Surgeon, Dr D

Tairawhiti District Health Board

Surgeon, Dr E

Anaesthetist, Dr G

A Report by the

Health and Disability Commissioner

(Case 12HDC00779)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Table of Contents

Executive summary

Background

1. In 2011, on 15 Month1[1], Mr A, aged 74 years, presented to the Emergency Department (ED) at Hospital 1 on referral from his general practitioner due to a sudden onset of right-sided back pain. He had a number of co-morbidities at the time. Following a renal ultrasound that showed multiple gallstones, ED clinicians discharged him and referred him to the Surgical Outpatients Clinic for a possible cholecystectomy (surgical removal of the gallbladder).

2. On 15 Month3, general surgeon Dr D reviewed Mr A at the Surgical Outpatients Clinic and recommended he undergo an open cholecystectomy and incisional hernia repair. Dr D intended to perform the surgery before the end of Month4.

3. On 25 Month3, Mr A had a preoperative anaesthetic assessment with anaesthetist Dr G. Dr G recommended that Mr A's planned surgery be delayed until Month10 because of issues with his medication.

4. Between Month5 and Month9, Mr A underwent treatment at Hospital 1 for kidney stones, but did not undergo further surgical or anaesthetic review in relation to the planned cholecystectomy. On 16 Month9, he had a pre-surgical assessment at Hospital 1, but on 20 Month9 he again presented at the ED with left-sided back pain.

5. On 7 Month10, Mr A presented at Hospital 1 for the planned surgery. Dr D told HDC that she discussed Mr A's recent medical history with him in the morning and made a considered decision to proceed with surgery. However, she did not record any discussion with Mr A.

6. Mr A underwent surgery, which was longer and more difficult than expected. Postoperatively he was transferred to the Intensive Care Unit (ICU). During the next 24 hours Mr A's condition deteriorated. He was in pain and had low urine output, raised creatinine levels, ECG (electrocardiogram) changes, and an increasingly distended abdomen. Mr A was treated by a number of doctors including Drs D, E and G. At about midnight on 9 Month10, general surgeon Dr E performed an exploratory laparotomy and repair of a jejunal perforation. However, Mr A continued to deteriorate and, during the afternoon on 9 Month10, was transferred to Hospital 2, where he died the following day.

Findings

7. Dr D did not record any discussion she had with Mr A about whether the gallstone-related pain he was experiencing, if any, was significant enough for him to undergo surgery in light of alternative management options, or the risks of surgery that were specific to him, including his increased risk of death. The risks of surgery were elevated for Mr A, and a key aspect of Dr D's preoperative discussions with him should have been his personal risk profile. In the absence of any documented evidence that these issues were discussed, the Commissioner found that Dr D failed to provide

[1] Relevant months are referred to as Months 1-10 to protect privacy.

Mr A with information that a reasonable consumer in his position would have needed to make an informed choice about treatment. Accordingly, Dr D breached Right 6(2) of the Code of Health and Disability Services Consumers' Rights (the Code).[2]

8. It followed that Dr D did not obtain informed consent for surgery from Mr A, and breached Right 7(1) of the Code.[3]

9. Dr D demonstrated a lack of reasonable care and skill in deciding to perform surgery on Mr A on 7 Month10, and her approach to Mr A's condition postoperatively was insufficiently cautionary. In these respects, Dr D breached Right 4(1) of the Code.[4]

10. In addition, Dr D's documentation fell below professional standards and, accordingly, she breached Right 4(2) of the Code.[5]

11. There was a lack of discernible leadership, coordination and critical thinking in the clinical team treating Mr A postoperatively, and a lack of support offered by senior doctors to junior staff. This demonstrated a service level failure by Tairawhiti District Health Board (DHB) to provide services with reasonable care and skill, and was a breach of Right 4(1) of the Code.

12. Furthermore, there was a pattern of suboptimal documentation by clinical staff treating Mr A postoperatively. The Commissioner found that Tairawhiti DHB failed to ensure that its staff met expected standards of documentation, and breached Right 4(2) of the Code.

13. The Commissioner made adverse comment about Tairawhiti DHB's preoperative process. In addition, the Commissioner made adverse comment about Tairawhiti DHB's consent to treatment processes. The Commissioner also commented on Tairawhiti DHB's Enhanced Recovery After Surgery (ERAS) protocol, and on Tairawhiti DHB's communication with Mr A's family.

14. The Commissioner made adverse comment about the postoperative care provided to Mr A by Dr E and Dr G.

---

[2] Right 6(2) of the Code states: "Before making a choice or giving consent, every consumer has the right to the information that a reasonable consumer, in that consumer's circumstances, needs to make an informed choice or give informed consent."
[3] Right 7(1) of the Code states: "Services may be provided to a consumer only if that consumer makes an informed choice and gives informed consent, except where any enactment, or the common law, or any other provision of this Code provides otherwise."
[4] Right 4(1) of the Code states: "Every consumer has the right to have services provided with reasonable care and skill."
[5] Right 4(2) of the Code states: "Every consumer has the right to have services provided that comply with legal, professional, ethical, and other relevant standards."

Complaint and investigation

15. The Commissioner received a complaint from Mrs A about the services provided to her late husband, Mr A, by Tairawhiti District Health Board. The following issues were identified for investigation:

- *Whether Tairawhiti District Health Board provided Mr A with an appropriate standard of care between Month1 and Month10.*
- *Whether Dr D provided Mr A with an appropriate standard of care.*
- *Whether Dr E provided Mr A with an appropriate standard of care.*
- *Whether Dr G provided Mr A with an appropriate standard of care.*

16. The parties directly involved in the investigation were:

Mrs A	Complainant/consumer's wife
Ms B	Consumer's daughter
Mr C	Consumer's son
Dr D	Surgeon
Dr E	Surgeon
Dr G	Anaesthetist
Tairawhiti District Health Board	Provider

Also mentioned in this report:

Dr F	Anaesthetist
Dr H	General surgeon
Dr I	House officer
Dr J	Consultant physician
Dr K	House officer

17. Information was also reviewed from ACC.

18. Independent expert advice was obtained from surgeon Dr Elizabeth Dennett (**Appendix A**) and anaesthetist Dr Nigel Robertson (**Appendix B**).

Information gathered during investigation

Mr A

19. Mr A, aged 74 years at the time of these events, had a significant past medical history including multiple abdominal operations (including a Billroth II gastrojejunostomy[6] approximately 20 years previously, and a subtotal colectomy[7] in 2009), cardiovascular and cerebrovascular disease (hyperlipidaemia,[8] hypertension,[9] ischaemic heart disease[10] leading to coronary artery stent insertions in 2008 and 2011, and had suffered a small stroke), chronic obstructive pulmonary disease (COPD),[11] kidney stones,[12] and osteoarthritis[13] of the spine. He also had a history of smoking.

Initial Emergency Department presentation

20. On 15 Month1, Mr A presented to the Emergency Department (ED) at Hospital 1 on referral from his general practitioner (GP) owing to a sudden onset of right-sided back pain. The clinical notes record that ED clinicians performed a renal ultrasound looking for possible kidney stones, but multiple gallstones[14] were found. ED clinicians discharged Mr A and referred him to the Surgical Outpatients Clinic for a possible cholecystectomy (surgical removal of the gallbladder).

Outpatient surgical consultation

21. On 15 Month3, Mr A had a consultation with general surgeon Dr D at the Surgical Outpatients Clinic. His wife, Mrs A, was also present.

22. Dr D had treated Mr A in the past. She told HDC that she had operated on Mr A in 2009, when she performed an extended colon resection on him, and that Mr A had recovered very well from that procedure and was highly satisfied with his treatment and progress. Mrs A also told HDC that Mr A had been treated by Dr D in the past and had a lot of faith in her.

23. Dr D advised HDC that Mr A presented with right upper quadrant pain radiating to his back, which she stated is a "very typical presentation for a man with cholecystolithiasis [gallstones]".

24. Dr D made a record of the consultation with Mr A. Regarding Mr A's symptoms, Dr D recorded: "He reported one episode of severe abdominal pain manifested most in the back due to his multiple gallstones which were seen on ultrasound … Since then he has paid attention to what he eats and it is all good."

---

[6] An operation that connects part of the stomach to part of the jejunum (the middle section of the small intestine).
[7] Resection of the colon.
[8] Elevated levels of lipids in the blood.
[9] High blood pressure.
[10] Narrowing of the arteries leading to reduced blood flow to the heart.
[11] Also known as chronic obstructive respiratory disease, a type of obstructive lung disease characterised by chronically poor airflow.
[12] A solid concretion formed in the kidney from minerals in the urine.
[13] A mechanical abnormality involving the degradation of joints.
[14] A solid concretion formed in the gallbladder from the accretion of bile.

25. Dr D told HDC that "although the renal ultrasound had also identified small kidney stones [she] did not consider these were symptomatic based on the history and examination". Dr D further stated: "Kidney stones typically cause pain in the right or left flank, they are sharp and not related to food intake." She stated that Mr A did not have flank pain in Month3.

26. Dr D also told HDC that, at this consultation, Mr A's pain was ongoing, and that it had improved slightly with watching his diet. She stated: "In retrospect my note could have been more explicit, but I am very clear that [Mr A] remained symptomatic despite his dietary efforts."

27. According to the clinical records, Dr D discussed "the possible options of laparoscopic versus an open cholecystectomy"[15] with Mr A. Dr D noted that, given Mr A's previous surgeries, there was a high likelihood of severe adhesions,[16] which would be difficult to manage laparoscopically. Dr D recorded that an open cholecystectomy would be "the safer procedure", and that an incisional hernia repair[17] could be done at the same time.[18] Dr D documented that Mr A "agrees to this [plan]" and "is aware of the possible complications such as bleeding, infection, recurrence of the hernia, cystic stump leak[19] or injury to adjacent structures like the gut, the vessels or the common bile duct[20]".

28. The possibility that the surgery might be fatal is not on the list of complications discussed. Alternatives to surgery are also not recorded as having been discussed.

29. Regarding this consultation, Dr D told HDC:

> "As with all patients with severe co-morbidities and/or multiple previous operations, I discussed taking a 'wait and see' approach and discussed the possible (major) risks of surgery, including cholecystectomy-related complications and the possibility of damaging the small bowel[21] during adhesiolysis.[22] … In the knowledge of [Mr A's] significant co-morbidities and multiple previous operations, I had a very thorough discussion with him and took a balanced approach to surgery in his case … [Mr A] was adamant he did not want to go through [the pain that led to his presentation to the ED on 15 Month1] again. [Mr A] was decisive about undergoing surgery. He was aware that his cardiac risk was

[15] A laparoscopic operation is performed through a small incision via a fiber optic cable, whereas an open operation is performed by making an incision large enough for the surgeon to have direct vision of, and access to, the area he or she is operating on.
[16] Internal scar tissue that forms as part of the body's healing process following surgery.
[17] A surgical procedure to correct a bulge or protrusion that occurs near or along a prior abdominal surgical incision.
[18] There is no other mention of Mr A's hernia in the clinical notes, or that it was causing him problems.
[19] A leak in the cystic duct, a short duct that joins the gallbladder to the common bile duct.
[20] A tube-like anatomical structure in the gastrointestinal tract, which is one of several tube-like structures that connect the gallbladder to the pancreas.
[21] Also called the small intestine, the small bowel is part of the gastrointestinal tract following the stomach and followed by the large intestine. It is comprised of three sections called the duodenum, jejunum and ileum.
[22] Removal of adhesions.

significant, but we also considered that he had previously come through surgery well."

