and told HDC that he was "struck" by how much better she looked.

121. It was documented in Ms A's clinical notes that she had been cleared for discharge as she had "tolerated diet and fluids well", had "minimal pain this morning", and there were "0 other concerns". However, a blood test taken at 9.45am showed that Ms A's CRP level had increased compared to the blood test taken on 21 Month1, from 452mg/L to 478mg/L. Additionally, contrary to the clinical note, she had been experiencing pain that morning, which necessitated morphine, a potent opioid.

122. Despite this increase in CRP level, Ms A was discharged at approximately 11.58am that day.

123. Dr Wilkinson advised that "the results of [Ms A's] blood test should have been reviewed before discharge by a member of the clinical care team", and said that this may well have led to her remaining in hospital and receiving further specialist-level review. Dr Wilkinson stated:

> "At the end of the second admission to hospital, [Ms A] was discharged from hospital despite still having a very high CRP and her needing repetitive doses of opiate pain relief over the night shift prior to discharge. While she was documented as being much improved on the morning of discharge, I am concerned that such a high risk, immunocompromised patient was discharged at this time. I believe this to be a moderate departure from an expected level of care and it would have been more appropriate for [Ms A] to have a 24-hour period of symptom control without opiate pain relief and have clearer evidence of a normalising CRP on her blood tests."

124. My general surgery expert, Dr Hayes, also noted that the missed CRP level prior to discharge was of some concern, and potentially would have prompted a delay to discharge and possibly a request for a surgical review.

125. Dr F told HDC that he was not aware of the marked rise in CRP on the day of discharge, and acknowledged that this was an oversight, as it would have affected his decision to discharge.

126. I accept Dr Wilkinson's and Dr Hayes' advice. I conclude that the clinical care team failed to obtain the full clinical picture prior to Ms A's discharge (her elevated CRP). Her need for opiate pain relief only a few hours prior to her discharge, and that she was a high-risk immunocompromised patient, also does not appear to have been given full consideration. This led to Ms A's premature discharge, and a missed opportunity to consider the cause of her symptoms and diagnosis. In this respect, I note that SCDHB told HDC that Ms A's CRP level of 478mg/L was much higher than would be expected for viral gastroenteritis. Accordingly, had this test result been reviewed, the provisional diagnosis of gastroenteritis may have been challenged and re-evaluated.

Safety-netting advice and documentation

20 Month1 ED presentation

127. At Ms A's first presentation to ED, she was seen by Dr C at approximately 7.00pm, with "crampy" abdominal pain but no associated fever. My expert emergency medicine specialist, Dr Safih, identified several issues in relation to the discharge summary from this presentation. He advised that the discharge summary did not contain any written advice for further self-observation and self-management at home, nor any advice for when and where to seek further help. Further, the time of discharge on the summary did not accurately reflect the time Ms A was discharged home, and conflicted with the documented time of morphine administration.

128. Dr C told HDC that Ms A knew to come back if further symptoms appeared. However, Dr Safih advised that it is accepted practice that this information is written in the discharge summary given to the patient prior to discharge. In my view, Ms A should have been provided with clear verbal and written instructions for further self-observation and self-management at home, and advice for when and where to seek further help. Given the absence of recorded safety-netting advice being given to Ms A, either in the progress notes or the discharge summary, I am not persuaded that such instructions were provided.

23 Month1 admission

129. When Dr F reviewed Ms A on 23 Month1, the decision was made that she could be discharged. The discharge summary documented the CRP result from Ms A's initial blood test taken in the ED on 21 Month1 (452mg/L), but did not document the latest CRP result from the morning of discharge (478mg/L), which showed a concerning increase. It also documented that a stool specimen had been sent for investigation when it had not.

130. Dr F told HDC that he cannot recollect his exact conversation around safety-netting advice during this review, but noted that it is "universal to his practice" to allow patients to return to hospital should there be any further problems. However, there is no documentation in Ms A's notes or in the discharge summary about any safety-netting advice given by Dr F.

131. Dr Wilkinson advised:

> "On her second discharge from hospital there appears to have been no provision of a 'safety net' allowing [Ms A] to return to hospital if she remained or became more unwell ... A safety net might include clear written instructions on when to return to hospital, verbal instructions on the ward round that are clearly documented, or a clearly organised follow-up appointment with an outside medical care provider."

132. Dr H (the junior doctor who completed the discharge summary) reported that Ms A was verbally advised to return to the hospital should her condition deteriorate; however, Dr H recognised that it is best practice to include return instructions on discharge documentation, and apologised for not having done so.

133. Dr Wilkinson advised that "it clearly would have been more reasonable for [Dr H] to document this advice and to ensure that [Ms A] and her partner had a copy of written advice to return to hospital if her health did not improve".

134. I agree. I allow the possibility that Ms A may have been broadly advised to return to the hospital if further symptoms appeared. However, I do not have any information concerning other advice given at discharge about self-management, self-observation, or what specific symptoms to look out for. In my view, this is information that a reasonable consumer, in Ms A's circumstances, could expect to receive. No information about these matters was documented in the discharge summary, and therefore Ms A was not provided with any written advice on what to do if her symptoms persisted. It is clear that Ms A and her family were concerned that she was discharged for a second time after being given powerful painkillers to "mask the problem". I also note that Ms A's partner was so concerned that the ED would not see Ms A for a third time, that three days later when Ms A's symptoms were persisting, he contacted Healthline for advice instead of returning to hospital.

135. In light of the lack of documented advice, and Ms A's reluctance to return to hospital for fear of being turned away, I consider it is more likely than not that appropriate safety-netting advice was not provided to Ms A.

136. Dr Safih advised that this case highlights the importance of good documentation — in particular the clinical findings at the end of a period of hospitalisation — and the critical importance of verbal and documented time- and action-specific instructions being given to a patient on discharge, with advice as to what to do should their symptoms not abate or get worse, and what further follow-up they should expect.

137. I accept this advice. Previously this Office has observed that the completion of an accurate discharge summary containing relevant information is a basic requirement, and is an important safety-netting tool in and of itself.[47] This requirement was not met on either Ms A's 20 Month1 ED presentation, or the second admission (with discharge on 23 Month1). In my view, the repeated failure by multiple staff to complete the discharge summary correctly on both admissions demonstrates a problem at a systems level.

Conclusion

138. I acknowledge that Ms A had a rare complication (death of her small bowel) from a rare, previously undiagnosed heart disorder (patent foramen ovale). However, as stated at the outset, my consideration of Ms A's care is directed to whether there were appropriate assessments and adequate responses to her condition and symptoms over several presentations.

139. With this in mind, and having regard to the evidence, I consider that there were missed opportunities at Ms A's first and second presentations to SCDHB to investigate her condition more thoroughly. These opportunities may have led to an earlier diagnosis and intervention; however, it cannot be said with any certainty that her ultimate prognosis and outcome would have been any different.

140. I have identified a number of failures by SCDHB and its staff in the care of Ms A in Month1 and Month2. Specifically:

- The failure to review Ms A's latest blood test results before making the decision to discharge her on 23 Month1. As a result, she was discharged with a high CRP without a confirmed cause for this, and the opportunity for a reconsideration of her diagnosis and potential surgical review was missed.
- The failure to seek a General Surgery review of Ms A during her second admission.
- The failure by multiple clinicians to provide and document adequate safety-netting advice to Ms A after her discharges from SCDHB.

141. While there is certainly individual accountability and obligations on individual providers to provide care within accepted standards, SCDHB has an organisational responsibility to provide a reasonable standard of care to its patients. In my view, the multiple failures by numerous staff demonstrate a pattern of poor care. Aspects of those failures reflect a culture of poor documentation, a consistent and recurrent approach to poor safety-netting advice (which appears to have been tolerated), and concerns about inter-specialty communication regarding surgical review, for which I hold SCDHB responsible.

[47] See Opinion 17HDC01589.

142. Accordingly, I find that SCDHB failed to provide services with reasonable care and skill, in breach of Right 4(1) of the Code of Health and Disability Services Consumers' Rights (the Code).[48]

143. Considering the evidence available to me, I have also found that Ms A was provided with insufficient safety-netting advice after her discharges. As such, I find that SCDHB did not uphold Ms A's right to the information that she would expect to receive upon discharge, in breach of Right 6(1) of the Code.[49]

Other comments

Care provided after laparotomy findings — no breach

144. On 27 Month1, Ms A's clinicians found that she had a small bowel infarction and a non-viable small bowel. The findings were deemed non-survivable, which was confirmed by a second opinion, and it was expected that Ms A would die within a few hours. Ms A was transferred back to the ICU to be ventilated and sedated.

145. A key issue for the family was the decision to keep Ms A ventilated from 27 Month1, after the laparotomy findings were made, to 5 Month2, when Ms A was taken off ventilation. Mr B told HDC that when his daughter's terminal condition was confirmed after surgery on 29 Month1, she should have been allowed to pass with dignity.

146. I have considered whether the DHB acted appropriately in keeping Ms A ventilated between 27 Month1 and 5 Month2. When the laparotomy findings were made, Ms A was heavily sedated and on ventilation. As a result, she was unable to make an informed choice and give informed consent in respect of her ongoing care and management, including whether she should remain on ventilation.[50]

147. Where a consumer is unable to consent to services on their own behalf, health service providers may still provide services to them, provided certain criteria are met. A consumer may set out his or her views regarding particular services in an advance directive[51] prior to receiving treatment, or, if there is no valid advance directive, there may be a person legally entitled to consent on a consumer's behalf. There is no evidence that a valid advance directive was in place for Ms A, or that there was any person legally entitled to consent on

[48] Right 4(1) states: "Every consumer has the right to have services provided with reasonable care and skill."
[49] Right 6(1) states: "Every consumer has the right to the information that a reasonable consumer, in that consumer's circumstances, would expect to receive."
[50] Except in limited circumstances, services may be provided to a consumer only if that consumer makes an informed choice and gives informed consent (Right 7).
[51] A written or oral directive: (a) by which a consumer makes a choice about a possible future healthcare procedure; and (b) that is intended to be effective only when he or she is not competent to provide the necessary consent to receive, refuse, or withdraw consent to services.

Ms A's behalf.[52] In this circumstance, in providing treatment to Ms A, including continuing to keep her on ventilation, the DHB needed to follow the process in Right 7(4), known as the "best interests" test.

148. Withdrawing ventilator support had the inevitable result of ending Ms A's life. Consequently, determining whether it was in Ms A's best interests to withdraw ventilator support was a complex and difficult decision for the DHB.

149. Right 7(4) required the DHB to provide services that were in Ms A's best interests, and take reasonable steps to find out Ms A's views about her ongoing management and care. Given that her views were unable to be obtained, as she was sedated and ventilated, the DHB had to take into account the views of other available persons interested in Ms A's welfare. Ms A's partner and family members were clearly such persons, and it was therefore both necessary and appropriate for the DHB to consult them and carefully consider their views in relation to continuing to keep Ms A ventilated.