30. In response to the provisional decision, Dr D submitted that Mr A was aware of the risk of death.

31. Mrs A told HDC that she recalls Dr D saying that, after the operation, Mr A would be admitted to the Intensive Care Unit (ICU) because of his heart problems, but that "there wasn't really anything discussed … there was very little said, nothing about complications or alternatives or anything". Mrs A said her husband was not adamant that he wanted surgery — rather, he felt that if Dr D said he needed surgery, that he should have it. Mrs A recalls that her husband was not in pain in Month3, and did not express concern about experiencing pain in the future.

32. Dr D arranged for Mr A to have a preoperative anaesthetic assessment, and noted that she hoped to operate on Mr A before the end of Month4.

Consent form

33. Mr A's clinical records include an "Informed Consent for Health Care Procedures" form (the consent form). On the consent form, there is a section titled "Summary of information provided about the procedure, including written material", where Dr D checked a box next to the statement "Usual material for this procedure provided". In this section, Dr D also listed the possible complications as stated above at paragraph 27, and that Mr A should not lift anything for four to six weeks after surgery.

34. In response to the provisional decision, Dr D told HDC that the written material she provided to Mr A was the Royal Australasian College of Surgeons (RACS) Brochure of Laparoscopic Gallbladder Surgery and a RACS brochure on hernia repair. She stated: "I always use the detailed [RACS Brochure of Laparoscopic Gallbladder Surgery] for explanation about the anatomy and pathophysiology of gallstone disease and possible surgical complications."

35. Another section on the consent form is titled "Information received and Consent Given (to be completed by patient or entitled person)". It states that the patient (or an entitled person) has consented to the proposed procedure and has:

a) had the nature of their condition, and the procedure and options for treatment explained to them;

b) been provided with an assessment of the potential benefits, common side effects and likely outcome of the procedure;

c) had situations and complications that may arise during the procedure explained to them; and

d) had the opportunity to ask questions and is satisfied with the explanation and answers.

36. This section of the consent form is signed by Mr A.[23]

37. There is a section on the consent form titled "Confirmation of Health Care Procedure (to be completed immediately prior to procedure)", which is unsigned. There is also a separate "Reconfirmation of Consent" section, which states that it is required to be signed only if there are significant changes to the patient's health status or the planned procedure, or if there is undue delay in undertaking the procedure. This section of the form is also unsigned.

Preoperative anaesthetic assessment

38. On 25 Month3, Mr A saw anaesthetist Dr G for his preoperative anaesthetic assessment. Dr G noted in the clinical record that Mr A had had a drug-eluting stent[24] put in his right coronary artery in a few months previously, and that, whereas the usual practice is to take clopidogrel (an antiplatelet agent used to inhibit blood clots) for one year following that procedure, Mr A had ceased taking clopidogrel. Dr G re-started the clopidogrel and recommended that surgery be delayed until Month10. The clinical records state that Dr G gave Mr A an ASA (American Society of Anesthesiologists) physical status classification of III (indicating that he was a patient with severe systemic disease).[25] A copy of Dr G's clinic letter from this consultation was sent to Dr D.

39. Mr A did not undergo outpatient anaesthetic review again prior to his surgery, which was seven months later.

40. Mr A's clinical records include two separate "Consent for anaesthesia" forms. The forms include a place for the patient and doctor to write their signatures and the date. One of the forms is signed by Mr A and the anaesthetist who provided anaesthetic care during the surgery (in Month10, discussed further below), Dr F. Mr A's signature is dated 23 Month3, while Dr F's signature is dated 7 Month10. The other form is signed by Mr A and dated 14 Month9, but is not signed or dated by a doctor.

Kidney stone diagnosis

41. On 18 Month5, Mr A presented to ED on referral from his GP with lower back pain. The referral states that Mr A "had similar pain before diagnosed as gall stone" and listed renal colic (abdominal pain commonly caused by kidney stones) as a differential diagnosis. ED clinicians performed an ultrasound and abdominal computed tomography (CT) scan, which identified stones in the right ureter[26] (kidney stones). Following review by general surgeon Dr H, Mr A was admitted to hospital and, on the same day, Dr H performed a rigid cystoscopy,[27] insertion of a JJ stent into

[23] Mr A's signature on this form is undated; however, Dr D's signature, which appears in a section titled "Provision of Information (to be completed by person performing procedure or delegate)" is dated 15 Month3.
[24] A coronary stent that slowly releases a drug to block cell proliferation.
[25] The American Society of Anesthesiology uses this system, ranging from I (normal healthy patient) to VI (brain dead patient), to stratify the severity of patients' underlying conditions and potential for suffering complications from general anaesthesia.
[26] Tubes that propel urine from the kidney to the urinary bladder.
[27] Medical examination of the urinary bladder via the urethra.

the right ureter,[28] and a retrograde study.[29] Mr A was discharged the following day with instructions to follow up in the Surgical Outpatients Clinic in six weeks' time.

42. On 6 Month7, Dr H reviewed Mr A and removed the JJ stent. On 27 Month7, Dr H again reviewed Mr A. Dr H noted that a repeat CT scan had shown kidney stones in the renal pelvis, and prescribed allopurinol[30] and Ural sachets,[31] with instructions for Mr A to follow up with his GP. Following further review on 1 Month9, Dr H discharged Mr A back to his GP's care, noting that Mr A's symptoms had improved, and recommending a follow-up CT scan in six weeks' time.

Further ED presentation

43. On 16 Month7, the Hospital 1 Treatment Booking Office sent Mr A a letter stating that his operation for open cholecystectomy and incisional hernia repair with Dr D was scheduled for 7 Month10 at 7.30am.

44. On 16 Month9, Mr A had a pre-surgical examination with a house surgeon. The house surgeon noted that Mr A had had a JJ stent inserted in Month5 for renal stones, and had not suffered pain since then. A Pre-Admission Clinic Liaison Sheet records that Mr A's surgery was booked for 7 Month10, and that an ICU bed was booked for him postoperatively.

45. On 20 Month9, Mr A presented to ED with left-sided pain in what the notes describe as the "renal and thoracic [middle back] area". According to the clinical records, he was observed and discharged within two and a half hours with no definitive diagnosis. It was recorded that he was due to have surgery on 7 Month10.

Surgery — 7 Month10

46. On Thursday 7 Month10, Mr A presented to the hospital for the planned surgery, having not seen Dr D since the consultation in Month3.

47. Dr D told HDC:

> "I met [Mr A] and his wife in the morning prior to surgery. I learned that [Mr A] had been diagnosed with renal colic and had stenting of his ureter on the right side in [Month6]. I carefully reassessed his pain pattern to make sure the pain was related to cholecystolithiasis [gallstones] and not to his renal colic. [Mr A] described his pain distinct from the renal colic which was located in his left and right flank whereas the gallbladder related pain appeared to be in the right upper quadrant and radiating to the back. He was determined to proceed with surgery and we chose what I considered to be the safest approach consistent with best clinical practice.

[28] A thin tube inserted into the ureter to prevent or treat obstruction of the urine flow from the kidney.
[29] A procedure where contrast is injected into the ureter.
[30] A medication used to treat kidney stones by reducing the production of uric acid.
[31] Effervescent powder dissolved in water and used to relieve irritation caused by urinary tract infections.

> Ideally, I would have seen [Mr A] a second time in my outpatient clinic prior to surgery, and to document the discussion and report back to his GP. However, this was unfortunately not the case. He appeared on my surgical list, and I had to make the decision in the morning to either send him back home on the day of surgery, which is very stressful for the patient, or to proceed to surgery, which I did after thorough investigation and discussion in accordance with [Mr A's] preference. When the final diagnosis has been made, a patient is placed on the waiting list and will proceed to surgery unless some event intervenes. I normally review only the timing of more major cases, or cases where some difficulty has arisen. It is very common that patients wait longer than 6 months if further diagnostic action, treatment or assessment by other specialties is required."

48. Dr D did not document any discussion with Mr A on the morning of 7 Month10. Mrs A does not recall whether she and/or her husband saw Dr D prior to Mr A's surgery on 7 Month10.

49. Regarding the scheduling of Mr A's surgery, Tairawhiti DHB told HDC in response to the provisional decision:

> "[Dr D] would have known of the placement of [Mr A] on the surgical list for 7 [Month10]. That would have occurred well in advance of the day of surgery."

50. At approximately 10.30am, Mr A underwent surgery under general anaesthetic. The surgery lasted approximately three and a half hours and was performed by Dr D with house officer Dr I and a registered nurse assisting, with Dr F administering the anaesthetic.[32] Dr F noted in the clinical record that it had been a long procedure, with "quite big changes in BP [blood pressure] up/down". A typed note in the clinical records[33] states that the operation was "technically difficult due to extensive severe adhesions of the small bowel".

51. Dr D told HDC that Mr A's adhesions were worse than expected, which made surgery demanding, but that the cholecystectomy and hernia repair were straightforward.

52. Mr A did not have a urinary catheter[34] inserted during surgery. Dr D told HDC:

> "Pre-operatively it was not my intention to use a urinary catheter unless this became indicated … Contemporary ERAS (enhanced recovery after surgery)[35] concepts do not include a urinary catheter, because it increases infection rates and immobility of the patient postoperatively … If a procedure takes much longer than expected, a consensus is reached between the surgeon, anaesthetist and nurses,

[32] Dr F recorded on the Anaesthesia Record that Mr A's preoperative risk was ASA II (patient with mild systemic disease), whereas Dr G had classified Mr A as an ASA III at the Month3 preoperative anaesthetic assessment, as stated above.
[33] It is unclear who recorded this note and when.
[34] A tube inserted into a patient's bladder via the urethra, which allows the patient's urine to drain freely from the bladder, allowing effective monitoring of urine output.
[35] A care pathway for patients undergoing surgery that is designed to improve patient outcomes from surgery, and speed up the recovery process.

> whether a urinary catheter should be placed during or after the procedure. … [Mr A] appeared to be stable post-operatively and so we had no intention to place [a urinary catheter]."

53. Dr D provided HDC with a copy of the ERAS protocol in place at Tairawhiti DHB at the time of these events. The ERAS protocol states that it applies for all patients receiving moderate to major abdominal surgery, and that modifications might be made according to the type of surgery and underlying condition. The ERAS protocol does not specifically address whether a patient should have a urinary catheter inserted, but states:

> "… Day of surgery … Neglect urine output if patient in good condition and no preexisting renal disease …
>
> POD [postoperative day] 1 … Urine output should improve, accept low output 25–30 ml/h if patient is clinically well and kidney function stable."

54. According to the operation report, the postoperative plan was:

> "Patient can eat and drink
> Pain relief as indicated
> The patient will go to ICU [Intensive Care Unit] due to his ischaemic heart disease."

55. The postoperative histology report (reported on 13 Month10) showed chronic calculus cholecystitis.[36]

Postoperative care — 7 Month10

56. Immediately following surgery, Mr A was taken to the Post Anaesthetic Care Unit (PACU) and, at 4pm, he was admitted to the ICU. Tairawhiti DHB told HDC:

> "At [Tairawhiti DHB] it is routine for complex and/or comorbid patients to have planned admission to ICU. The intensive coronary care unit is a 6 bed unit that admits coronary care patients, ICU patients and high dependency patients."

57. The nursing notes record that Mr A was seen by Dr D in the ICU some time between his admission at 4pm and when the nursing notes were written at 9.30pm. Dr D did not document her review of Mr A at this time. However, she recorded in an incident report (dated 13 Month10) that she reviewed Mr A on her post-surgery round at about 6pm. Dr D told HDC that at this time Mr A was comfortable with satisfactory observations.

58. Tairawhiti DHB told HDC that surgeon Dr E was the on-call surgeon, and he reviewed Mr A during the evening on 7 Month10. Tairawhiti DHB stated: "It is

[36] An inflammatory disease that affects the gallbladder wall, accompanied by the presence of gallstones.

routine for the on-call surgeon to review all patients in the unit. No changes were ordered to the clinical plan set by Dr D."

59. In contrast, Dr E told HDC that, while he cannot recall that particular day, he would not have reviewed Mr A until Dr D had handed over care to him the following afternoon. There is no record in the clinical notes that Dr E reviewed Mr A prior to 5.15pm on 8 Month10 (discussed further below).

Postoperative care — 8 Month10

60. The clinical notes record that between 1am and 2am on Friday 8 Month10 Mr A passed 190ml of urine.[37] Until then, Mr A had not passed any urine since his operation had ended, about 12 hours earlier.

61. At 7.50am blood tests showed that Mr A's creatinine[38] had increased from a baseline of 101µmol/L to 179µmol/L, and his C-reactive protein (CRP)[39] was 216mg/L.

62. At 8.20am Dr D reviewed Mr A and recorded that his observations were normal,[40] that he had some postoperative abdominal pain and slight distension of the abdomen, and that an epidural[41] should be considered. Dr D did not record any further details or concerns, including in relation to Mr A's urine output.

63. Dr D advised that she asked Dr F about epidural analgesia for Mr A, and Dr F reviewed Mr A at 9am (see below) and made a "clear plan for pain management".

64. Dr D told HDC that, at that point, she thought Mr A's urine output was low (190ml in approximately 20 hours equating to 9.5ml/hr) but within acceptable limits, and that she "considered it reasonably likely his urine output would improve over the next several hours, which in fact it did".[42] Dr D stated that a catheter was not placed at this time "in the expectation that low urine output typically normalises within 15–20 hours after surgery and this was expected in Mr A's case". Dr D advised HDC that her documented review of Mr A at 8.20am occurred before the Surgical Grand Round. Regarding the Surgical Grand Round, Dr D told HDC:

[37] Urine output is dependent on many factors, particularly for post-surgical patients. However, according to the lower limit specified in the ERAS protocol (25ml per hour), Mr A's urine output should have been at least 300ml in 12 hours.
[38] The kidneys regulate blood creatinine levels, which means that an increased creatinine level signifies impaired kidney function or kidney disease. The usual range of creatinine for an adult male is between 50 and 110µmol/L.
[39] A protein found in blood plasma, the levels of which rise in response to inflammation. The usual range in an adult male is 5mg/L, but a significant rise is expected following surgery.
[40] At that time, Mr A had a temperature of 37.6ºC. Dr D stated to HDC: "A body temperature of 37.6ºC is considered to be normal during the first postoperative night and in the morning it decreased to 36.4ºC."
[41] Injection of pain relief administered via a catheter inserted in the epidural space along the patient's back.
[42] Mr A passed 340ml of urine between 11am and 12pm, discussed further below.

> "Surgical Grand Rounds took place every Friday between 8.30[am] and 10.30[am] together with all surgeons and house surgeons within the department … patients in ICU are conjointly seen and collegially discussed to optimise treatment …
>
> House Officers often presented the patients during the surgical grand round including documenting the discussion and treatment plan of the grand round, and typing a Weekend Plan for all surgical patients in the hospital …
>
> With regard to [Mr A], the attendees at the combined surgical grand round included [Dr G, Dr I, Dr E] and myself. [Mr A's] case was discussed in detail. A detailed weekend plan was established and I handed over care to my surgical colleague [Dr E], as I was going on scheduled leave."

65. Regarding handover to Dr E, Dr D told HDC: "The handover of [Mr A's] care to my surgical colleague [Dr E] took place during the surgical grand round. The estimated hand over time is between 10[am]–11[am] …" Dr D also advised HDC that she discussed with Dr E that Mr A's abdomen had become more distended, but there was no evidence of peritonism[43] at that time. She stated that their "impression was of a postoperative ileus[44]", and that the plan was to perform an erect chest X-ray to rule out a perforation, [45] and that, if there was no evidence of a perforation, to arrange pain management and repeat blood tests, provide an enema, continue IV antibiotic treatment and IV fluids, and to monitor Mr A's renal function closely.

66. Dr D also stated to HDC that the increase in Mr A's creatinine (from 101µmol/L to 179µmol/L, as shown by the 7.50am blood test) "was not expected but was observed and discussed during the surgical grand round and immediately prompted a change in fluid management".[46]

67. In addition, Dr D told HDC:

> "It was agreed that [consultant physician] [Dr J] (who was on call and who had treated [Mr A] [in the past] for his heart condition) would be requested to assess and treat his medical conditions, including management of renal deterioration and also optimising his heart condition to minimise any possible cardiac risk, including myocardial infarction [heart attack]."

[43] Symptoms, including abdominal pain, that may be associated with inflammation of the peritoneum or other abdominal organs.
[44] A disruption of the gastrointestinal tract's propulsive ability.
[45] A hole that forms through one or several of the organs in the abdomen, allowing the contents of the organ(s) to leak or spill into the abdominal cavity. Perforation can lead to peritonitis (inflammation of the membrane that lines the abdominal cavity), which can occur when bacteria, bile or stomach acid enters the abdominal cavity. A distended abdomen (an abdomen that sticks out further than usual and is hard to the touch) that feels tender may be a sign of perforation. Fever, shortness of breath, difficulty passing urine and/or a high white blood cell count may also indicate a perforation. Chest X-rays that show free air under a patient's diaphragm can also indicate a perforation.
[46] Mr A's ICU observation chart records that he was being given 40ml of fluid every hour between 10pm on 7 Month10 and 12pm on 8 Month10, when his fluid was increased to 80ml between 1pm and 2pm, and then 250ml per hour until 6pm. From 6pm onwards he received 125ml of fluid per hour.

68. There is no record in the clinical notes of the Surgical Grand Round having taken place or that Mr A was seen or reviewed by Drs D, G, I and E together. Dr D told HDC that she believes Dr I's note (untimed but titled "HO [house officer] review", below) is the record of the Surgical Grand Round. She accepts that the timing of the Surgical Grand Round is undocumented, but said that it took place at approximately 10am. She told HDC:

> "House [officers] are expected to document the ward round, including discussion, surgical assessment and treatment plan, and type a detailed Weekend Plan … It is regrettable that all attendees at the ward round are not documented, and nor is it expressly documented that [Dr E] was the consultant taking over [Mr A's] care. Unfortunately I do not believe I reviewed the note at the time."

69. In response to the provisional decision, Tairawhiti DHB stated that had the Grand Round reviewed Mr A, as was the DHB's expectation, there would have been a record in the clinical notes. Tairawhiti DHB advised that the usual notation "GR" is used for Grand Rounds, rather than "CWR", which denotes a routine clinical ward round. It stated: "House officer review denotes a review by the house surgeon which may result in a call to the consultant."

70. There is a typed "Weekend Plan" (time and writer unrecorded) included in the notes, which states:

> "1. Increase fluids 85ml/hr while not eating and drinking
> 2. Encourage oral intake and decrease IV fluids accordingly
> 3. Daily bloods
> 4. Cont IV Abs [continue intravenous antibiotics]
> 5. If abdo [abdominal] distention with no evidence of perf [perforation] then give fleet enemas
> 6. For epidural if pain not improving (has been [discussed with] [Dr G])
>
> I WOULD HAVE A LOW THRESHOLD FOR SUSPECTING PERF IF ABDO PERSISTS OR WORSENS [emphasis in original]."

71. The clinical notes record that at 9am Dr F reviewed Mr A and noted "issues with pain … suboptimal PCA [patient controlled analgesia][47] regime". The plan was to increase the PCA and encourage its use, and that Mr A was "not for epidural at this stage". According to the nursing notes, Mr A also vomited 320ml at 9am following the oral administration of oxycodone,[48] which was then discontinued.

72. According to the ICU observation chart, Mr A passed 340ml of urine between 11am and 12pm.[49]

[47] A PCA is a machine that allows patients to administer their own pain relief as required by pressing a button.
[48] An opiod pain relief medication.
[49] Nursing notes recorded at 3.15pm and discussed further below also record that Mr A passed 340ml of urine at 11am.

73. At 12.15pm physiotherapy notes record that Mr A was in a lot of pain. The notes state that Mr A was "using PCA well but still unable to take even a ½ breath due to [pain] … in too much pain to co-operate [with] chest physio [at] present".

74. At 1pm blood tests showed that Mr A's creatinine had further increased from 179µmol/L (at 7.50am) to 211µmol/L, and his CRP was 307mg/L.

75. There is a handwritten addition to the typed "Weekend Plan" (above),[50] which states:

> "CRP 307
> Cr [creatinine] 211
> Monitor for renal failure
> d/w [discuss with] [Dr J]
> ↑ fluids 1 bag 4 hrs
> 1 bag 8 hrs
> then cont [continue] 80ml/hr"

76. Following the physiotherapy notes, Dr I made a note (time unrecorded) titled "HO review", and recorded the following:

- Mr A was complaining of "worst pain ever" and looked in pain, sweaty and clammy;
- he was seen by Dr D and Dr G;
- his creatinine had increased from a baseline of 101µmol/L to 211µmol/L;
- his urine output was 190ml in 24 hours;
- his abdomen appeared distended and was tense to palpation;
- a morning ECG (electrocardiogram)[51] had shown changes;
- the impression was that a perforation needed to be ruled out, and that Mr A's renal failure was due to fluid depletion;
- Dr I discussed Mr A's management with Dr J;
- the plan was to perform a chest X-ray and a repeat blood test, and to give Mr A additional antibiotics as well as fluid boluses[52] to replenish the fluid depletion. If the chest X-ray showed a perforation, Mr A was to be taken back to the operating theatre, but if no perforation was shown and Mr A's pain was not under control, he should have an epidural.

77. In response to the provisional decision, Dr D advised that she reviewed Mr A at, or just after, midday with Dr G. She stated that, at that time, she considered that Mr A's condition was consistent with postoperative ileus, and not reflecting an acute abdomen. However, she stated that she was concerned that Mr A's increasing pain could be caused by a bowel perforation, and tests were ordered.

---

[50] The handwritten note is unsigned and untimed but, based on the handwriting and Mr A's CRP and creatinine levels, appears to have been written by Dr I after 1pm and around the same time he recorded notes titled "HO [house officer] review" (below).
[51] A test that measures the heart's electrical activity in order to identify changes that may indicate heart problems.
[52] Rapid infusion of intravenous fluids.

78. Dr G gave HDC the following information regarding his review of Mr A:

> "At lunch time on [8 Month10] I was consulted by the surgical house officer regarding the management of [Mr A's] pain control … This was the first time I knew of his presence on the ward. I visited [Mr A] and assessed his analgesic regime. His pain appeared far greater than I would have expected and at that time I raised the question with [Dr D], whether she was sure there was not a surgical cause in his abdomen. [Dr D] did not think this was the case."

79. Dr D advised HDC:

> "I left the hospital at lunch time, uneasy that [Mr A] was not in an excellent condition, but reassured by my colleague [Dr E] that he would take all appropriate care. [Dr E] was also aware that I had no chance to talk to relatives, especially [Mr A's] wife and assured me that he would talk to them."