150. There is evidence that the DHB consulted Ms A's family on several occasions and took their views into account. On the day of the laparotomy findings, Ms A's family were informed of the findings and were advised that the prognosis was "very poor". On 29 Month1, it was documented that a plan to keep Ms A sedated and "wait for nature to take its course" was discussed with Ms A's family. On 1 Month2, it was recorded that Ms A's situation, being that she was ventilated and sedated and with no prospect of recovery, was discussed with Ms A's parents, who understood and accepted the situation. On 5 Month2, the DHB consulted the family about its decision to seek legal advice about withdrawing ventilator support, and the family's wish to withdraw life support was recorded. It was also recorded that the family had "discussed at length [Ms A's] wishes and what would be considered best for her".

151. Given the tragic significance of ceasing ventilation, the DHB took steps to ascertain Ms A's best interests, by considering alternative options, reviewing her situation, and obtaining second opinions around Ms A's condition and prognosis. The day after the laparotomy findings were made, on 28 Month1, Dr E met with three doctors in the ICU to review Ms A's condition. It was acknowledged that there were uncertainties with regard to Ms A's clinical condition, why she had widespread small bowel infarction, and what management was appropriate for her prognosis.

152. Following this discussion, Dr E contacted a vascular specialist at DHB2, Dr K, to discuss the clinical scenario and findings. Dr E said that Dr K agreed that this appeared to be a non-survivable illness, and indicated that there was little to offer in terms of vascular input. On 29 Month1, Dr E performed a "second look" laparotomy, and again the conclusion was that there was no further surgical solution.

[52] Family members do not automatically have a right to consent to services on behalf of another family member.

153. On the morning of 5 Month2, a discussion was held regarding Ms A's diagnosis, progress, prognosis, and treatment options, and the following three management strategies were considered:

1) Continue with the palliative cares as they were;
2) Withdraw ventilator support while continuing sedation;
3) Resume more active treatment.

154. The DHB considered that the main concern with option one was how hard it would be for Ms A's family and friends if the palliative process was drawn out. Option two was considered to be the kindest option for Ms A and her family, but it was noted that there would be major ethical and possibly legal barriers to this course of action. Option three was rejected, as the diagnosis and prognosis remained unchanged.

155. The decision was made to seek legal advice regarding option two, and palliative cares were continued in the meantime. On 5 Month2, legal advice was received advising that ceasing ventilation in this situation would be legally appropriate. At 1.20pm that day, Ms A's ventilator was turned off and, shortly thereafter, Ms A passed away.

156. My expert advisor, Dr Hayes, advised:

> "I do not think that transferring her to a tertiary hospital setting would have been useful, as in particular this would have removed her from the setting of her immediate family and made that whole part of the care process much more complicated. From what I can see the decision to keep [Ms A] ventilated was clearly not foreseen as at the time of her laparotomy and return to the intensive care unit, as she was not expected to survive more than a few hours.
>
> However she was presumably more robust than expected and it did eventuate that she survived several more days in intensive care. This was clearly an extremely difficult situation and it is difficult for me to criticise this decision. Decisions at the end of life, as in this situation, are extremely fraught and stressful, and I believe that the clinicians involved did the best that they could in the circumstances. From what I can see the hospital staff went to great lengths to consult with the family and respect the family's wishes."

157. I accept this advice. I acknowledge that seeing Ms A on life support for multiple days must have been extremely distressing for her family, and, with the benefit of hindsight, her clinicians may well have withdrawn ventilator support earlier. However, the expectation was that Ms A would survive for only a few hours after surgery. When Ms A's death did not eventuate as expected, her clinicians had appropriate regard to the ethical and legal considerations for withdrawing life support. I am satisfied that Ms A's clinicians took reasonable steps in the circumstances to give effect to Right 7(4) of the Code, by ascertaining Ms A's best interests through reviews, second opinions, and legal advice, and seeking the views of her family members. I therefore do not consider that the DHB's

actions in keeping Ms A on ventilation between 25 Month1 and 5 Month2 were a breach of the Code.

Morphine prior to discharge

158. Ms A was administered 20ml of oral morphine for pain relief at her first ED presentation. The time of administration is documented on the "medication and IV administration" chart as being 10.30pm; however, this time is in conflict with the discharge times of 10.00pm/10.18pm documented on the ED assessment and discharge forms.

159. SCDHB told HDC that while the exact time of discharge is unknown, nursing staff recalled Ms A still being present in the ED after 11.00pm. SCDHB therefore considers that the discharge time documented on the electronic discharge summary — 11.18pm — is a more accurate reflection of the actual discharge time. It further submitted that the discharge time on the ED assessment form was written retrospectively, and is therefore more likely to be incorrect.

160. Considering the above, it appears likely that Ms A was given morphine around 40 minutes prior to her discharge at 11.18pm. Dr Safih advised that morphine is given for moderate to severe pain, and stated that if morphine was given to Ms A just prior to discharge without further assessment, this would be a moderate departure from standard practice.

161. Dr C told HDC that she advised Ms A that she could be admitted for ongoing analgesia, but Ms A opted to go home, as she was completely pain free at this time. Dr C stated that she told Ms A that her CT scan was normal, and that her symptoms would improve with oral pain relief. Dr C said that Ms A walked out of ED without any symptoms at discharge, and that Ms A knew to come back if further symptoms appeared. However, this information is not documented in Ms A's clinical notes.

162. Dr Safih advised that the above conversation would qualify as a further assessment if it occurred, and hence there would be "no departure from standard of care" in regard to the administration of morphine prior to Ms A's discharge.

163. As I have discussed above, the absence of documentation in this case has, regrettably, limited a full assessment of the circumstances of the case. In the absence of evidence to the contrary, I allow for the possibility that Dr C had the conversation with Ms A prior to discharge, as she has recounted. I therefore do not propose to find Dr C in breach of the Code for failing to undertake an assessment prior to discharge following the administration of morphine to Ms A. However, I am critical of Dr C's standard of documentation (as discussed below). I have made a recommendation about this below, at paragraph 192**.**

CT scans — no breach

Imaging decisions

164. During her time at SCDHB, Ms A underwent three CT scans to investigate the cause of her symptoms. Owing to Ms A's body size (with a BMI of 60), the sensitivity of these scans was

greatly reduced, and this was noted both in the reporting of the first scan, and in the internal review undertaken by the radiology service.

165. The internal review noted that all patients who are referred for CT imaging where ischaemic gut is a possibility should have dual phase arterial and portal phase imaging. In hindsight, these protocols should have been considered. However, the review also observed that none of the scan referrals documented ischaemic gut as a possibility. In that situation, CT scanning remains the recommended investigation for assessment of acute and chronic abdominal pain where possible intra-abdominal infection is a possibility. My expert advisors, Dr Safih and Dr Hayes, both agreed that CT scans are the diagnostic modality of choice for the assessment of acute abdominal pain, with Dr Safih noting some exceptions.

166. I acknowledge and accept that ischaemic gut was not considered by the ED doctors who wrote the referrals, and that the information provided to the radiologists documented only Ms A's symptoms of abdominal pain, diarrhoea, and, later, her high CRP level.

167. Dr Safih stated that it was "commendable" that Dr C obtained a CT scan at Ms A's first presentation, recognising that acute appendicitis can masquerade as gastroenteritis, and that Ms A's abdominal examination was not reliable because of her body size. Dr Safih advised: "There was no departure from utilisation of diagnostic techniques (and consultation) by the Emergency Department."

168. In addition, Dr Hayes advised that there were no other specific diagnostic techniques that should have been considered for Ms A in this situation.

169. I accept the advice of my experts that the choice to perform CT scans to investigate Ms A's symptoms was appropriate in the circumstances, and that consideration of other diagnostic techniques was not indicated.

Scan reporting

170. As noted above, the sensitivity of the three CT scans performed on Ms A were greatly reduced by Ms A's body size, despite the actions of the radiologists to attempt to mitigate this by increasing the radiation exposure. Ms A's first two CT scans both reported no clear cause of her symptoms; however, the third CT scan — taken five days after the second — raised the possibility of a small bowel obstruction.

171. As part of the DHB's Serious Adverse Event Review, Dr L and Dr M from the radiology service performed an imaging review of the three abdominal CT scans Ms A had at the hospital. They noted that two of the radiology requests did not document a suspicion of ischaemic gut or bowel obstruction, and that all three scans were technically compromised by Ms A's size, despite the increase in radiation exposure to try to compensate for this.

172. The conclusions of the radiological review undertaken by Dr L and Dr M are outlined above at paragraph 96.

173. In summary, the internal radiology review concluded that the radiologists' interpretations of Ms A's three CT scans were not unreasonable given the technical limitations described and the nature of the disease process. I accept this and am not critical of the reporting of Ms A's second CT scan.

Parenteral steroids

174. When reviewing this case, my specialist physician expert, Dr Wilkinson, noted that the administration of parenteral steroids to Ms A on either of her first admissions to hospital would have been indicated, as she was on a moderate dose of oral steroids prior to admission, and presented with vomiting and diarrhoea. In contrast, my expert emergency medicine specialist, Dr Safih, felt that there was no departure from the accepted standards in this regard.

175. I acknowledge my expert advisors' differing views. While I do not consider this aspect of the care provided to Ms A to be the primary issue, SCDHB may wish to reflect on my experts' comments, and develop its own consensus regarding the administration of parenteral steroids in any similar future presentations.

Opinion: Dr C — adverse comment

176. As indicated in the foregoing sections, Ms A first presented to ED on 20 Month1, where she was seen by ED consultant Dr C, who undertook a blood test, basic observations, and a physical examination, and ordered a CT scan to investigate the cause of Ms A's symptoms. My expert emergency medicine specialist, Dr Safih, advised that overall the physical assessment and investigations performed at this presentation met the appropriate standard of care.

177. However, Dr C did not obtain Ms A's medication history at this presentation from her HealthOne record. Accordingly, Dr C was unaware that Ms A had been on steroids and was immunosuppressed, or that recently she had been administered omalizumab.

178. Dr Safih advised that the history taken at this presentation was inadequate, as it did not include medical and medication history. He stated:

> "If a clinician is strongly leaning toward the diagnosis of simple gastroenteritis in a young person then it is easy to see why the rest of the history may appear to be irrelevant.
>
> Knowing a patient is immunosuppressed is important because on the one hand it increases the risk of infection and on the other hand infection and inflammation are more likely to be masked on physical examination. In this case however a decision was made to do a CT scan anyway.

> In this aspect the failure to ascertain a history of immune suppression was a mild departure from standards of assessment."

179. Dr Safih considered Dr C's failure to review Ms A's HealthOne record to be a "mild departure from standard practice".

180. I accept this advice and remind Dr C of the importance of obtaining a patient's full medical history in order to ensure that she has the full clinical picture.

181. Additionally, Dr Safih observed that the written documentation for this presentation was brief, and stated:

> "[S]ome of the history was not recorded. A complete set of vital signs was not recorded. Few words of a management plan are squeezed into one corner of the page. Progress notes, in particular clinical findings just prior to discharge are not documented. One does not get a clear picture of how well she was prior to discharge and this is important."

182. Overall, Dr Safih advised that the standard of documentation for Ms A's ED presentation on 20 Month1 was a departure from expected standard of care. I accept this advice, and am concerned by the substandard level of documentation by Dr C.

Opinion: Dr F — adverse comment

183. Ms A was under the care of physician Dr F in the Medical Ward on 22 and 23 Month1. The management plan for this admission was for IV fluids, a stool specimen, and blood culture, along with analgesia and anti-nausea medication, as Dr F felt that Ms A's symptoms were most likely due to a viral infection.

184. On the morning of 23 Month1, it was documented in Ms A's clinical notes that she had been cleared for discharge as she had "tolerated diet and fluids well", had "minimal pain [that] morning", and there were "0 other concerns". However, a blood test taken at 9.45am showed that Ms A's CRP level had increased compared to the blood test taken on 21 Month1 — from 452mg/L to 478mg/L. Additionally, contrary to the clinical note stating that she had "minimal pain", that morning Ms A had been experiencing pain that necessitated the provision of morphine, a potent opioid, twice. Despite these factors, Ms A was discharged at approximately 11.58am that day.

185. My expert physician advisor, Dr Wilkinson, advised that "the results of [Ms A's] blood test should have been reviewed before discharge by a member of the clinical care team", and that this may well have led to her remaining in hospital and receiving further specialist-level review. Dr Wilkinson advised:

> "At the end of the second admission to hospital, [Ms A] was discharged from hospital despite still having a very high CRP and her needing repetitive doses of opiate pain

relief over the night shift prior to discharge. While she was documented as being much improved on the morning of discharge, I am concerned that such a high risk, immunocompromised patient was discharged at this time."

186. Dr Wilkinson considers this to be a departure from an expected level of care, and stated that it would have been more appropriate for Ms A to have a 24-hour period of symptom control without opiate pain relief and have clearer evidence of a normalising CRP on her blood tests. I accept this advice.

187. Dr F told HDC that he was not aware of the marked rise in CRP on the day of discharge, and acknowledged that this was an oversight, as it would have affected his decision to discharge. Ms A was under Dr F's care during this admission and, whilst Dr F did not review the results personally, he had overall responsibility to ensure that any blood tests ordered were reviewed before the discharge decision was made. Blood tests make up an important part of a patient's clinical picture, and they should have been accounted for in the discharge decision. This omission allowed Ms A to be discharged with a high CRP, without a confirmed cause of her symptoms, and contributed to a missed opportunity to investigate her condition thoroughly.

Changes made since these events

188. As part of its Serious Adverse Event Review, SCDHB made the following recommendations:

1) Provide opportunities for staff education and reflection on different types of bias and how bias impacts their provision of care;
2) Identify the barriers that have an impact on good nursing documentation in the ED and identify actions for improvement;
3) Increase medical staff awareness of the multiple CT scan protocols available to enable/confirm/exclude a differential diagnosis;
4) Investigate ways for GPs to make documents received from private providers electronically available on HealthOne; and
5) Facilitate discussion between surgeons, ED consultants, and physicians to seek a collegial agreement on the process of requesting and obtaining a surgical review of a patient.

189. In August 2020, SCDHB provided HDC with an update on the above recommendations. SCDHB stated that all ED registered nurses have completed the Health Quality & Safety Commission module on implicit bias, and that this education session will be delivered to resident medical officers and nursing staff annually. The SCDHB admissions policy has been updated such that if a specialist declines to accept the ED consultant's admission recommendation, then the declining specialist must review the patient if requested. In addition, SCDHB said that there has been a renewed emphasis on compliance with its

"Consultant to consultant referral" document, whereby referrals are made directly from consultant to consultant, rather than utilising a junior doctor as an intermediary.

190. SCDHB told HDC that in addition to the above recommendations, its Emergency Department is developing take-home information sheets on selected conditions, including abdominal pain, and it has incorporated education on early warning scores and pain management into the current prevocational teaching curriculum.

Recommendations

191. I recommend that SCDHB:

a) Provide HDC with a further update on the implementation and effectiveness of the recommendations made in the Serious Adverse Event Review. This update should be provided to HDC within six months of the date of this report.

b) Use an anonymised version of Ms A's case as a basis for staff training at SCDHB on the importance of collaborative care of high-risk patients, the potential for diagnostic error in immunosuppressed patients, and the benefits of putting in place a safety net for high-risk patients being discharged from hospital. Evidence that this training has been provided should be sent to HDC within six months of the date of this report.

c) Create a documentation guideline that covers various aspects of a patient's journey through the ED, as per Dr Wilkinson's advice, including in relation to assessment, management, discharge, and follow-up instructions, in addition to the management of high-risk scenarios. Evidence that this has been completed should be sent to HDC within six months of the date of this report.

d) Consider developing a consensus between the ED specialists, physicians, and surgeons at SCDHB for the management of patients with acute abdominal pain. The consensus should then be incorporated into relevant policies and documentation at SCDHB. SCDHB is to report the outcome of this consideration (and updated policies and documentation) to HDC within six months of the date of this report.

e) Provide Ms A's family with a written apology for the breaches of the Code outlined in this report. The apology should be sent to HDC within three weeks of the date of this report, for forwarding.

192. I recommend that Dr C complete a clinical notes audit with the Australasian College for Emergency Medicine. The results of the audit are to be sent to HDC within eight months of the date of this report.

Follow-up actions

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

194. A copy of this report with details identifying the parties removed, except the experts who advised on this case and SCDHB, will be sent to the Health Quality & Safety Commission and the Ministry of Health, and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

195. I note that many of the clinicians involved in Ms A's care consider that omalizumab "played some role" in the events that led to Ms A's death. Accordingly, a copy of this report with details identifying the parties removed, except the experts who advised on this case and SCDHB, will also be sent to PHARMAC, Medsafe, and the Centre for Adverse Reactions Monitoring.

Appendix A: Independent clinical advice to the Commissioner

The following expert advice was obtained from a specialist physician, Dr Lucille Wilkinson:

"My name is Dr Lucille Wilkinson. I am a Specialist Physician with Vocational Registration in Acute and General Medicine. I am a current Fellow of the Royal Australasian College of Physicians and work full time as a General Physician and Clinical Director of Medicine.

I have been asked to provide an opinion by the Health and Disability Commissioner on the care provided to [Ms A] during her illness and subsequent death in [Month1]/[Month2] at [the public hospital], South Canterbury. The opinion I provide below is based on reviewing the clinical notes provided to me, a comprehensive review of [Ms A's] case by [the] (Chief Medical Officer, SCDHB) and the responses from clinicians involved in [Ms A's] care.

I have also been provided with a copy of correspondence from [Mr B] to the HDC regarding the care provided to his daughter. In this letter, [Mr B] expresses significant concern about his daughter's care and particularly concern about the decision making that occurred when discharging his daughter from hospital. The opinion I provide will be focussed on this area as this is also a concern raised by the HDC. I hope that [Mr B], his family and [Ms A's] partner will accept my condolences for their loss.

Summary of case — all care took place at the hospital.

20th [Month1] — first admission.

[Ms A] self-presented to the Emergency Department with ten hours of colicky abdominal pain, diarrhoea and vomiting. The medical notes indicate that she was 'writhing in pain' which indicates to me that her pain was severe. Her medical background included a diagnosis of chronic spontaneous urticaria for which she had received immunosuppression including prednisone, cyclosporine (stopped prior to [Month1]) and a single dose of omalizumab. [Ms A] also had a diagnosis of Asperger's syndrome, was overweight and was being treated with both an antidepressant and antipsychotic medication prior to admission.

[Ms A] was assessed and treated by the Emergency Department team led by [Dr C]. I note that while she had normal physiological parameters, her blood tests were abnormal with a raised white cell count with a high neutrophil count and a moderately raised CRP of 31. No venous gas was performed to check a pH or lactate level. A CT scan of the abdomen with contrast was performed. The radiologist report does indicate the lack of sensitivity of the test due to the patient's body habitus but no gross abnormalities were reported. [Ms A] received pain relief during her stay in ED but notably had a moderately large dose of oral morphine, for a morphine naïve patient, at 2230hrs which is after the discharge time indicated by discharge documentation. There does not appear to be documentation from nursing or medical staff as to why this medication was administered after a documented discharge. There

is no documented referral for advice from an inpatient team, no documented differential diagnosis considered and her discharge summary stated 'patient is crying out in pain/functional' which suggests the possibility that her symptoms were assessed as being caused by psychological factors. Taking into account the administration of morphine at 2230hrs, [Ms A] was in the ED for less than six hours.

21st [Month1] — second admission to hospital.

[Ms A] self-presented to the Emergency Department at 2000hrs with worsening symptoms of abdominal pain and now had a persistent high heart rate (140–150/min). Her blood results were now very abnormal with haemoconcentration (likely secondary to decreased intravascular volume), persistent neutrophilia, and a markedly raised CRP at 452 indicating the likely presence of severe infection, inflammatory response or tissue injury. The on call General Surgeon ([Dr E]) was consulted by the Emergency doctor caring for [Ms A] and advice was given to repeat a CT scan of the abdomen. [Dr E] did not attend to see [Ms A]. The repeat CT scan was reported as showing no specific findings to explain [Ms A's] severe illness. She was treated with intravenous fluids, opiate pain relief, broad spectrum antibiotic and antiemetics. On this occasion a venous gas was undertaken, and this revealed a normal pH but a raised lactate of 3.2 mmol/L.

[Ms A] was referred to the General Surgeon on call ([Dr E]) for admission to hospital. [Dr E] declined to admit [Ms A] under his care and suggested referral to the General Medicine service. [Ms A] was admitted under the care of [Dr F], on call General Physician, and the junior doctor on call noted that the patient remained tachycardic at a heart rate of 140/min and was 'miserable in pain'. [Ms A] was found to have a generally tender abdomen. A plan was made to admit to the medical ward with ongoing monitoring, rehydration with iv fluid and culture of blood and stool. She did not have parenteral steroids prescribed which would be indicated in a patient who is on long term, moderate dose oral steroids. It appears that there was alteration of the early warning score monitoring to avoid calling a hospital code unless the heart rate became higher than 150/min as the tachycardia was felt to be due to severe pain. I note concerns raised in the clinical notes by the nursing staff around the persistent tachycardia and severe abdominal pain and that a clear plan needed to be made before transferring [Ms A] to the ward.