80. In response to the provisional decision, Dr D provided HDC with records to indicate that she telephoned Dr E at 1.38pm on 8 Month10, and she submitted that the call was "in relation to [Mr A]". Dr D submitted that the call did not reflect "the whole of her handover to [Dr E]", and that "she remains clear … that she had previously seen [Dr E] on the ward during the morning and discussed [Mr A] at that time".

81. A chest X-ray taken at 1.22pm showed a small amount of free air under the diaphragm on the right. The X-ray report stated that the findings were "not out of keeping with recent abdominal surgery".

82. Nursing notes recorded at 3.15pm state that, throughout the afternoon, Mr A remained in pain, his respiratory function deteriorated, and his abdomen appeared to be more distended. A number of changes were made to his pain management (including that his PCA was changed three times because it appeared not to be functioning properly); however, these changes were all unsuccessful and Mr A remained in pain. The nursing notes state that Mr A was reviewed by Drs G and I, but do not state when this occurred.

83. Following the nursing notes there is an untimed entry completed by Dr G. Dr G recorded that he reviewed Mr A, and noted that the recent X-ray had shown no evidence of a perforation. Dr G attempted to insert an epidural three times, each of which was unsuccessful. Given the unsuccessful epidurals, Dr G made changes to Mr A's PCA in an attempt to manage Mr A's pain.

84. Dr G told HDC:

> "[Following the attempted epidurals] I suggested to the surgical team that [Mr A] may benefit from some non-invasive BIPAP[53] to help prevent atelectasis[54] and collapse in his dependent lung. This was the limit to my involvement in his

[53] Bi-level positive airway pressure, a type of non-invasive ventilation.
[54] The collapse or closure of the lung or part of the lung.

> medical management and the surgical team wrote their weekend care plan. I left [Mr A] at approximately 1600 hours."

85. Dr G further stated to HDC that he did not become involved in Mr A's care again until 10pm (discussed further below).

86. At 5.15pm Dr E made the following record in the clinical notes:

> "Unfortunate unsuccessful epidural
> Concerning ↑↑ CRP
> Will monitor closely. Watch HR [heart rate], temp[erature], resp[iratory] status."

87. Dr E told HDC that, at 5.15pm, he examined Mr A for the first time and "did not become involved" until then. He further stated:

> "It would be the custom of the attending surgeon ([Dr D]) to sign out the patient with me, at about this time. I strongly suspect we reviewed his surgery, progress, and clinical issues together, in the ICU, at that time. I have no direct recall of this event, however."[55]

88. According to the nursing notes, Mr A's blood pressure dropped significantly at 5.30pm and continued to drop throughout the evening.

89. Following Dr E's record at 5.15pm there is an untimed entry in the clinical records completed by house officer Dr K. Based on those notes and the subsequent nursing notes,[56] it appears that the following occurred:

a) At about 8.15pm, Dr K discussed Mr A with Dr E. Dr E ordered a nasogastric (NG) tube,[57] a chest X-ray was performed, and a urinary catheter was inserted.

b) After his discussion with Dr E, Dr K contacted Dr G. Mr A was given increased fluid boluses, started on BIPAP, and the epidural (from Dr G's earlier attempts) was removed. Dr K also recorded: "Call [Dr G] if ongoing problems re fluid management, breathing, etc." [58]

90. Dr E told HDC that he returned to evaluate Mr A three hours after his initial review of Mr A, ie, around 8.15pm. Dr E stated:

> "I personally ordered a new series of lab tests and another upright [chest X-ray] … I am certain I reviewed his physical exam, although I accept there is no documentation of this. His urinary catheter had been placed, and his urine output

[55] As noted above, Dr D advised that she left the hospital at lunch time on 8 Month10.
[56] Completed at 11.45pm.
[57] A tube that carries food and medicine to the stomach from the nose.
[58] The time of this discussion is not noted. However, according to the subsequent nursing notes, the epidural was removed at 9pm and Mr A was given increased fluid boluses at 9.25pm, which suggests that this discussion occurred some time before 9pm.

> was poor. At this time (the tests were done by 2130), it is clear that [Mr A] is deteriorating."

91. Nursing notes also show that, throughout the evening, Mr A continued to deteriorate. His urine output remained low, he continued to be in significant pain despite being given pain relief medication, and nursing notes describe Mr A's abdomen as "tight as a drum".

92. At 9.30pm blood tests showed that Mr A's creatinine had risen to 290µmol/L and his CRP was 331mg/L.

93. At 9.40pm a further chest X-ray was taken and showed free air in the abdomen. Dr E told HDC that he did not consider that the X-ray suggested a greater amount of free air in the abdomen than the earlier X-ray report.

94. At 10pm Dr G recorded in the clinical notes that he reviewed Mr A. Dr G stated that he noted that "a number of parameters had deteriorated and that [Mr A] had been hypotensive with a systolic pressure below 100mmHg for over 3 hours". Dr G considered that Mr A was in septic shock,[59] and fluid and inotropic support was then instigated and invasive monitoring commenced. Dr G said that he contacted Dr E, "as an abdominal source for [Mr A's] sepsis was most probable".

95. Dr G told HDC that he "had no other reason to return to ICU [between 4pm and 10pm] and was not notified until 2200 that Mr A had deteriorated". Dr G further stated:

> "The surgical team were responsible for [Mr A's] care, and I was asked to assist with pain relief primarily … I believe I made it clear to the surgical team that I was happy to be involved at any time should they have further concerns, and this did happen at 2200."

96. At 10.30pm Mr A had an arterial line[60] inserted for better monitoring of his blood pressure.

97. Dr E told HDC:

> "I cannot say exactly when I convinced myself that he must return to the operating suite, but it was about 2200 or 2230. Understandably, I was reluctant to undertake a repeat surgical procedure on a man in such poor condition. The operating team goes home at 5pm. They were called and brought in from home. At the same time,

[59] A patient becomes septic when he or she is suffering from sepsis. Sepsis is a complication from infection, when chemicals released into the bloodstream to fight an infection trigger an inflammatory response throughout the body. The response can trigger a cascade of changes in the body that can damage multiple organs, causing them to fail. When a patient goes into septic shock, his or her blood pressure drops dramatically, which may lead to death.

[60] A thin catheter inserted into an artery, used in intensive care medicine and anaesthesia to monitor blood pressure and to obtain samples for arterial blood gas measurements.

> the patient was intubated, paralysed, and transferred to the operating suite. This whole process takes about an hour [at Hospital 1]."

98. At 11pm Mrs A signed a consent form for surgery (specifically "exploration of the abdomen and repair of a possible leak in intestine") on her husband's behalf. The consent form states that Mrs A was giving consent on her husband's behalf as his "Welfare Guardian (adult) Power of Attorney" because Mr A was not competent to provide consent. The form is also signed by Dr E and states that the potential risks of surgery included bleeding, infection, the need for removal of mesh and/or the need for more surgery.

99. At 11.30pm Dr E recorded in the clinical notes that he reviewed Mr A and noted that he was very suspicious of a perforation.

100. Tairawhiti DHB told HDC: "Collectively [Drs E and G] assessed and recognised [Mr A's] condition as continuing to deteriorate and took action, having only that evening become involved in [Mr A's] management."

Second surgery — 9 Month10

101. At around midnight on 9 Month10,[61] Dr E (assisted by a house officer) performed an exploratory laparotomy and repair of a jejunal (small bowel) perforation, with Dr G administering the anaesthetic.

102. Dr E told HDC:

> "One might argue in retrospect that I should not have waited from 1715 until 2200 to decide to return to theatre. I would remind reviewers that this was a desperately ill gentleman who was deteriorating slowly. He did not have a single event that marked an objective physiologic change. I felt prudence warranted a repeat lab evaluation, another chest X Ray, and a realistic appraisal of his survival chances."

103. Dr E told HDC that, at the conclusion of the 45-minute surgery, he was confident that Mr A's condition would improve. However, Mr A continued to deteriorate following surgery. The clinical notes record that Dr G monitored Mr A throughout the night. Dr E told HDC: "I was appalled by [Mr A's] poor state in the morning at 1000 when I returned to the ICU."

104. Mrs A and other members of Mr A's family attended the hospital during the morning on 9 Month10.[62] They recall being spoken to by Drs E and G about the possibility of Mr A being transferred to Hospital 2. They advised HDC that they considered that both doctors, and in particular Dr E, explained things and communicated very well during this meeting.

[61] According to the nursing notes, Mr A was intubated at midnight. According to the anaesthetic record, the operation began at 12.30am. The operation note itself does not record when the operation started, but Dr E told HDC that it began at 11.30pm.
[62] Mr A's family had also visited him on 8 Month10.

105. The clinical notes record that Mr A's poor condition and prognosis was discussed with his family, and that they made the decision for him to be transferred to Hospital 2. At the time of transfer, Mr A was suffering from septic shock and multisystem organ failure. His condition deteriorated during transfer. On arrival at Hospital 2 he was assessed and treated by the surgical team and the ICU team, but his condition continued to deteriorate and, sadly, Mr A died the following day.

106. According to the post-mortem report, Mr A died from myocardial ischaemia[63] and generalised peritonitis due to small bowel ischaemia.[64]

Communication with family

107. During the course of HDC's investigation, Mr A's family expressed appreciation for the open manner in which Dr E communicated with them while he was involved in Mr A's care. However, overall, Mr A's family felt that communication from Tairawhiti DHB staff was poor. They felt that, during the postoperative period, they were not listened to when they expressed concern to staff about Mr A's pain management, and that information about Mr A's condition and the medical treatment he was receiving was not clearly explained to them. They felt that, as a result, they were not aware of the seriousness of Mr A's condition, and did not have the opportunity to say goodbye before he died.

Subsequent events

108. According to an incident report written by Dr D, she, Dr E and Dr I met with Mr A's family on 11 Month10 to discuss the care provided to Mr A. Dr D recorded on the incident report that the clinicians "explained what had happened in detail to the family's satisfaction". In response to the provisional decision, Mr A's family told HDC that the meeting was brief and they felt "none the wiser" from it, partly due to the timing of the meeting and the distress the family was under, given that Mr A had passed away only the previous day.

109. Tairawhiti DHB subsequently completed a Root Cause Analysis (RCA).

110. The RCA concluded: "The presence of pre-existing co morbidities combined with difficulty controlling pain post operatively resulted in the patient being susceptible to post operative complications. Sadly these complications manifested and caused the patient's death." The RCA made three recommendations concerning communication, specifically that:

a) the surgeons and anaesthetist should meet with the patient's family to discuss the situation and answer their questions;

b) clinical and other appropriate staff should be encouraged to attend Open Disclosure workshops provided by Tairawhiti DHB; and

[63] Decrease in blood flow to the heart muscle by partial or complete blockage of the heart's arteries, resulting in reduced oxygen flow to the heart.
[64] Bacterial or fungal infection of the membrane lining the inner abdominal wall due to a decrease in blood flow to the small bowel.

c) all staff should be reminded that providing clear information to patients and their families on an ongoing basis is important.

111. The RCA made no further recommendations.

112. Representatives from Tairawhiti DHB met with Mr A's family to discuss the RCA. Dr D was not present at the meeting, although Dr E was.[65] According to the meeting notes provided to HDC by Tairawhiti DHB, the RCA report findings were outlined and the subsequent discussion focussed on three key points:

a) Seriousness of the operation, in particular Mrs A's concern that she considered that her husband did not understand how risky the operation was, and her belief that had he known he could have serious complications that might lead to his death, he would not have proceeded to surgery.

b) Pain management, in particular the family's concern that staff appeared unable to provide Mr A adequate pain relief during the postoperative period.

c) Communication from ICU staff, in particular the family's concern that they were not given sufficient information about the care being provided to Mr A and the possibility that he might die, or the opportunity to say goodbye.

113. The meeting minutes also state that staff "offered their apologies that this happened to [Mr A's daughter] and her family".

114. Tairawhiti DHB also advised HDC that Mr A's case was discussed at its Surgical Audit meeting, a multidisciplinary meeting for Tairawhiti DHB staff.

Further information

Tairawhiti DHB

115. Tairawhiti DHB acknowledged that there is no record of a discussion with Mr A regarding the risks and benefits of not proceeding with surgery. Tairawhiti DHB told HDC that it expects that this would be a usual component of the consenting process, and recognises that there is no documentation to prompt for this. It stated that it "will work with clinical staff to review this, to support effective documentation of these discussions".

116. Tairawhiti DHB further acknowledged that clinical documentation regarding Mr A's care is not in line with its own standards. It advised that audits of clinical records are "in place; however these have predominantly assessed nursing documentation … [Tairawhiti DHB] will review this to ensure all records are audited and improvement is supported".

117. Regarding clinical leadership and decision-making during Mr A's postoperative care, Tairawhiti DHB told HDC:

[65] In response to the provisional decision, Dr D told HDC that she was not able to attend this meeting because it was scheduled without her knowledge and while she was overseas on leave.

> "The [ICU] is an open unit with all specialties admitting and leading the care of their patients. At the point at which ventilation is required or likely the anaesthetist may assume the lead role.
>
> There is a team approach between the specialities as seen in [Mr A's] case. He was under the care of General Surgeon, [Dr D], and input was asked of the on-call anaesthetist to advise and assist with pain control and the general medicine physician to advise on Mr A's renal function.
>
> During the day of 8 [Month10] [Dr D] was … the lead clinician for [Mr A's] management with [Dr E] taking over care as the on call surgeon for the weekend."

118. Tairawhiti DHB further stated: "Handover occurs between 1630 and 1730 with each surgeon being responsible to handover their patients to the on-call surgeon."[66]

Dr D

119. Dr D told HDC:

> "I regret the unfavourable outcome of [Mr A's] surgery and my deepest sympathies are with his family. I practiced in good faith at all times and I would not have offered [Mr A] surgery had I not considered that a surgical approach was reasonable in the context of his co-morbidities and pre-existing surgery."

Dr E

120. In responding to this complaint, Dr E acknowledged:

> "Our documentation is inadequate to reflect the course of this patient, there certainly appears to have been a failure of one provider to take ownership of his care, and he was definitely more ill than was appreciated at the time."

Response to provisional decision

121. Mr A's family commented on the "Information gathered during investigation" section of the provisional decision, and their comments have been considered during the course of my investigation and incorporated above where appropriate.

122. Tairawhiti DHB, and Drs D, E and G were given the opportunity to comment on parts of the provisional decision relevant to the care they provided. Where relevant, their comments have been incorporated above, and additional comments are set out below.

Tairawhiti DHB

123. Tairawhiti DHB stated: "TDH agrees that it is unsatisfactory that several doctors have not recorded the times at which their notes relate to certain events … the notes without the times recorded are contrary to TDH's expectations and what is told to staff when they commence employment." Tairawhiti DHB provided HDC with a copy of its "Documentation Standards for Integrated Clinical Records" policy in place at the time of these events, as well as the current policy. Both policies require entries

[66] In response to the provisional decision, Dr D stated: "[D]uring my 6 years in [Hospital 1] there was never a formal handover on a Friday afternoon."

made in the clinical records to be dated, timed and legible, and that a patient's progress notes record instructions for care, significant observations, and changes in condition (among other things). Tairawhiti DHB stated that the policy in place at the time of these events had been communicated to staff, and that it would therefore be unfair to find Tairawhiti DHB in breach of the Code for the deficiencies in the clinical notes in this case.

124. Tairawhiti DHB further stated that it "truly regrets" that Mr A's family felt distress through inadequate communication from its staff, and accepted the proposed recommendations made in the provisional decision.

Dr D

125. Dr D stated:

> "I always take a very thorough clinical history of my patients and perform a clinical investigation to make a robust diagnosis. I am certain that [Mr A] had gallstone-related pain, and that this pain was significant enough for him to undergo surgery. [Mr A] had experienced an episode of very severe pain, which clinically reflected choledocholithiasis[67] … subsequently his symptoms were less severe but had not stopped, and in addition he experienced pain from kidney stones … There is clear evidence from the Cochrane Database (McAlister V, 2009) that deferral of cholecystectomy results in significantly higher morbidity and mortality and these findings are also true in high risk patients."

126. Dr D told HDC that the Surgical Grand Round occurred without fail every Friday morning. She stated that, in addition to handing over Mr A's care to Dr E during the Surgical Grand Round on 8 Month10, she also telephoned Dr E at lunchtime for a further briefing on Mr A's condition. She stated that she would never leave a patient without giving a handover to the surgeon taking over his or her care. Dr D stated:

> "I sincerely apologise for the lack of personal documentation and the lack of personal (phone) communication to [Mr A's] wife to explain I was not completely happy with [Mr A's] post-operative progress, that further investigations to rule out a surgical or medical complication were under way, and that his condition could deteriorate. I should have done this and should have told her that I handed over care to [Dr E]."

127. Dr D now works at a different DHB. She advised that she has made the following changes to her practice:

a) Her reporting letters to a patient's GP now include extensive detail of the discussion with the patient and the reasons for surgery, or for not recommending surgery.

b) While the main record is the reporting letter, Dr D's own notes of pre-operative discussions are now a more detailed record of the discussion including the length of the discussion, the indications for surgery, and the risks and benefits to surgery.

[67] Choledocholithiasis is the presence of at least one gallstone in the common bile duct.

c) She does not take planned leave on the day of or day following scheduled surgical lists.

d) She ensures that in patients who are deviating from the expected postoperative pathway she personally documents all findings, intended investigations and treatment plans.

e) She ensures that she personally contacts family where there are any concerns about a patient postoperatively.

f) She double checks and confirms a patient's consent immediately before surgery, in line with the consent process in her current place of work.

g) Her use of in-dwelling catheters during procedures and postoperatively has changed and is consistent with the ERAS protocol at her current place of work. She now uses an in-dwelling catheter for any procedure taking longer than three hours and for monitoring during the first 24 hours after surgery.

Dr G

128. In response to the provisional decision, Dr G acknowledged that his note keeping was not up to the standard he would expect, and that he underestimated the extent of Mr A's deterioration and should have been more proactive. However, he stated:

> "The ICU in [Hospital 1] is an open unit, where care is dictated by the parent team. Anaesthetists are asked for advice but are not responsible for overall management of the patient. It is often difficult to change the management plan, especially when the grand round has taken place … The surgical grand round has no formal anaesthetic presence … I was not involved in [Mr A's] planned post operative care."

Opinion: Introduction

129. This report considers the standard of care provided to Mr A at Hospital 1 based on the information available to the treating clinicians at the time these events occurred. It is not my role to make findings of causation, and my consideration below should not be interpreted as having any implication as to the cause of Mr A's death.

Opinion: Dr D

Introduction

130. Following Mr A's presentation at ED and diagnosis of gallstones in Month1, he was referred to Dr D for a possible cholecystectomy. Dr D had treated Mr A previously and, according to Mrs A, Mr A had a lot of faith in Dr D. Dr D reviewed Mr A in Month3 and recommended he undergo an open cholecystectomy and incisional hernia

repair with mesh. Dr D did not see Mr A again until seven months later, when she performed the recommended surgery.

131. Dr D was responsible for providing Mr A with information that a reasonable consumer in his position would expect to receive, in order to enable him to give informed consent for the surgery. She was also responsible for providing clinical care of an appropriate standard while Mr A was under her care before, during and after the surgery. I have concerns about a number of aspects of the care Dr D provided to Mr A, as set out below.

Information and informed consent — Breach

132. On 15 Month3, Dr D reviewed Mr A and recommended surgery. She did not see Mr A again until the morning of his surgery.

15 Month3

133. According to the clinical record of the 15 Month3 consultation, Mr A had suffered one episode of severe abdominal pain and, since then, had paid attention to his diet and "it [was] all good". Dr D documented that she discussed with Mr A the possible options of a laparoscopic versus open cholecystectomy and a number of possible complications. She also recorded that she considered an open cholecystectomy would be the safer procedure because, due to Mr A's previous surgeries, there was a high likelihood of severe adhesions. She recorded that Mr A was aware of possible complications such as bleeding, infection, recurrence of the hernia, cystic stump leak or injury to adjacent structures.

134. At that time, Dr D and Mr A signed a written consent form for surgery. Dr D noted on the form that she had discussed the possible risks above. The consent form stated that the patient had had information about his condition and options for treatment explained to him, and the opportunity to ask questions.

135. Dr D's record of her consultation with Mr A does not include any information about whether Mr A had experienced recurrent or ongoing pain following his ED presentation three months previously, or to what extent, if any, his gallstones were affecting his everyday life. In addition, Dr D did not record whether she discussed alternatives to surgery, including a "watch and wait" approach, with Mr A. Although Dr D recorded that an open cholecystectomy would be safer than a laparoscopic procedure because of Mr A's previous surgeries, she did not record whether she discussed how Mr A's previous surgeries and/or co-morbidities might affect his decision to undergo surgery at all, or the risk of complications if he did undergo surgery.

136. Despite the consent form Mr A signed, which includes a standard section stating that the risks, benefits and alternatives to surgery have been explained to the patient, I am concerned that Mr A may not have been given sufficient information about the risks, benefits, and alternatives to surgery that were specific to him.

137. My independent expert, general surgeon Dr Elizabeth Dennett, advised me that Mr A was high risk, and stated that, while death is a risk of any surgery, Mr A's risk was significantly increased owing to his multiple co-morbidities.

138. Dr D told HDC that, although it is not recorded, Mr A reported ongoing pain and was adamant that he wanted surgery. She stated that, in light of his previous operations and significant co-morbidities, she had a thorough discussion with him. In particular, although not recorded, she said that she discussed taking a "wait and see" approach with Mr A, and that Mr A was aware of the risk of death.

139. In contrast, Mrs A, who was also present at this consultation, told HDC that her husband was not in pain in Month3 and did not express concern about future pain. She said he was not adamant about having surgery but felt that, if the surgeon said he needed surgery, he should have it. Mrs A said that complications or alternatives to surgery were not discussed at this consultation.

7 Month10

140. Dr D told HDC that on the morning of Mr A's surgery (on 7 Month10), she met with Mr A and his wife. Dr D said that, at this time, she learned that Mr A had been diagnosed with, and treated for, renal colic. She said that she reassessed Mr A's pain and discussed it with him, and that he was determined to proceed to surgery. Dr D told HDC that she and Mr A chose what she considered to be the safest approach consistent with best clinical practice. Dr D did not document this discussion, and Mrs A does not recall it.