[Ms A] spent two days in hospital. She intermittently tolerated food. She had intermittent vomiting and ongoing abdominal pain documented by the nursing team. The pain was documented at being severe at times and required both oral and intravenous opiate pain relief three times over the night shift prior to her discharge from hospital. Her CRP remained very elevated at 517 and 478 on successive days of admission. The full blood count continued to show haemoconcentration with a normalised white cell count that had toxic changes in the neutrophils. [Ms A] was not reviewed by the surgical team at any time during this admission. There is documentation that [Ms A] has less pain over the course of the morning on the day of discharge. [Ms A] was discharged from hospital in the middle of the day on 23rd [Month1].

26th [Month1] — third admission to hospital.

[Ms A] was readmitted to hospital having had ongoing abdominal pain and frequent vomiting since her discharge from hospital and constipation. [Ms A] arrived at the hospital at 1733hrs. She was found to have a tachycardia and a distended abdomen which was diffusely tender with no bowel sounds heard. Laboratory results indicated acidosis, a very raised lactate, a raised white cell count, worsening renal function and a very high CRP of 635. She was admitted to the ICU at 0100hrs, after having a CT scan at 21.20hrs. There is no written documentation from a surgical consultant prior to a ward round occurring the next day. Subsequently, [Ms A] was taken to the Operating Theatre on Monday 27th [Month1] after a note indicating that the CT scan showed a closed loop bowel obstruction. The timing of surgery is not clear in the notes but appears to be in the afternoon as [Ms A] was changed for theatre at 1200hrs. At the time of laparotomy, extensive small bowel infarction was found. Mention is made of oversewing of a bowel perforation. [Ms A] was returned to ICU and eventually made for palliative care. She died on 6 [Month2].

Advice in response to the questions raised by the HDC regarding [Ms A's] care over the first two admissions to hospital.

1. **Was the assessment of [Ms A's] presenting symptoms appropriate?** [Ms A] presented with very similar symptoms on both admissions to hospital. These symptoms of abdominal pain, vomiting and diarrhoea are commonly seen in acute settings. I feel that the Emergency Medicine doctors involved in [Ms A's] care did assess her symptoms appropriately and did provide her with both pain relief and arranged further investigations. The admitting house officer on her second admission also documented a thorough assessment of [Ms A's] symptoms and provided pain relief, rehydration and a reasonable plan for her overnight care. I consider that these assessments would be considered to be in keeping with a reasonable and expected standard of care.

2. **Were tests and investigations performed appropriate and were other investigations warranted?** On both admissions to hospital [Ms A] had a range of blood tests, urine testing and CT imaging of her abdomen. On the second admission to hospital she had a venous blood gas. These are all reasonable investigations to be performed in the circumstances and I do not consider additional testing to be appropriate at the time of admission. I therefore consider the initial investigations at the time of admission, to be in keeping with a reasonable and expected standard of care.

3. **Was the diagnosis reached on both admissions to hospital reasonable?** [Ms A] was diagnosed on both admissions with gastroenteritis. This is a common medical condition that can definitely cause the constellation of symptoms and signs that [Ms A] presented with. The question of considering alternative diagnoses, especially in the setting of CT scan findings that were reassuring, needs to be treated with some caution. I would expect that alternative diagnoses would be considered if a patient or their investigations were not improving as expected. In [Ms A's] case, the diagnosis of

small bowel ischaemia would have been very difficult to reach considering that she is not in the usual demographic for this disease, does not have a known history of heart disease or atrial fibrillation and was admitted under the care of a General Physician rather than a General Surgeon. However, I do think it is reasonable to conclude that more serious abdominal pathologies should have been considered on her second admission to hospital. I base this conclusion on the blood results showing a raised lactate, a persistently very high CRP, a blood film showing toxic changes in the neutrophils and [Ms A's] persistent symptoms requiring opiate pain relief within the twelve hours prior to discharge from hospital. Combining all of these factors, I would consider that [Ms A] should have been formally reviewed by a General Surgeon prior to discharge from hospital on the second occasion. Overall, I consider the diagnoses reached in [Ms A's] case to be reasonable considering the medical staff that were caring for her. However, I consider the lack of surgical review of [Ms A] prior to her second discharge to be a moderate departure from an acceptable standard of care. Such a review would have potentially increased the possibility that the severity of [Ms A's] underlying diagnosis may have been appreciated earlier.

4. **Were [Ms A's] discharges home and transfers from ED safe and appropriate?**

a. On the first admission to hospital, [Ms A] was discharged directly from the Emergency Department without discussion or review from an inpatient specialty team. [Ms A] had a full assessment, including a CT scan of the abdomen, and these investigations were felt to be reassuring. I have one major concern regarding her discharge which is that she was administered a moderate dose of opiate pain relief after she was formally discharged from the ED. There is no documentation accompanying why this was required therefore it can only be assumed that [Ms A] had ongoing severe abdominal pain. Considering this, and that she was an immunosuppressed patient with a high white cell count and a raised CRP, I believe that it would have been prudent to delay [Ms A's] discharge until her condition improved. As [Ms A] was approaching six hours in the Emergency Department, this situation would then prompt a referral to an inpatient specialty team. I consider the discharge of [Ms A] on the first occasion to be a minor departure from an acceptable level of care. I have taken into account that [Ms A] did feel able to come back to the hospital within 24 hours which indicates to me that she may have been advised to return if her symptoms did not improve.

b. On the second admission to hospital, [Ms A] was referred from the Emergency Department to the inpatient team. She was referred initially to the Surgical team but this admission was declined by [Dr E], General Surgeon. Subsequently, she was accepted under the General Medical team. Her transfer to the ward did involve a modification of her early warning score to allow the ward to accept her. This decision seems to have been made by a junior doctor and there is no documentation of a discussion with a senior medical officer about this decision. Considering that [Ms A] was a high risk patient (immunosuppressed), had abnormal blood tests (very high CRP, raised lactate, high white cell count) and remained in severe pain, I consider that it would have been appropriate for a consultant to be notified of her persistent

tachycardia and involved with the decision to alter the EWS parameters. I consider this to be a minor departure from the expected level of care predominantly because I am aware that this situation occurs commonly in New Zealand hospitals at this time. This practice is predominantly driven by pressure to move patients out of the Emergency Department and is therefore driven by system issues rather than negligence on behalf of the junior medical staff involved.

c. At the end of the second admission to hospital, [Ms A] was discharged from hospital despite still having a very high CRP and her needing repetitive doses of opiate pain relief over the night shift prior to discharge. While she was documented as being much improved on the morning of discharge, I am concerned that such a high risk, immunocompromised patient was discharged at this time. I believe this to be a moderate departure from an expected level of care and it would have been more appropriate for [Ms A] to have a 24-hour period of symptom control without opiate pain relief and have clearer evidence of a normalising CRP on her blood tests.

5. **Was the raised CRP level investigated appropriately?** On the second admission to hospital [Ms A's] blood test results showed a very high C-reactive protein (CRP). The CRP blood test is a test that is helpful to indicate that the patient has significant inflammation, infection or tissue injury but does not specify the source of the raised CRP. When a CRP result is very elevated (greater than 350), then it is highly likely that the patient has a major underlying illness such as a severe infection or severe tissue injury. Investigation of such a high CRP would usually involve a search for a serious cause which would include undertaking blood cultures, urine culture, stool culture, radiological investigations such as CT scanning or MRI scans. [Ms A] had most of these investigations and I consider that these were undertaken in a timely and appropriate manner. Despite this, a clear underlying cause for such a high CRP was not identified. In this circumstance it would be appropriate to monitor the patient closely in a hospital setting, consider repeat blood cultures and clinically reviewing the patient to determine localising signs of the underlying condition until such time as the CRP was significantly reducing. This did not happen in [Ms A's] case and I consider this to be a moderate departure from an expected standard of care.

6. **Were the clinical notes on [Ms A's] case adequate?** The clinical notes available to me regarding [Ms A's] case during her first two admissions to hospital are predominantly of a reasonable standard. The main omission is the lack of documentation of why [Ms A] was given a moderate dose of oral morphine after the documented time of her discharge from her first admission. Essentially, this means that [Ms A] received further significant intervention after her discharge was completed and this was not accompanied by any documentation from any medical or nursing staff. This is not acceptable and would be considered to be a moderate departure from an expected standard of care.

7. **Should the abnormality on the CT scan with respect to the Superior Mesenteric Artery (SMA) have been picked up sooner?** Medical doctors caring for patients with acute illness are increasingly reliant on radiological investigations to guide them in

providing care. While some clinicians have significant expertise in interpreting imaging themselves, most clinicians rely on reports from Specialist Radiologists. [Ms A] had two CT scans during her first two admissions to hospital and both were reported as not showing major abnormalities that explained her symptoms or blood tests. It would therefore be difficult for the acute clinicians to be able to interpret these scans differently. I believe this is particularly the case because [Ms A] was not reviewed by a clinical expert in abdominal disorders (a General Surgeon). Such a review may have led to the consideration of seeking a second opinion on her CT scans and this may have identified the SMA abnormality. As noted above, I consider the omission of a surgical review for [Ms A] on her second admission to hospital to be a moderate departure from a reasonable standard of care.

8. **Should a cardiac echocardiogram have been requested on [Ms A]?** On reviewing the clinical notes, I did not find any reference to significant cardiac symptoms or examination findings that would have indicated the urgent consideration of a cardiac echocardiogram. Once the diagnosis of small bowel ischaemia was made, then a full cardiac examination and consideration of echocardiography would be indicated to determine if there was evidence of endocarditis or undiagnosed valvular heart disease. This would have been a consideration on her third admission to hospital but may have been felt to be inappropriate as her situation was felt to be not survivable after her laparotomy.

9. **Matters related to [Ms A's] care that deserve further comment.**

a. Administration of parenteral steroids would have been indicated for [Ms A] as she was on moderate dose oral steroids prior to admission and presented with vomiting and diarrhoea. This would be an expected treatment and not providing this on either of her first admissions to hospital is, in my opinion, a moderate departure from an acceptable level of care.

b. On her second discharge from hospital there appears to have been no provision of a 'safety net' allowing [Ms A] to return to hospital if she remained or became more unwell. This is despite [Ms A] being a very high-risk patient as she was immunosuppressed and was discharged with abnormal blood tests. A safety net might include clear written instructions on when to return to hospital, verbal instructions on the ward round that are clearly documented or a clearly organised follow-up appointment with an outside medical care provider. I can find no record of such a safety net being put in place and therefore must assume that this was not done. This is potentially confirmed by [Mr B's] letter to the HDC that indicates a reluctance by [Ms A's] partner to take her back to the hospital as they felt her symptoms had been dismissed and that they called Healthline asking for advice rather than return to hospital. [Ms A] spent five days at home between her second discharge and third admission to hospital. A clear plan for how she could have returned for further care may have meant that she was able to have relief from pain over that time and also an earlier diagnosis of ischaemic bowel. I would consider the lack of a safety net being in place for [Ms A] to be a major departure from a reasonable level of care.