Conclusion

141. The Medical Council of New Zealand's standards require that doctors keep clear and accurate patient records that report, among other things, relevant clinical information, as well as decisions made and the reasons for them.[68] As this Office has stated on a number of occasions, health professionals whose evidence is based solely on their subsequent recollections in the absence of written records offering definitive proof may find their evidence discounted.[69]

142. During the course of my investigation, Dr D provided a substantial amount of information about the preoperative discussions she said that she had with Mr A, as well as her reasons for recommending surgery (particularly with reference to the nature of Mr A's pain), which is not recorded in the clinical notes. In particular, she did not record any discussion she had with Mr A about whether the gallstone-related pain he was experiencing, if any, was significant enough for him to undergo surgery in light of alternative management options, or the risks of surgery that were specific to him, including his increased risk of death. The risks of surgery were elevated for Mr A and, in my view, a key aspect of Dr D's preoperative discussions with Mr A should have been his personal risk profile. In the absence of any documented evidence that these issues were discussed, I consider it more likely than not that Dr D failed to

[68] Medical Council of New Zealand (MCNZ), *Good medical practice*. See also the MCNZ publication "The maintenance and retention of patient records" (August 2008).
[69] Opinion 10HDC00855 (April 2013), available at www.hdc.org.nz.

provide Mr A with that information. In my view, a reasonable consumer in Mr A's position would have needed that information in order to make an informed choice about treatment. Accordingly, by failing to provide Mr A with that information, Dr D breached Right 6(2) of the Code.

143. It follows that Dr D did not obtain informed consent for surgery from Mr A, and breached Right 7(1) of the Code.

Clinical care — Breach

Decision to perform surgery

144. As noted above, Dr D did not document her reasons for recommending that Mr A have surgery (as opposed to not having surgery) in Month3. She told HDC that she recommended Mr A have surgery because he was experiencing ongoing pain despite altering his diet,[70] and did not want to experience the pain he had felt in Month1 again. However, Mrs A told HDC that her husband was not in pain and was not concerned about future pain in Month3.

145. I note my expert's comment that there is no evidence to indicate that Mr A required an open cholecystectomy and incisional hernia repair in Month3. Dr Dennett considered that, based on the available documentation, there was insufficient evidence that, at that time, Mr A was suffering biliary pain (pain related to the gallbladder or bile ducts) sufficient to confirm a diagnosis of symptomatic cholelithiasis, or significant enough to warrant a potentially high-risk surgery, notwithstanding that the postoperative pathology report (seven months later) showed chronic calculus cholecystitis. In addition, Dr Dennett noted that there is no evidence that Mr A's hernia was a problem for him, or that it required repair. I accept that advice.

146. Dr D did not see Mr A again until the day of his surgery on 7 Month10. Dr D told HDC that, at that time, she learned that Mr A had been diagnosed with, and treated for, renal colic, but that he described his pain associated with the renal colic (which was located in his left and right flank) as distinct from the gallbladder-related pain (which appeared to be in the right upper quadrant radiating to the back).

147. However, according to the clinical notes, Mr A had been treated for renal colic following a referral from his GP in Month5, which stated that he had had "similar pain diagnosed as gall stone". On 1 Month9, Dr H recorded that Mr A's symptoms had improved, but on 20 Month9 Mr A again presented at ED with left-sided back pain (as opposed to the right-sided upper quadrant pain that Dr D stated was related to his gallbladder).

148. Dr D told HDC that, on 7 Month10, she made the decision to proceed with surgery based on thorough investigation and discussion, Mr A's preference, and the fact that Mr A described pain that was distinct from the pain associated with his renal colic. None of this reasoning is recorded in the clinical notes from 7 Month10.

[70] I note that Dr D recorded in the clinical notes that, since his ED presentation in Month1, Mr A had altered his diet and "it is all good". This is ambiguous but does not appear to suggest ongoing pain.

149. Mr A's recent treatment for renal colic (based on "similar pain diagnosed as gall stone") and his most recent ED presentation (with left-sided back pain) suggest that his pain was not necessarily distinct from the pain associated with renal colic. In these circumstances, I consider that Dr D should have exercised more caution before concluding that Mr A's pain was distinct and that it was therefore appropriate to proceed to surgery. Given the lack of information in the clinical records, I am not satisfied that Dr D took a sufficiently cautious approach. Furthermore, given that there is a lack of documented evidence that Dr D discussed alternatives to surgery with Mr A in Month3 or in Month10, I do not accept that Mr A expressed a strong preference for surgery over other management options.

150. In the circumstances, I have concerns that Dr D's reasons for recommending that surgery proceed on 7 Month10 were not clinically justified. In addition, I am concerned that Dr D decided to perform surgery seven months after she had initially reviewed Mr A, in circumstances where the planned surgery had been delayed and the patient had had medical treatment relevant to his condition in the intervening period.

151. When Dr D reviewed Mr A in Month3, she hoped to operate on him before the end of Month4. However, after Mr A's preoperative anaesthetic assessment, surgery was delayed until Month10. Dr D told HDC that, ideally, she would have seen Mr A a second time after the Month3 consultation and before his surgery, but that this did not occur. She said that Mr A "appeared" on her surgical list on 7 Month10, and that she had to make a decision either to send Mr A home, which would have been very stressful for him, or proceed to surgery. Dr D stated that normally she reviews only the timing of more major cases, and that patients on the surgical waiting list often have to wait more than six months to have surgery if further diagnostic action is required.

152. Dr Dennett considered that it was a departure from expected standards for Dr D to operate on Mr A in these circumstances, and I accept that advice. Given that Dr D was treating a patient with complex co-morbidities who was undergoing elective (rather than acute) surgery and who, in the intervening seven months since she had last assessed him, had had medical treatment that may have been relevant to the proposed surgery, I consider that Dr D should have proceeded with more caution. In this context, I consider her comment that she normally reviews only the timing of more major cases (which implies that she did not consider Mr A's case a major one) concerning.

153. Overall, I am of the view that, in deciding to perform surgery on 7 Month10 in all of the circumstances, Dr D demonstrated a lack of reasonable care and skill and breached Right 4(1) of the Code.

Postoperative care

154. Mr A was initially taken to the PACU following surgery, and then admitted to the ICU at 4pm. Dr D reviewed Mr A on the evening of 7 Month10 (but did not document the review), and then saw him the follow morning.

155. Dr D recorded that she reviewed Mr A at 8.20am. She recorded that his observations were normal and that he had a slightly distended abdomen, and that an epidural should be considered owing to his postoperative abdominal pain. Dr D did not note any concerns about Mr A's elevated creatinine level or his low urine output. Dr D told HDC that, at the time, she thought it reasonably likely that Mr A's urine output would improve over the next few hours. She also stated that Mr A's creatinine level was observed and prompted an immediate change in fluid management.

156. Dr Dennett was critical of Dr D's care. Dr Dennett noted that Mr A was oliguric (suffering from low urine output) with elevated creatinine, both of which could indicate renal failure. Dr Dennett considered that Mr A should have had a urinary catheter inserted during surgery or immediately postoperatively, to improve monitoring of his urine output. Dr Dennett stated: "[I]t is a severe departure from good practice to 'consider it reasonably likely [Mr A's] urine output would improve over the next several hours' especially when nothing was done to address the issue." Dr Dennett further stated:

> "Blood results were available at the time of the ward round showing that [Mr A's] creatinine had increased from a pre-op of 101 to 179 indicating he was either hypovolaemic[71] or had had an acute renal injury. Though a further urine output of [340]ml was recorded making a total of approximately 20ml/hour this is low volume especially in a patient with a risking creatinine."

157. Dr D told HDC that, preoperatively, she did not intend to use a urinary catheter for Mr A unless it became indicated, because contemporary ERAS concepts do not include a urinary catheter. Dr D suggested that, if the surgery had taken much longer than expected or if Mr A had been unstable postoperatively, a urinary catheter would have been inserted, but that in the circumstances, she (and the other clinicians involved in Mr A's operation) did not consider it necessary.

158. Dr D provided HDC with a copy of the ERAS protocol in place at the time of these events. The protocol states that, on the day of surgery, urine output should be "neglect[ed]" if the patient is in good condition and has no pre-existing renal disease. However, Mr A had multiple co-morbidities, had been assessed as an ASA III patient, and had recently been diagnosed with, and treated for, kidney stones and associated renal colic.

159. The ERAS protocol further states that, on the first day after surgery, the patient's urine output should improve, and that clinicians should "accept" a low output of 25–30ml/hour if the patient is clinically well with stable kidney function. In Mr A's case, surgery had taken longer and been more difficult than expected. When Dr D reviewed Mr A at 8.20am on 8 Month10, he had passed less than 25ml/hour of urine and his creatinine levels were elevated (which can indicate kidney failure).

160. In these circumstances, I do not consider that the ERAS protocol supported Dr D's approach. I accept Dr Dennett's advice that, given Mr A's preoperative presentation

[71] A state of decreased blood volume.

and his raised creatinine levels postoperatively, it was a departure from expected standards for Dr D to consider, when she reviewed him at 8.20am, that it was reasonably likely that his urine output would improve. Dr D told HDC that Mr A's urine output did, in fact, improve (with reference to the 340ml void at 11am). However, even taking into account the 340ml void at 11am, Mr A's urine output was still below the 25–30ml/hour amount recommended as acceptable by the ERAS protocol. Although Dr D told HDC that Mr A's elevated creatinine prompted an immediate change in fluid management, the ICU chart records that Mr A's fluid was not altered until 12pm, approximately four hours after the 7.50am blood test and Dr D's 8.20am review.

161. Dr D reviewed Mr A on one further occasion during the morning of 8 Month10, but did not document her review. She told HDC that she left the hospital at lunchtime, "uneasy" about Mr A. In my view, taking into account what is set out above, Dr D was not sufficiently cautionary in her approach. I consider that the postoperative care Dr D provided to Mr A demonstrated a lack of reasonable care and skill and amounted to a breach of Right 4(1) of the Code.

Documentation — Breach

162. I am concerned that, although Mr A had signed a consent form in Month3, neither the "Confirmation of Health Care Procedure (to be completed immediately prior to surgery)" nor the "Reconfirmation of Consent" sections of the form, both of which would have applied to Mr A, were completed prior to his surgery on 7 Month10. As the operating surgeon, it was Dr D's responsibility to ensure that these documents were fully completed, and it was suboptimal for her to fail to do so in this case.

163. I also consider that the standard of Dr D's documentation regarding her postoperative reviews of Mr A was poor. In particular, I note that she did not document her review of Mr A on the evening of 7 Month10. In addition, while Dr D told HDC that Mr A's low urine output and raised creatinine were observed and considered on the morning of 8 Month10, she did not document any details about either in her record of her review at 8.20am.

164. As stated above, the Medical Council of New Zealand's standards require that doctors keep clear and accurate patient records.[72] *Cole's Medical Practice in New Zealand*[73] states:

> "The clinical note is a tool for management, for communicating with other doctors and health professionals, and has become the primary tool for continuity of care … in hospitals. To fulfil these tasks, the record must be comprehensive and accurate."

165. In my view, Dr D's documentation fell below professional standards in these respects and, accordingly, she breached Right 4(2) of the Code.

[72] See footnote 68 above.
[73] MCNZ, *Cole's Medical Practice in New Zealand* (2013).

Opinion: Tairawhiti District Health Board

Standard of care provided preoperatively — Adverse comment

166. Mr A presented at Hospital 1's ED in Month1, attended the Surgical Outpatients Clinic and then a preoperative anaesthetic assessment in Month3, and was then booked for surgery to take place seven months later. During those seven months, Mr A attended Hospital 1 on a number of occasions for other issues. Although Mr A was advised by Tairawhiti DHB in Month7 that his surgery was booked for 7 Month10 and he had a pre-surgical assessment on 16 Month9, Dr D told HDC that Mr A "appeared" on her surgical list, and she learned of his recent medical treatment only on the day of surgery. I note that in response to the provisional decision, Tairawhiti DHB stated that Dr D "would have known" that Mr A was scheduled to have surgery on 7 Month10 "well in advance" of that date. Nonetheless, Mr A had a further presentation at Hospital 1 ED on 20 Month9 and, while ED clinicians noted in the clinical records that he was due to have surgery in Month10, there is no record that Dr D and/or the surgical team were notified.

167. In my view, this course of events suggests a breakdown in Tairawhiti DHB's processes for pre-surgical patients. I consider that, in the circumstances (including that Mr A was an ASA III patient with a number of co-morbidities and had received treatment by the DHB, relevant to the condition for which he was receiving surgery, in the intervening period), Tairawhiti DHB's systems should have ensured that Dr D was informed of Mr A's most recent ED presentation prior to the day of his surgery.

Standard of care provided postoperatively — Breach

168. There were a number of failures in the postoperative care provided to Mr A at Hospital 1 that led to him receiving suboptimal treatment. In assessing the care provided to Mr A, I sought independent expert advice from general surgeon Dr Elizabeth Dennett and anaesthetist Dr Nigel Robertson. Both experts considered that there was a collective failure by the clinical team to treat Mr A adequately when he began to deteriorate postoperatively.

169. The individual clinicians who provided care to Mr A are individually responsible for the failures that occurred, and I have addressed these failures elsewhere in my report. However, I also have concerns that there was a lack of leadership and critical thinking within the clinical team, and that, as the overall service provider, Tairawhiti DHB must take responsibility for that lack of leadership. As Dr Dennett noted, the clinical notes show that there were at least eight doctors involved in Mr A's care between his first and second operations, but no one appears to have taken ownership of his care. Tairawhiti DHB told HDC that there was a team approach between specialities in Mr A's case. However, I consider that the care provided to Mr A was fragmented, and lacked leadership and coordination.

170. Many of the entries in the clinical records are untimed and have made it difficult to ascertain when various doctors reviewed Mr A. Evidence from Drs D, E and G provided during my investigation also demonstrates a lack of clarity among clinicians about who was taking overall responsibility for Mr A's care, particularly from the late

morning to early evening on 8 Month10. This was a critical period for Mr A. As stated by both my experts, Mr A was in significant pain and in renal failure by the early afternoon on 8 Month10, and his deterioration during the afternoon was "rapid".

171. Dr D told HDC that, following her documented review of Mr A at 8.20am, she again reviewed him at approximately 10am during the Surgical Grand Round. She stated that the Surgical Grand Round also included Dr G, Dr I and Dr E. Dr D said that Mr A's case was discussed in detail, and a weekend plan was established before she handed over care to Dr E between 10am and 11am. Dr D told HDC that she left the hospital at lunchtime, "uneasy that [Mr A] was not in an excellent condition but reassured by [her] colleague [Dr E] that he would take all appropriate care". Dr D also stated that she telephoned Dr E at lunchtime for a further briefing on Mr A's condition.

172. I accept that Dr D left the hospital at lunchtime, but note that Dr D's account is otherwise at odds with what is recorded in the clinical notes and evidence from other parties. First, there is no record that Drs D, E, I and G reviewed Mr A at the same time. Dr D was of the view that Dr I's (untimed) entry titled "HO review" is the clinical record from the Surgical Grand Round. However, that note specifically states that Mr A was seen by Drs D and G and makes no reference to Dr E. Dr G told HDC that he was not aware of Mr A's presence on the ward until he was consulted by Dr I at lunchtime. There is no record that Dr E became involved in Mr A's care until 5.15pm, and Dr E does not recall reviewing Mr A before that time. In addition, Tairawhiti DHB told HDC that Dr D was the lead clinician for Mr A's management on 8 Month10, and that handover usually occurs between 4.30pm and 5.30pm.

173. Based on the information outlined above, I am satisfied that Dr D reviewed Mr A on one further occasion after 8.20am, but I am unable to determine when this occurred. I do not consider there to be sufficient evidence that a Surgical Grand Round comprising Drs D, E, G and I occurred at 10am, or that Dr D handed over care to Dr E between 10am and 11am. Although Dr D advised in response to the provisional decision that she is "adamant regarding a handover", given the lack of contemporaneous documentation I am unable to determine exactly when Dr D handed over care to Dr E, if at all.

174. In my view, it is clear that no senior clinician took overall responsibility for Mr A's care from the late morning to early evening on 8 Month10. Drs I and K (who were junior doctors) recorded in the clinical notes that they discussed Mr A's management with senior clinicians including Drs D, E, G and J throughout the day and evening on 8 Month10. However, there is no evidence in the clinical notes that any senior doctor reviewed Mr A during the afternoon on 8 Month10 except Dr G, who told HDC that he considers that the surgical team was responsible for Mr A's care, and that he was asked to assist primarily with pain relief (ie, not overall management).

175. I consider the lack of discernible leadership in the clinical team treating Mr A unacceptable. This lack of leadership meant that there was a lack of coordination in Mr A's care, and an absence of critical thinking in assessing the cause of Mr A's deteriorating condition. For example, Mr A's renal failure was treated with fluid

boluses but, as identified by Dr Dennett, there is no evidence that Mr A was later reviewed to assess his response to those fluid boluses, or that timely consideration was given to the need to catheterise Mr A as part of his fluid management. I accept Dr Dennett's statement that "[p]ost-operatively a urinary catheter should also have been a mandatory part of monitoring when it was discovered [Mr A] was in acute renal failure and was being given fluid boluses to treat this".

176. Regarding Mr A's pain management, Dr Dennett advised me that, even after the attempted epidurals, the amount of pain relief medication Mr A was being given should have been sufficient to deal with most postoperative pain effectively. In this respect, I note Dr Robertson's comment that the focus on pain management was laudable, but "missed the fact that [Mr A's] pain and general worsening of condition was indicative of another problem".

177. Both Drs Dennett and Robertson considered that the clinical team's attempts to manage Mr A's pain were adequate, but seem to have distracted from determining and treating the cause of the pain. I accept that advice, and further note Dr Dennett's comment that Mr A's severe pain and acute renal failure together should have been an alert that there was a problem.

178. I also agree with Dr Dennett that the more junior doctors involved in Mr A's care, Drs I and K, should have been better supported when they identified problems and discussed them with more senior staff.

179. Overall, in my view, the lack of leadership, coordination and critical thinking, as well as the lack of support offered by senior doctors, demonstrate a service-level failure at Tairawhiti DHB to provide services with reasonable care and skill. Accordingly, I consider that Tairawhiti DHB breached Right 4(1) of the Code.

Documentation — Breach

180. I am critical of the standard of the clinical documentation by Tairawhiti DHB's staff in this case. As I have stated previously, it is essential to a patient's continuity of care that all clinical reviews and decisions are fully documented. The omission to do so creates potential risk, particularly in the hospital setting where multiple staff are involved in a patient's care.[74] Standards New Zealand Health and Disability Services (Core) Standards[75] require organisations to ensure that the management of health information meets the requirements of appropriate legislation and relevant professional and sector standards.

181. In Mr A's case, there were multiple clinical staff involved in his postoperative care. Those staff should have been able to refer to Mr A's clinical notes in order to obtain a clear picture of his condition and the clinical decisions that other medical staff had made, including the timing of those decisions.

[74] Opinion 11HDC01077 (March 2014), available at www.hdc.org.nz.
[75] NZS 8134.1:2008, Standard 2.9.

182. However, on several occasions notes of reviews of Mr A by the clinical team were not made, and the clinical notes that were made by clinical staff lack detail.[76] There are a number of entries in the clinical records that are untimed. Some of the clinical records made by medical staff are inconsistent with records made by nursing staff.[77] In addition, some important clinical information (such as when Mr A's care was handed over to Dr E on 8 Month10) is not recorded.

183. Notwithstanding the documentation policies in place at Tairawhiti DHB I remain of the view that the overall lack of detail in the clinical notes made by medical staff demonstrates a pattern of suboptimal clinical documentation. I consider that Tairawhiti DHB failed to ensure that its staff met expected standards of documentation, and thereby breached Right 4(2) of the Code.

184. I note that Tairawhiti DHB acknowledged that the clinical documentation in this case is not in line with its own standards, and advised that it would review its processes to ensure that all clinical records are audited and improvement is supported.

Consent to surgery — Adverse comment

185. I also consider that, overall, the consent documentation for the two surgeries Mr A underwent is suboptimal.[78] As stated above, neither the "Confirmation of Health Care Procedure (to be completed immediately prior to surgery)" nor the "Reconfirmation of Consent" sections of the form, both of which would have applied to Mr A, has been completed. The clinical notes also include two anaesthetic consent forms for Mr A's first surgery, one of which is signed by Mr A and Dr F but seven months apart, and another which is signed by Mr A but not signed by a doctor.

186. In addition, the informed consent to treatment form for Mr A's second surgery was signed on 8 Month10 by Mrs A. The form states that she was the person legally entitled to consent on Mr A's behalf, as his enduring power of attorney. However, there is no evidence in the medical records that Dr E assessed Mr A's competence and certified him incompetent.[79] Accordingly, Mrs A was not legally entitled to consent to her husband's surgery.[80] As a provider of hospital services, it is Tairawhiti DHB's

[76] I note that nursing notes, which are completed at the end of each nurse's shift, are, overall, clear and comprehensive.

[77] For example, Dr I's untimed "HO review" entry suggests, based on Mr A's creatinine levels, that it was written after 1pm (when Mr A's blood test showed his creatinine was 211); however, it records that Mr A's urine output was 190ml in 24 hours, whereas nursing notes indicate that, at that stage, Mr A had passed 450ml of urine in 24 hours.

[78] For the avoidance of doubt, I note that Right 7 of the Code does not require that consent be in writing except in the circumstances outlined in Right 7(6), including where a consumer is under general anaesthetic.

[79] Sections 98 and 99D of the Protection of Personal and Property Rights Act 1988.

[80] I note that, in a situation where a consumer is not competent to give informed consent and no person entitled to consent on behalf of the consumer is available, Right 7(4) applies. Right 7(4) states: "Where a consumer is not competent to make an informed choice and give informed consent, and no person entitled to consent on behalf of the consumer is available, the provider may provide services where —

a) It is in the best interests of the consumer; and
b) Reasonable steps have been taken to ascertain the views of the consumer; and
c) Either, —

responsibility to ensure that its staff understand the legal requirements of consent, and ensure they are followed.

ERAS protocol — Other comment

187. Dr Robertson noted concern about the use of the ERAS protocol in Mr A's case, stating that in retrospect it was "not the best plan in the circumstances, given the actual surgical findings and his co-morbid state". Dr Dennett also noted that the ERAS protocol's wording, "neglect urine output if patient in good condition and no pre-existing renal disease", is concerning because it suggests that clinicians should ignore urine output even if the patient is producing no urine or very little urine. In the circumstances, I consider that Tairawhiti DHB should obtain an independent review of its ERAS protocol and the manner in which the protocol is implemented in practice.

Communication with family — Other comment

188. Mr A's family felt that, overall, communication from Tairawhiti DHB staff was poor. They told HDC that, during the postoperative period, they felt they were not listened to, and Mr A's condition and treatment were not explained to them. They felt that, as a result, they were not aware of the seriousness of Mr A's condition, and did not have the opportunity to say goodbye before he died. I consider it important that in circumstances such as these hospital staff ensure that their communication with family members is clear and open.