Recommendations for improvement of care to assist in preventing a recurrence of this event in the future.

1. That, with the permission of [Ms A's] family, [Ms A's] case be used as a teaching case throughout New Zealand on the importance of collaborative care of high risk patients, the potential for diagnostic error in immunosuppressed patients and the benefits of putting a safety net in place for high risk patients discharged from hospital.

2. That SCDHB consider a policy of inpatient teams accepting patients referred from Emergency Medicine under their care and not being able to deflect these referrals to other services unless the patient has been reviewed by an inpatient specialist and specialist to specialist discussion occurs.

3. That SCDHB strongly encourage all medical and nursing staff to undertake the learning modules on understanding bias in health care that are available through the Health Quality and Safety Commission website.

Dr Lucille Wilkinson. MBChB, FRACP, MHthLdship (Hons)."

The following further advice was received from Dr Wilkinson:

"Response to the Health and Disability Commissioner's office regarding further questions on 19HDC01160 — [Ms A]/SCDHB.

The questions raised were.

Please review the attached information and advise whether any of this information changes any aspects of your initial advice.

The attached information does not change any aspects of my initial advice.

Additionally, please comment on:

1) [Dr I's] comment advising that [Dr F] did review [Ms A] before discharge on 23 [Month1], and is unable to recall the conversation with [Ms A] but states that it is universal to [Dr F's] practice to allow patients to return to hospital should there be further problems. He acknowledged that he did not document this review.

Unfortunately, without documentation that this advice was given on the round and the fact that the discharge summary did not indicate this advice, it is not possible for me to alter my advice on this aspect of [Ms A's] care. [Ms A] indicated to her family that she did not feel that she could return to the hospital even though she continued to feel unwell indicating that she had not been reassured that this was an option for her.

2) The reasonableness of [Dr F] not to review [Ms A's] most recent blood tests (including her raised CRP) before discharging her on 23 [Month1].

The results of [Ms A's] blood tests should have been reviewed before discharge by a member of the clinical care team and this may well have led to her remaining in hospital and having further specialist level reivew. If she was discharged prior to these results being available, then they should have been checked and the very high CRP should have been highlighted to [Dr F] so that he could have had the opportunity of asking [Ms A] to return to hospital. As a minimum, this result should have led to a phone call to [Ms A] to check that her health was continuing to improve.

3) The reasonableness of [Dr H] not to document any safety netting advice given.

Unless discharge advice is documented, it is unfortunately not possible for the reviewer of a case to be certain that such advice has been given and what that advice contained. It clearly would have been more reasonable for [Dr H] to document this advice and to ensure that [Ms A] and her partner had a copy of written advice to return to hospital if her health did not improve.

4) The adequacy of the changes made by the physician team, and by SCDHB as a whole, and if there are any other recommendations that you consider suitable to this case.

I note the response from [the Chief Medical Officer] regarding the SCDHB changes proposed after the events of the case have been reviewed. I think that the changes proposed are adequate but will need continuous monitoring to ensure that these changes remain embedded in the usual standard of clinical care at SCDHB.

5) Any other matters that you consider warrant comment.

There are no other matters that I wish to comment on.

Yours sincerely

Dr Lucille Wilkinson, MBChB, FRACP, MHlthLd (Hons)"

Appendix B: Independent clinical advice to the Commissioner

The following expert advice was obtained from a general surgeon, Dr Julian Hayes:

"Re: HDC Case 19HDC01160

I am Julian Hayes, Consultant Colorectal and General Surgeon at Auckland City Hospital.

I am a qualified General Surgeon (FRACS 2001) and Colorectal Surgeon (member of the Colorectal Surgical Society of Australia and New Zealand), vocationally registered with the New Zealand Medical Council (No. 18333). I have been a consultant surgeon since my post-fellowship training in Australia in 2002–2003.

Thank you for asking me to provide advice on the case of [Ms A].

I have been provided with the following documents:

1. Letter of complaint dated [2019]
2. South Canterbury DHB's response dated [2019]
3. Clinical records from South Canterbury DHB
4. South Canterbury DHB's response dated 4 March 2020 including further statements from the clinical team.
5. South Canterbury DHB's policies and procedures

I will not reiterate the brief summary provided in the letter of request.

The advice requested is in respect to eight questions, which I will comment on in turn.

1. Whether other diagnostic techniques should have been considered at each emergency department presentation, due to the limited diagnostic accuracy of the CT scans owing to [Ms A's] body habitus.

[Ms A] was admitted to the emergency department of the hospital initially at around 16.45 hrs on the 20 [Month1] and discharged later that evening, just before midnight. She was then re-admitted to the emergency department at 2000 hrs in the evening of 21 [Month1] and was formally admitted to the hospital under the care of [Dr F] and discharged on the 23 [Month1]. Her third and final admission was on the 26 [Month1] when she came in via ambulance, had a CT scan, was admitted to the intensive care unit and operated on the following morning.

At each admission it seems clear to me from my reading of her clinical notes and review of the investigations, that she was appropriately investigated. She had a high BMI of somewhere between 55 to 60 and given this interpretation of her CT scans would have been difficult. This has been dealt with in more detail in the report from [Dr L] and [Dr M] from [the radiology service].

In terms of her initial admission she had a full blood screen including a CRP which was 31; her white cell count was 18.5. Her CT scan on the initial admission was requested on the indication of 'Right iliac fossa pain ? Appendicitis'. The CT findings were 'There is no clear evidence of appendicitis … and no adjacent inflammatory changes nor any free fluid or air … Small and large bowel loops are normal calibre with no evidence of obstruction. No bowel thickening'. On specialist radiology review, [Dr L] and [Dr M] concur with this report.

On the second admission on the 21 [Month1], [Ms A] again had a full blood screen; her white cell count was 14, her CRP however was 452. She had an arterial blood gas requested which showed a pH of 7.48, with a lactate of 3.2. This is not suggestive of bowel ischaemia. It is clear that given this was a re-admission there was more concern about her, particularly with the significantly elevated CRP. A repeat CT scan was performed, which showed 'unchanged appearance of the abdomen and pelvis in comparison to the previous imaging. No clear source for the patient's elevated CRP is evident'. With respect to this second CT scan, the subsequent review from [the radiology service] states 'In retrospect there is borderline/subtle thickening of mid/small bowel loops', however this 'is extremely non-specific and under ordinary conditions we would not expect the average radiologists to detect or describe this finding prospectively'. Finally 'In the absence of an arterial phase scan, mesenteric vessel assessment is extremely limited' however it is not clear that there was significant clinical suspicion of mesenteric or bowel ischaemia on this presentation, and there was no suggestion of that from the arterial blood gas.

On the third CT scan there were features of bowel obstruction and that finding is what precipitated the involvement of the surgeon at that stage. In terms of the specific question (1), this has already partly been answered by the specialists from [the radiology service]. I agree with the assessment that CT is the most appropriate modality for the assessment of acute abdominal pain, and I do not think there are any other specific diagnostic techniques which should have been considered for this patient in this situation. In summary I believe that at each of [Ms A's] presentations the standard of care in terms of investigations was met, ie appropriate blood and other laboratory tests, and appropriate imaging in terms of abdominal CT scan, were performed.

2. The reasonableness of the on call General Surgeon to decline to admit [Ms A] under his care at the time of her second admission to hospital.

[Dr D] (signed statement 27/02/20) discussed [Ms A] with [Dr E] at the time of second admission on 21 [Month1]. A repeat CT scan was requested, the report is noted above (unchanged findings compared to the first CT scan on 20th [Month1]). [Dr D] states 'Given the CT findings and a comorbidity of leukoclastic vasculitis, [Dr E] declined to admit under his care and suggested to admit under Medicine …'

I understand from the response of the on call General Surgeon, [Dr E], that he did not understand that he was being asked to admit [Ms A]; so this was somewhat under contention. Likewise in his report (4 March 2020) [Dr E] states '[Dr D] did not request that I come in to review the patient that evening, and I did not think that a surgical

review was indicated' and later 'had I been requested to review her before her discharge, of course I would have done so.' To some extent I will deal with this in my response to the next question. Also please see my response to question (7).

3. Whether [Ms A] should have been personally reviewed by surgical services in ED on 20 [Month1] and prior to her being admitted under [Dr F] on 21 [Month1].

My answer to this is given in the context of a small provincial hospital where the medical and surgical services may not always be adequately resourced. In contrast the hospital where I work is a large metropolitan hospital with a 24/7 on site acute surgical team, where nearly all patients with acute abdominal pain are reviewed early in the admission by the acute surgical unit. I would not always expect the same principles from my hospital to apply in this specific situation. Essentially the decision to request a specialist review is made by the emergency or other clinicians looking after the patient at the time. I understand that there is some contention between the medical and surgical services as to whether or not this patient should have been reviewed by the surgical service. While a surgical review would indeed be the counsel of perfection in my opinion, it may not have changed the eventual outcome, as the diagnosis of small intestinal ischemia can be a very difficult diagnosis to make. In this situation I therefore believe that there is a minimal to mild departure from accepted practice. I do believe however (see question 7) that in terms of recommendations for improvement, a consensus needs to be developed between the ED specialists, Physicians and Surgeons at South Canterbury DHB, for the management of patients with acute abdominal pain.

4. Whether the on call General Surgeon should have reviewed [Ms A] at the bed side during her second admission prior to discharge.

To some extent my answer to this question is similar to that for the previous question. A review by the on call General Surgeon would again in hindsight be the counsel of perfection, but again this depends on adequate resources and the level of clinical concern, and this has to be kept in the context of the limitations of a small provincial hospital. My one other concern, which has been acknowledged by [Dr I] in their reply, was that the CRP prior to discharge was 478, and this was missed. This is of some concern in my opinion and potentially would have prompted a delay to discharge and possibly a request for a surgical review.

5. The reasonableness of the delay in proceeding to surgery at the time of [Ms A's] third admission to hospital after her third CT was reported.

[Ms A] was re-admitted to the hospital on the 26 [Month1] and proceeded to have a CT abdomen and pelvis at 21:20 hours. The findings of this CT were in keeping with small bowel obstruction. This finding in the context of a patient with a CRP of 635, a white cell count of 18 and a lactate of 9.0 is of some concern. She was reviewed by the on call surgeon shortly after this at approximately 22:00 hours, alongside the medical specialists in the emergency department, and the decision was made to admit her to the intensive care unit. This occurred shortly after midnight. To a large extent the decision to proceed directly to surgery or not is made very much on the basis of

clinical grounds, taking into account whether or not the patient needs to be further resuscitated (which I understand was required), and the issues in terms of the anaesthetic safety associated with an operation in the middle of the night (which are significant in a high BMI patient). In any event she came to surgery at approximately 10am the following morning where she was found to have nearly all of her small bowel infarcted except for the proximal 10cm.

From [Dr E's] response (4 March 2020) I understand that on the evening of 26 [Month1], he was concerned about the absence of a clear diagnosis, while the CRP continued to rise markedly. [Dr E] states 'At this stage I was reluctant to perform an exploratory laparotomy, because if it should be negative the surgery would have served only to exacerbate her clinical situation'. I understand that initially [Dr E] attributed the CT findings of small bowel obstruction to gastroenteritis, which was more consistent with her previous presentations. With the benefit of hindsight, [Dr E] acknowledges that when the possibility of an arterial thrombolembolic event as a result of treatment with Omalizumab was raised, on the evening of 26 [Month1], that he should have considered returning [Ms A] for an arterial phase CT scan. From [Dr E's] response I understand that the decision to take [Ms A] to surgery urgently was made at approximately 0900 hrs on 27 [Month1], after further discussion with the radiologist identified the possibility of ischaemic small bowel.

With the above in mind, it is difficult in retrospect to be critical of the delay in proceeding to surgery. Urgent laparotomy would be indicated if there was clinical concern or evidence (eg on CT) of bowel ischaemia, or where there was clinical instability despite resuscitation. From my understanding of the record and [Dr E's] responses there was neither of these clear indications for surgery on the evening of 26 [Month1]. I do not think that there has been a departure from accepted practice.

6. The adequacy of the care provided to [Ms A] after the findings of a laparotomy (including whether or not transfer to a tertiary hospital setting should have been considered, and the decision to keep [Ms A] ventilated until the 6 [Month2]).

As [Dr E] has commented, the laparotomy findings were unexpected. It is still unclear to me what the actual cause of her small bowel infarction was as I do not have access to her autopsy reports. In any case this was a catastrophic event and it was clearly traumatic for both the patient and family and all the staff involved. Second opinions were sought [from two other surgeons]. The following morning a vascular surgeon ([Dr K]) from [DHB2] was phoned and he advised a second look laparotomy. My one comment on this would be it seems to me that the prognostic die was cast already by this stage. If the small bowel was already dead, in retrospect it may well have been worth consulting with another senior gastrointestinal surgeon (for example from [DHB2]) as an alternative.

I have discussed this scenario with [a colleague], one reason being that together we work in the New Zealand National Intestinal Failure Service, where we often see the consequences of intestinal catastrophes such as this. His opinion was that most surgeons and clinicians in this situation would do the same as was done for [Ms A].

The alternative would be to resect all of the small bowel and consign [Ms A] to a life requiring TPN (Total Parenteral Nutrition) with high risk of morbidity and potentially a very poor quality of life. I do not think that transferring her to a tertiary hospital setting would have been useful, as in particular this would have removed her from the setting of her immediate family and made that whole part of the care process much more complicated. From what I can see the decision to keep [Ms A] ventilated was clearly not foreseen as at the time of her laparotomy and return to the intensive care unit, as she was not expected to survive more than a few hours. However she was presumably more robust than expected and it did eventuate that she survived several more days in intensive care. This was clearly an extremely difficult situation and it is difficult for me to criticise this decision. Decisions at the end of life, as in this situation, are extremely fraught and stressful, and I believe that the clinicians involved did the best that they could in the circumstances. From what I can see the hospital staff went to great lengths to consult with the family and respect the family's wishes.

In summary I believe that the care provided to [Ms A] after the findings at laparotomy was appropriate and I do not believe that there was a departure from accepted practice.

7. The adequacy of 'South Canterbury DHB policies and procedures'.

There is a suggestion in the responses from the DHB that relationships between the medical and surgical specialities were not ideal and I suspect that this may have contributed to the unfortunate outcome. This is a subjective assessment that relates to the 'culture' of the hospital, which is difficult both to quantify and address. This has been touched on by the Serious Adverse Event Review from the DHB. I would strongly support the SAE review's recommendation to 'Facilitate discussion between surgeons, ED consultants and physicians to seek a collegial agreement on the process of requesting and obtaining a surgical review of a patient.' This is a critical finding and I believe this to be the most important and constructive outcome of that review, and my review.

8. Any other matters in this case regarding the general surgery care provided to [Ms A] that you consider warrants comment.

I have to comment, that in reviewing this case, it has clearly been an extremely unfortunate and sad situation that has affected the family and also all those involved in caring for [Ms A]. This would be a difficult situation in any hospital, even the most well-resourced, but in a small provincial hospital such as this I think will have been even more difficult to deal with.

I am happy to be contacted for any further questions

Yours sincerely,

Julian Hayes MBChB, FRACS
Colorectal and General Surgeon
Head of Colorectal Unit, Department of Surgery
Auckland City Hospital"

Appendix C: Independent clinical advice to the Commissioner

The following expert advice was obtained from an emergency medicine specialist, Dr Shameem Safih:

"My name is Shameem Safih

I am an Emergency Medicine Specialist. I am a Fellow of the College of Emergency Medicine (1997).

I have been in clinical practice as a consultant/specialist for over 20 years.

The Health and Disability Commissioner (HDC) has asked me to review the care provided in the case of [Ms A], Ref 19 HDC01160.

This is in relation to her three presentations to the hospital Emergency department in 2019.

1. First presentation: Abdominal pain, diarrhoea and vomiting on the 20th of [Month1]
2. Second presentation: Abdominal pains, Seen and admitted 21st of [Month1], discharged 23rd of [Month1]
3. Third presentation Abdominal pain 26th of [Month1], sadly died 6th of [Month2] in hospital

I have read the following documents

1. Letter of complaint [2019]
2. South Canterbury DHB's response dated [2019]
3. Clinical records from South Canterbury DHB covering the period 20–27 [Month1]
4. Statements from [Dr C], [Dr D] and [the nurse coordinator]
5. Relevant South Canterbury DHB policies

The HDC has asked me to consider whether the care provided met accepted standards in each of the three presentations to the hospital.

I have been asked to comment in particular on

1. The ED presentation on 20th [Month1]

a. The adequacy of the assessments and investigations undertaken by [Dr C]

b. The adequacy of the documentation at this presentation, including the documented discharge form, discharge time and prescribed medications

c. The reasonableness of [Dr C] not reviewing [Ms A's] prescribed medication as listed in her 'HealthOne' record

d. The reasonableness of the decision to prescribe [Ms A] morphine in each of the three possible scenarios

i. If [Ms A] was provided with morphine prior to discharge from the ED

ii. If [Ms A] was provided with morphine to take home with her after discharge from the ED

iii. If [Ms A] was provided with morphine both prior to discharge from the ED, and with morphine to take home with her

e. The appropriateness of the decision to discharge [Ms A] from ED

f. The adequacy of the safety netting advice provided to [Ms A]

g. The overall adequacy of care provided to [Ms A] at this presentation

2. The overall adequacy of the care provided to [Ms A] at her ED presentation on 21 [Month1]

3. The overall adequacy of the care provided to [Ms A] at her ED presentation on 26th [Month1]

4. Whether in person surgical review of [Ms A] in the ED should have occurred at her presentations on 20 and 21 [Month1]

5. Whether other diagnostic techniques should have been considered at each emergency department presentation, due to the limited diagnostic accuracy of the CT scans owing to [Ms A's] body habitus

6. Whether administration of parental steroids were indicated at any of [Ms A's] ED presentations

7. The adequacy of the provided South Canterbury DHB Policies

8. Any other emergency department matters in this case that warrant comment

For each question I have been asked to advise on the following.

a. What is the standard of care/accepted practice and what are the relevant guidelines?

b. Has there been a departure from accepted practice? If so, to what degree: mild, moderate or severe?

c. What recommendations for improvement would help prevent a similar occurrence in future?

Review of presentations.

20th [Month1] — 1st presentation to ED

[Ms A] presented with a history of colicky abdominal pains, diarrhoea and vomiting of sudden onset 8 to 9 hours prior to presentation. She was triaged as Category 3 (to be seen within half an hour) and seen by Specialist Emergency Physician [Dr C] at 1700.

She elicited the history of abdominal pain with mainly vomiting, noting that diarrhoea occurred mainly at the onset of the illness only. She did not document an enquiry on past or current medical or medication history.

On physical examination [Dr C] noted that [Ms A] was writhing in pain. She documented the heart rate but not the temperature or blood pressure. She did a focussed abdominal examination. She has noted quite appropriately that abdominal examination was unreliable because of body habitus. She noted that the abdomen was diffusely tender with no guarding. She has written a couple of other words pertaining to the abdominal findings which are hard to read.

She has documented that her impression was that [Ms A] had gastroenteritis. Her plan is entered briefly on one side of the body of notes as 1. IV fluids 2. Analgesia as needed.

An entry on the left side of the side of the body of notes says CT NAD ('CT scan no abnormality detected').

There is no record of any further review of [Ms A] while she was in the department. There are no progress notes of response to therapy.

Nursing notes

Medications given for the vomiting and pain included cyclizine 50 mg orally, tramadol 50 mg orally twice, intravenous diclofenac with intravenous fluids, diazepam 5 mg orally, and buscopan 20 mg also given orally. It is documented in the medication chart that 20 mg of morphine elixir was given at 22.30. In a statement by [the nurse coordinator] it is stated that none of the nurses recall administering the morphine while [Ms A] was in the department. They believe it was given to [Ms A] to take home to self-administer if the pain came back. Exactly what happened with this morphine dose is not documented anywhere in the medical or nursing notes.

Review of the discharge summary written by [Dr C]

The discharge summary documents the presenting symptoms. There is no mention of comorbidity, other illness or current medications. Examination findings describe the degree of apparent distress ('has been screaming in the ED with pain … multiple analgesia given without much effect').

She alludes to her impressions that the 'crying out in pain' may have been 'functional' — which is a term used to describe pain when no obvious organic cause can be found.

She has written 'CT scan NAD' (no abnormality detected), and 'home with reassurance'.

There are no specific discharge or follow up instructions and no safety netting advice documented in the discharge letter. This does not mean that verbal instructions were not given, however it is accepted practice that such instructions should be both verbal and written.

Investigations done at the first presentation

1. CT scan: This was a contrast enhanced abdominal scan and did not show any pathology. The clinical question asked on the request form was if [Ms A] could have appendicitis ('?Appendicitis'). The report said there was no evidence of acute appendicitis or bowel obstruction. The reporting radiologist also wrote that the sensitivity of the CT scan was 'significantly' reduced due to the patient's body habitus. This raises the question of reliability of the 'no abnormality' report. At this stage a vascular event was not in the differential so an arterial phase scan had not been requested.
2. Full blood count: showed a mildly raised white cell count (WCC)
3. C reactive protein (CRP): an inflammatory marker that needs contextual interpretation, was mildly raised. Both the WCC and CRP are very non-specific and not necessarily significant red flags for serious pathology
4. Liver function test: was normal
5. Blood glucose: normal
6. Urine microscopy: findings were obscured by menstrual blood

Comments re the first presentation

[Ms A] presented with abdominal pain, diarrhoea and vomiting which is a common presentation and ordinarily in a young person like her not difficult to sort out. However this simple entity was made complex in her case because of body habitus which made the abdominal examination findings unreliable. She was on immunosuppressive drugs which further affected her clinical presentation and response to infection. This last was not noted at this presentation. The CT scan was not completely reliable because of the body habitus. However within limits it did not pick any surgical pathology and it was reported as normal. It might be noted here that CT scans of the abdomen are not often (accepted to be) done by Emergency Physicians with many Radiology services in New Zealand requesting a surgical consult first. So the fact that a CT scan was done and even within limits was reported as normal would have been at least a little reassuring to [Dr C], particularly as the patient's symptoms seemed to abate. [Ms A] was discharged with the diagnosis of gastroenteritis.

My comments specific to the questions raised by the HDC are as follows

1. The adequacy of the assessments and investigations undertaken by [Dr C]

The physical assessment met the standard. She noted the heart rate and the blood pressure (although the latter was not documented in the notes). Temperature was not obtained for some reason ('unable to get'). Temperature would be an important vital sign in someone with abdominal pain. If raised or significantly low it would indicate infection, but if normal it does not necessarily rule out infection.

Appropriate blood tests and urine test were done. A CT scan was done, as noted this is not always commonly done. This met the standard requirements for investigation in this case.

The history taken was inadequate, omitting medical and medication history. If a clinician is strongly leaning toward the diagnosis of simple gastroenteritis in a young person then it is easy to see why the rest of the history may appear to be irrelevant.

Knowing a patient is immunosuppressed is important because on the one hand it increases the risk of infection and on the other hand infection and inflammation are more likely to be masked on physical examination. In this case however a decision was made to do a CT scan anyway.

In this aspect the failure to ascertain a history of immune suppression was a mild departure from standards of assessment.

2. *The adequacy of the documentation at this presentation, including the documented discharge form, discharge time and prescribed medications*

The written documentation is brief. Documentation is often abbreviated, especially by experienced senior doctors and when the ED is busy. However essential elements should not be omitted.

As mentioned above some of the history was not recorded. A complete set of vital signs was not recorded. Few words of a management plan are squeezed into one corner of the page. Progress notes in particular clinical findings just prior to discharge are not documented. One does not get a clear picture of how well she was prior to discharge and this is important.

The discharge time is confusing as it appears that morphine was given after discharge. The nursing coordinator thinks [Ms A] was still in the department after the discharge letter was written. And that the actual departure time might have been 2315, not 2200.

[Ms A] was given morphine. From the notes it is not clear why, and whether it was administered in the department or given as a takeaway.

The discharge summary did not contain any written advice for further self-observation and self-management at home, nor any advice for when and where to seek further

help. As stated above whilst this information might have been given verbally it is accepted practice that it should be written in the discharge summary given to the patient prior to discharge.

A copy of the prescription written is filed in the notes (as per DHB policy). There is no record made in the discharge summary of what medications were prescribed. Thus the GP will not know on receiving the discharge summary what medications were prescribed.

I would call the standard of documentation in particular the lack of written advice in the discharge summary to be a moderate departure from expected standard of care.

3. The reasonableness of [Dr C] not reviewing [Ms A's] prescribed medication as listed in her 'HealthOne' record

[Dr C] states [Ms A] did not volunteer her other medical problems or her medication history. However it is incumbent upon the clinician to proactively take a good history. Had she asked the question she may have then been prompted to look up the HealthOne record for further details.

Given that she thought this was a simple case of gastroenteritis and organised a CT anyway I would regard not looking in her HealthOne record a mild departure from standard practice.

4. The reasonableness of the decision to prescribe [Ms A] morphine in each of the three possible scenarios

i. If [Ms A] was provided with morphine prior to discharge from the ED. Morphine is given for moderate to severe pain. If morphine was given to [Ms A] just prior to discharge without further assessment this would be a moderate departure from standard.

ii. If [Ms A] was provided with morphine to take home with her after discharge from the ED. This would be reasonable if it was given in case there were further cramping abdominal pains related to the gastroenteritis although giving a single dose of morphine to take home when it had not been given for symptoms in ED would be considered unusual.

iii. If [Ms A] was provided with morphine both prior to discharge from the ED, and with morphine to take home with her. If [Ms A] was observed and reassessed after being administered morphine in the department, and then discharged with a further dose but with safety net instructions then this would be reasonable.

5. The appropriateness of the decision to discharge [Ms A] from ED.

From the written statement by [Dr C] it seems the pain was controlled prior to discharge although this had not been documented contemporaneously. The CT scan did not show any abnormality which despite the documented poor reliability would

have been reassuring to the treating clinician. The blood tests were mildly abnormal, but non-specific and not particularly helpful in this case. Whilst a diagnosis of gastro-enteritis was not entirely unreasonable (vomiting, diarrhoea and crampy abdominal pain it is well known as one of the great mimics of more serious pathology. A diagnosis of gastroenteritis in a young person will be correct most often but there is always a slight risk of the symptoms being caused by more serious pathology. In my opinion therefore given the assessment including investigations and the fact that [Dr C] later stated that her patient's symptoms seemed to have settled it was therefore reasonable to discharge [Ms A].

6. *The adequacy of the safety netting advice provided to [Ms A].* There is no evidence of any written safety netting advice. This is a moderate departure at least from the standard of documentation of care.

7. *The overall adequacy of care provided to [Ms A] at this presentation.* The overall care provided during this visit was reasonable and is not a marked departure from standard.

21st [Month1] — 2nd presentation to ED

[Ms A] was brought in by ambulance on 21st of [Month1], around 2000 with worsening abdominal pain. The very fact that she returned to ED less than 24 hours after being discharged mitigates to a degree the fact that this explicit advice was not documented on the discharge letter of the 20th. Clearly [Ms A] felt the need to return to ED as her symptoms had deteriorated.

[Ms A] was quite unwell at this presentation. Her heart rate (154 beats per minute) and respiratory rate (28 breaths per minute) were significantly raised. Her pain had worsened despite taking the prescribed medications. She was triaged as ATS 3 and she was seen by [Dr D], ED medical officer and rural hospital medicine trainee. He did a more in depth review and got a history of leucocytoclastic vasculitis, regional dystonia, and depression and anxiety. He looked up the medication list and became aware that [Ms A] was on multiple medications, including prednisone, cyclosporine and omaluzumab for the vasculitis. A repeat set of blood tests were done. The inflammatory markers were now significantly raised. The CRP had gone up from 31 to 452 mg/L. He suspected the abdominal pain to be secondary to an infection in an immunosuppressed patient, clearly a much more significant differential diagnosis. On examination he again found the abdomen to be diffusely tender. He recognised that [Ms A] was unwell and needed specialist review and admission to hospital. He discussed this with the surgeon on call, [Dr E]. [Dr E] asked for another CT scan of the abdomen. He suggested intravenous antibiotics in the meantime. The main reason for doing the repeat CT scan was to see if there was focal infection and a focal collection of pus that had either developed in the last 24 hours or had not been appreciated in the scan of 24hrs earlier. The CT was reported by the radiologist as unchanged from the previous one with no evidence of appendicitis or bowel obstruction. No other visceral pathology was picked up. When this was discussed with [Dr E] he advised that

[Ms A] should be admitted under General Medicine on the working diagnosis of gastroenteritis in an immunosuppressed person.

[Ms A] was admitted under the general physician, [Dr F], and managed conservatively (meaning symptoms managed and no significant intervention such as an operation). Once again [Ms A's] symptoms appeared to settle quite well and she was discharged on the 23rd of [Month1].

I take note of the fact that [Ms A] represented to hospital within 24 hours of her first presentation and had a period of around 48 hours observation in hospital. She had clinical input from a consultant surgeon and physician who had the benefit of the knowledge of her medical background including immune suppression. Further, her symptoms again seemed to settle. These also mitigate the decision making and mild departures from standard of care by [Dr C] on the first presentation.

HDC Question 2 Comment on the overall adequacy of the care provided to [Ms A] at her ED presentation on 21 [Month1]

[Dr D] recognised that [Ms A] was quite unwell and needed speciality input and admission to hospital. Blood tests were appropriately repeated. Consultation with the surgeon was appropriate. The CT scan was appropriately repeated.

[Ms A] was closely monitored in the department. She had moderate to severe ongoing pain for several hours. Strong pain medications were administered. Intravenous antibiotic and fluids were administered.

Management by [Dr D] and the ED nursing team in the Emergency department met expected standards. A repeat presentation to ED with the same or similar symptoms/issues within 7 days of a previous presentation is considered a red flag and would be expected to initiate a more detailed assessment, as was done quite appropriately in this case.

[Ms A] had an abdominal problem. With a few exceptions this would be admitted under surgeons. The rising inflammatory markers, the constellation of symptoms and the normal CT scan swayed the diagnosis away from a disease that required surgery to mitigate towards something that required medical management such as gastroenteritis.

At this stage a vascular problem which would be rare in a young person was not thought of. Hence [Dr E] felt his surgical team did not need to operate on [Ms A] so she would be best admitted under a medical service for treatment. He asked her to be admitted by the General Physician. She was admitted under [Dr F]. The link between vasculitis and bowel ischemia from thrombotic vessel disease had not been made, that being a very rare diagnosis. The link between omaluzumab administered 12 days previously and thrombosis had been considered, but was not thought to be the likely cause of the abdominal pain. Thus an arterial phase CT scan was not requested. She

was admitted and managed symptomatically. Her symptoms appeared to mostly settle over the next 48 hours and she was discharged.

Overall care at this stage as an inpatient: good supportive care was provided even though the correct (and in a young person rare) diagnosis had not been made.

26th [Month1] — 3rd presentation to Hospital

[Ms A] presented for the third time with ongoing abdominal pain, bilious vomiting, and no bowel motion or flatus for 3 to 5 days. She was sweaty, with cool extremities and a heart rate of 160. Her inflammatory markers were even worse. She had severe metabolic acidosis and a lactate of 9. Her abdomen was distended and tender. She was seen again by [Dr D] in ED.

[Dr D] called the on call General Physician [Dr I] who suggested that the surgeons needed to see [Ms A]. [Dr E] was the surgeon on call and he asked for a 3rd repeat CT scan. This time the CT scan showed small bowel obstruction.

Both specialists were informed of the CT result (General Surgeon and General Physician) and both reviewed [Ms A] in the emergency department.

Management in ED included fluid resuscitation, antiemetic, a broad spectrum antibiotic and hydrocortisone 200 mg intravenously. [Dr F] thought a flare up of vasculitis could be contributing to the clinical condition which was the rationale for giving the intravenous steroid.

She was admitted to ICU under the General Surgeon, [Dr E]. Laparotomy the following day revealed total infarction of small bowel not compatible with life. It was unclear whether there was primary thrombosis of the vessels supplying the small bowel.

[Ms A] died on the 6th [Month2].

A post-mortem examination determined the cause of death to be Peritonitis due to small intestine infarction caused by paradoxical embolism through a patent foramen ovale (which is a hole in the wall of the heart between the upper left and the right sided chambers). This means there was a clot in a vein somewhere that flicked off, travelled through the venous circulation to the right side of the heart, and passed through this gap in the heart to the left side of the heart, then travelled on the arterial side and blocked the arteries to the small bowel, causing the small bowel to infarct. The original site of the clot was not found.

In summary [Ms A] had a number of diagnostic challenges (her body habitus), being on immune suppressive therapy, and suffered a rare complication of a rare disorder.

HDC Question 3 Comment on the overall adequacy of the care provided to [Ms A] at her ED presentation on 26th [Month1]

From the Emergency Department perspective good care was provided. She was assessed, appropriately resuscitated and investigated and referred to the appropriate specialities.

HDC Question 4 Comment on whether an in person surgical review should have occurred at the first 2 presentations.

First presentation. This was early in the onset of illness and probably the best opportunity to have altered the course of illness if possible. However it was probably also the time when the findings were least impressive. The true diagnosis was missed in spite of the best available investigation, a CT scan.

[Dr C's] impression was that this was a case of gastroenteritis, the symptoms were mild and settling, and the CT scan was normal. Perhaps she could have placed some emphasis on the reported reduced sensitivity of the CT given the patient's body habitus. She may then have possibly considered discussing the case with the surgeon on call. However I believe given the symptoms consistent with gastroenteritis, the report of no abnormality on CT scan and the resolution of the symptoms, a surgical review was not indicated, and if requested, would most likely have been declined.

Second presentation [Ms A] was much sicker this time. Her abdomen was significantly more painful and tender. Her inflammatory markers were worse. By now it was known that she was on immunosuppressive drugs and had vasculitis. The radiologist had stated that sensitivity of the CT was significantly reduced.

Gastroenteritis causes campy intermittent abdominal pains with associated vomiting and diarrhoea, but should not cause significant continuous or worsening pain and tenderness over days.

Another issue is the admission of a patient with an acute abdomen under a medical speciality. Abdominal pain generally is a surgical problem. Exceptions include abdominal pain caused by urine infection, pyelonephritis and gastroenteritis. Surgical causes (acute appendicitis, mesenteric ischemia, bowel obstruction, and diverticulitis) can masquerade at least initially as gastroenteritis. If there is any doubt then surgeons should personally review the patient.

In this case I feel an in person review by the general surgeon was warranted, however there is no standard to compare this against. Surgeons generally like to only admit patients to their service if they require an operation or for certain specific conditions such as pancreatitis. Admission under a medical team should occur by mutual agreement (between the physician and the surgeon) and does not preclude a further surgical opinion at a later time.

HDC Question 5 Comment on whether other diagnostic techniques should have been considered at each emergency department presentation, due to the limited diagnostic accuracy of the CT scans owing to [Ms A's] body habitus

CT is the diagnostic modality of choice in acute abdominal pain except for when hepatobiliary (or certain pelvic organ) disease is suspected, where an ultrasound may be more useful. Magnetic Resonance Imaging is sometimes also considered for some hepatobiliary pathology but this is rarely if ever ordered from the ED.

Patients who have suspected acute infectious gastroenteritis do not need further imaging of the abdomen.

At the first presentation it is commendable that [Dr C] actually obtained a CT scan (it has been explained that this is not routine), recognising that acute appendicitis can masquerade as gastroenteritis, and that [Ms A's] abdominal examination was not reliable because of body habitus. For this purpose the most useful test was in fact going to be a CT scan.

If ischemic bowel had been suspected (from embolism or thrombosis of mesenteric vessels) a CTA (CT angiography) would be the investigation of choice. However, this would be a rare diagnosis in a young person and was not suspected at any of the visits.

At the second and third presentations speciality consultation occurred. There was input from the General Physician and the Surgeon, and a repeat CT scan was requested each time by the General Surgeon. The second time the CT scan was done to rule out a collection (abscess) as all inflammatory markers pointed toward an infection.

There was no departure from utilisation of diagnostic techniques (and consultation) by the Emergency Department.

HDC Question 6 Comment on whether administration of parenteral steroids were indicated at any of [Ms A's] ED presentations

She had been on prednisone for a few weeks (she was on a reducing dose but still on 15 mg a day). This leads to adrenal suppression and in times of stress the adrenal glands will not be able to respond appropriately. Therefore generally a stress dose of steroid would not have been unreasonable.

However in the first two presentations she was hemodynamically stable and the working diagnosis was infectious gastroenteritis. Steroids can aggravate infection. At the first two presentations one had to balance between the risk of worsening infection (of the presumed gastroenteritis) and inadequate adrenal response. She was appropriately not given steroids at the first two presentations (while acknowledging that a medication history was not taken at the first presentation). She was given steroids on the third admission. She was under severe physiological stress at this time although the rationale for giving steroid was more to control the presumed flare up of the vasculitis.

There was no departure from standard in this regard.

HDC Question 7 Comment on the adequacy of the provided South Canterbury DHB Policies

1. Protocol/Procedure on Discharge Planning

This is adequate and addresses discharge of patients after an inpatient stay.

Many of the procedures listed in this document are also relevant for discharge from the ED. However it would be better if a documentation and discharge procedure was written specifically for the ED. Time and action specific documentation of advice as to what to do if the symptoms do not settle or get worse should be given both verbally and in writing.

2. Adult vital sign and early warning score measurement, recording, and escalation.

This is adequate in its intention to identify early deterioration in a sick patient and to escalate care depending on the score.

In the first admission (at the second presentation) the admitting RMO specifically writes that [Ms A] was not for code blue (Emergency Review) for increased heart rate if due to severe pain only. He goes on to say that the RMO (House officer) should be contacted only if the heart rate is above 150. This shows a lack of understanding of pain management. He is using the EWS in the wrong context. Severe pain should be managed promptly, and severe pain driving the heart rate to 150 should not be tolerated. If this is a generalised issue then pain management by RMOs should be addressed.

3. Clinical Service Practice Manual Policy statement on Medication administration

This is adequate. It is fairly comprehensive and if followed would not have caused confusion around the administration of morphine.

4. Morphine administration

This document is adequate for the purpose of describing safe and appropriate use of morphine in various situations.

HDC question 8.

Any other emergency department matters in this case that warrant comment

This was a very unfortunate case in which a reasonable assessment by an emergency medicine specialist and the right investigation failed to provide the right diagnosis the first time. The return visit and consultation with the general surgeon and the general physician and a 2 day admission under the physician provided a second opportunity to make the correct diagnosis but this failed to happen.

[Ms A] had a rare complication (arterial thrombosis with mesenteric ischemia) of a rare undiagnosed condition (patent foramen ovale) with predisposing factors one

would not usually think of (possibly the leukocytoclastic vasculitis, and the drug omaluzumab), the whole clinical scenario being even more rare in a young person.

Specific opinions on whether the surgeon should have seen [Ms A] or whether it was appropriate for the physician to discharge her on the second presentation depend on the clinical findings documented and the opinions of the general physician and surgeon experts to the HDC. As stated above I feel that an in person surgical review may well have been appropriate. It is possible to imagine that a direct review from a senior doctor would be different from an over the phone assessment. Whether this would have led to a different course of action, such as laparotomy, or a different investigation, is difficult to say with any degree of certainty.

For the ED doctors in general the case of [Ms A] is a reminder that gastroenteritis which is a very common condition and in the vast majority a benign, self-limiting condition, usually self-managed by a patient or managed by a GP, can even if rarely, be a mimicker of serious pathology. It is also a reminder that concurrent medications (in particular those that suppress immunity) and medical co-morbidities can have a significant part to play in patient assessments and management.

This review also highlights the importance of good documentation, in particular the clinical findings at the end of a period of hospitalisation (whether in ED or a ward) and the critical importance of verbal and documented written time and action-specific instructions to be given to a patient on their discharge, with advice as to what to do should their symptoms not abate or get worse and what further follow-up they should expect.

I would suggest that the ED comes up with a documentation guideline that covers various aspects of a patient's journey through the ED not only pertinent to this case, including assessment, management, and discharge and follow up instructions, but also manages risk around other high risk scenarios such as a patient self-discharging against medical advice.

In terms of overall care one of the key issues is how much her clinical findings (and perhaps inflammatory markers) had settled when she was discharged a second time. The mild to moderate shortcomings of assessment and documentation at the first visit are mitigated by [Ms A's] relatively rapid return and admission.

In general the care provided by the ED doctors was ultimately satisfactory at each of the visits. [Ms A] had confounding factors that contributed toward the failure to diagnose a very rare condition carrying a high mortality.

Shameem Safih
Emergency Physician"

The following further advice was sought from Dr Shameem Safih:

> "Dear Shameem,
>
> Thank you very much for the helpful advice you provided us on the above case earlier this year. The Commissioner is just seeking clarification on one of your points and I was hoping that you would be able to assist.
>
> In your report, in the event that [Ms A] was provided with morphine prior to discharge from the ED, you advised:
>
> > 'If morphine was given to [Ms A] just prior to discharge without further assessment this would be a moderate departure from standard.'
>
> [Dr C] however told HDC that after [Ms A] was given morphine, she advised [Ms A] that she could be admitted for ongoing analgesia, and that [Ms A] opted to go home as she was pain free at this time.
>
> I was just wanting to clarify if you consider [Dr C's] discussion with [Ms A] an 'assessment', and if so, whether this assessment was adequate in the circumstances that [Ms A] was given morphine just prior to her discharge on 20 [Month1]."

Dr Safih advised:

> "Thank you. I have reconsidered my advice in this regard. It appears I may have missed this bit in the original statement from [Dr C]. [Dr C] told HDC that (sometime) after the morphine injection had been given she had a conversation with [Ms A]. [Ms A] was pain free and was given the option of admission but chose to go home. Yes this conversation would qualify as further assessment. Therefore there has been no departure from standard of care.
>
> Usually when a patient receives a decent dose of morphine a reassessment is done at an appropriate time to ensure that the pain has been controlled, and that there are no side effects of the morphine such as low blood pressure or drowsiness. The nurse administering the medication will usually repeat a set of observations. If the patient is to be discharged one also needs to consider the expected course of the pain. Is the pain likely to come back when the morphine wears off? If it is then options are discussed with the patient."
>
> Regards
>
> Shameem Safih"