Opinion: Dr E

Standard of care provided — Adverse comment

189. According to the clinical records, Dr E provided care to Mr A from 5.15pm on 8 Month10. When he first reviewed Mr A, Dr E recorded that Mr A would be monitored closely. Dr K later recorded that he discussed Mr A with Dr E. The time is unrecorded, but the subsequent nursing notes suggest that the discussion occurred at about 8.15pm. Dr E ordered a naso-gastric tube, a repeat chest X-ray, and a urinary catheter, and for Mr A's renal function to be checked. The chest X-ray was taken at 9.40pm. Dr E told HDC that he was reluctant to operate on Mr A because Mr A was in poor condition, but he made the decision to do so at about 10–10.30pm. The operating team was called in, and Dr E began the operation at about midnight.

190. Dr E told HDC that, in retrospect, one might argue that he should not have waited from 5.15pm until 10pm to decide to operate on Mr A, but said that, at the time, he

i. If the consumer's views have been ascertained, and having regard to those views, the provider believes, on reasonable grounds, that the provision of the services is consistent with the informed choice the consumer would make if he or she were competent; or
ii. If the consumer's views have not been ascertained, the provider takes into account the views of other suitable persons who are interested in the welfare of the consumer and available to advise the provider."

was reluctant to operate on Mr A because of his poor condition, and felt it was prudent to undertake further investigations before deciding to operate.

191. My independent expert advisor, Dr Elizabeth Dennett, was critical that Dr E did not record any concerns about Mr A's renal failure, poor urine output or ECG changes, or ensure that Mr A had a urinary catheter inserted when he reviewed him at 5.15pm.

192. I accept Dr Dennett's advice, and consider that Dr E should have been more proactive when he reviewed Mr A at 5.15pm, and more detailed in his documentation. I also consider that, given Mr A's deterioration throughout the afternoon on 8 Month10 and his condition when Dr E reviewed him at 5.15pm, Dr E should have returned to review Mr A sooner than 8.15pm.

193. After Dr K discussed Mr A with Dr E at 8.15pm, a urinary catheter was inserted and, following further medical investigations, Dr E decided to operate on Mr A less than three hours later.[81] Although Dr E could have been more proactive when he first reviewed Mr A at 5.15pm, I consider that, from 8.15pm onwards, Dr E took appropriate steps to treat Mr A. In all of the circumstances, including the late stage at which Dr E first became involved in Mr A's care (over 24 hours postoperatively), I do not find that Dr E breached the Code.

Communication with family — Other comment

194. I note that, during the course of my investigation, Mr A's family expressed appreciation for the open manner in which Dr E communicated with them while he was involved in Mr A's care.

Opinion: Dr G

Pre-anaesthetic assessment — No breach

195. On 25 Month3, Dr G saw Mr A for a pre-anaesthetic assessment. Dr G gave Mr A an ASA score of III and recommended that his surgery be delayed until he had completed a year-long course of clopidogrel. My independent anaesthetist expert, Dr Nigel Robertson, advised me that he considers this assessment was appropriate, and I accept that advice.

Care on 8 Month10 — Adverse comment

196. Dr G next became involved in Mr A's care at about lunchtime on 8 Month10. Dr I recorded in an untimed entry sometime after 1pm that Dr G had seen Mr A; however, Dr G did not make any note in the clinical records at that time. Dr G told HDC that Dr I contacted him about Mr A's pain control around lunchtime, and that he (Dr G) then went to visit Mr A. Dr G told HDC that Mr A's pain appeared to be greater than he

[81] Given that Mrs A signed the consent form at 11pm, I accept that Dr E decided to operate before that time.

would have expected, and he asked Dr D whether she was sure there was not a surgical cause in Mr A's abdomen, but Dr D did not think that was the case.

197. Dr G then wrote an untimed entry in the clinical notes (after nursing notes written at 3.15pm) recording that he had reviewed Mr A. Dr G recorded that the recent X-ray (at 1.22pm) had shown no evidence of a perforation. Dr G attempted to insert an epidural catheter three times, each of which was unsuccessful, and, accordingly, he altered Mr A's PCA in an attempt to manage his pain.

198. Dr G told HDC that, following the attempted epidurals, he suggested that Mr A might benefit from some non-invasive BIPAP, but that that was the limit to his involvement in Mr A's medical management, and he left the ICU at 4pm. Dr G stated that he had no other reason to return to ICU before he was notified at 10pm that Mr A had deteriorated. Dr G said that the surgical team was responsible for Mr A's care, and that he was asked to assist with pain relief primarily, and made it clear to the surgical team that he was happy to be involved at any time.

199. Although Dr G did not write in the clinical notes between 4pm and 10pm, Dr K recorded in an untimed entry that he discussed Mr A's care with Dr G which, based on the subsequent nursing notes, appears to have occurred before 9pm. I therefore consider it more likely than not that Dr K contacted Dr G about Mr A's deteriorating condition at some time before 9pm.

200. At 10pm, Dr G recorded in the clinical notes that he reviewed Mr A and thought he might be becoming septic. Dr G then provided anaesthetic care during Mr A's second surgery at about midnight on 9 Month10 and following surgery.

201. Dr Robertson was of the view that Dr G underestimated the seriousness of Mr A's condition, particularly during the afternoon on 8 Month10, and did not escalate the level of monitoring and care as would be expected. Dr Robertson expressed concern that Mr A had a catheter and an arterial line inserted only in the late evening on 8 Month10, when he was already very unwell.

202. When asked why he did not insert a urinary catheter or an arterial line earlier, Dr G referred to his limited involvement in Mr A's care until 10pm. I accept Dr Robertson's advice, and consider that Dr G should have been more proactive in his involvement with Mr A's care. When Dr G left at 4pm, he was faced with a patient who was already very unwell and was continuing to deteriorate. However, I accept that Dr G was one of many clinicians treating Mr A, and was not responsible for Mr A's overall management. I also note Dr Robertson's view that Dr G's failings occurred in the context of a collective failure by the clinical team to appreciate and manage the rapidity of Mr A's deterioration. Having regard to all the circumstances, I do not find that Dr G breached the Code.

Recommendations

203. I recommend that Tairawhiti DHB provide a written apology to Mr A's family for its breach of the Code. The apology is to be sent to HDC within one month of the date of this report, for forwarding to Mr A's family.

204. In addition, I recommend that, within three months of the date of this report, Tairawhiti DHB:

a) Review its processes for ensuring that pre-surgical patients are assessed in an appropriate and timely manner prior to surgery, especially in cases where surgery is unexpectedly delayed, and report to HDC on the outcome of the review.

b) Provide a report to HDC on the actions it intends to take to ensure that all ICU/HDU patients have a senior lead clinician who takes ownership for managing the patient's care at all times.

c) Conduct an audit of clinical records to ensure that documentation by medical staff is being completed with sufficient detail, and report the results of the audit to HDC.

d) Arrange an independent review of its ERAS protocol and the manner in which it is implemented at Tairawhiti DHB, and report to HDC on the results.

e) Review its consent forms in light of this case, and report to HDC on the outcome of the review.

f) Provide training to staff on the legal requirements of informed consent, and provide evidence of that training to HDC.

g) Provide a report to Mr A's family on the changes it has made, and intends to make, to improve staff communication with patients and their families. The report should be sent to HDC for forwarding to the family.

205. In accordance with the recommendation made in my provisional report, Dr D has provided a written apology to Mr A's family for her breaches of the Code, for forwarding to Mr A's family.

206. In addition, I recommend that the Medical Council of New Zealand consider whether a review of Dr D's competence is warranted.

Follow-up actions

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

- A copy of this report with details identifying the parties removed, except the experts who advised on this case and Tairawhiti DHB, will be sent to the Medical Council of New Zealand and the Royal Australasian College of Surgeons, and they will be advised of Dr D's name.

- A copy of this report with details identifying the parties removed, except the experts who advised on this case and Tairawhiti DHB, will be sent to the Medical Council of New Zealand, and it will be advised of Dr E's and Dr G's name.

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

Appendix A — Independent surgical advice to the Commissioner

The following expert advice was obtained from surgeon Dr Elizabeth Dennett:

"I have been asked to provide an expert opinion to the Commissioner on case no. C12H0C00779 and the following is my report.

I have read and followed the Commissioner's guidelines in the preparation of this report.

Professional Credentials of 'expert advisor' relevant to this report
My name is Elizabeth Rose Dennett and I am a vocationally registered general surgeon employed by the University of Otago and Capital and Coast District Health Board. I hold an MBCh.B from the University of Otago, awarded in 1990. I hold a fellowship of the Royal Australasian College of Surgeons gained by examination in 2000 and an awarded fellowship of the American Society of Colon and Rectal Surgeons gained in 2012. Following fellowship training I was appointed as joint clinical senior lecturer (surgery) at the University of Otago, Wellington and the Wellington Regional Hospital. My practice here encompasses a range of general surgical conditions. I am a member of the Education Committee of the New Zealand Association of General Surgeons and of the Board in General Surgery, Royal Australasian College of Surgeons. I am a member of the court of examiners of the Royal Australian College of Surgeons and a member of the New Zealand national board of the same college.

I declare no conflict of interest in this case.

EXPERT ADVICE REQUIRED

The Commissioner has requested of me specifically to address the following issues:

1. Was it reasonable to attribute [Mr A's] [Month1] symptoms as most likely related to gallstones?

2. Was it reasonable to recommend cholecystectomy?

3. Should the discussion of gallstone management have included the risk and benefits of a watch and wait approach?

4. Was it consistent with expected standards to undertake this surgery at [this] hospital?

5. Was surgical pre-planning appropriate?

6. Was an occult perforation given due and timely consideration as a possible cause of increasing pain and instability in the post-operative period?

7. Should he have been taken back to theatre earlier?

8. Are there any concerns regarding [Mr A's] management following his second surgery on [9 Month10]?

EVIDENCE TO SUPPORT CONCLUSION

I have been furnished with information from the Commissioner's office. Information received includes letters from the patient's representative, surgeon and clinical care manager, hospital notes pertaining to ED presentation in [Month1] and subsequent pre-operative work-up, admission in [Month5], ED presentation in [Month9], admission in [Month10] and operative notes. In addition some clinic letters pertaining to cardiology reviews and [Mr A's] cardiac history were included. After preliminary reading I requested additional information; observation charts, fluid balance charts, intra-operative anaesthetic chart and all blood results from [Month10] admission, and any health questionnaires from [Month3] anaesthetic pre-assessment clinic and [Month5] surgery.

TIMELINE OF RELEVANT EVENTS

[Mr A] was seen in ED at [Hospital 1] on [15 Month1] complaining of right-sided back pain. [Mr A] was investigated for the possibility of renal pathology via ultrasound. This was reported as possibly showing stones in the left kidney and stones in the gallbladder. There is no reference in the ED notes to abdominal pain or abnormal abdominal findings on examination. Blood tests including LFTs were normal. A referral from ED to surgical outpatients was made, the history given is of atypical back pain with the finding of gallstones on ultrasound, and the request was for consideration of cholecystectomy.

[Dr D] saw [Mr A] on [15 Month3]. Notes include severe abdominal pain due to multiple gallstones. [Dr D] is the first to document an incisional hernia, she also notes [Mr A's] previous surgery and identifies that surgery may be difficult due to adhesions (there is no history that these are symptomatic). An open approach to cholecystectomy and repair of the hernia is advocated.

An anaesthetic assessment was undertaken on [25 Month3]. [Mr A] is noted to have stopped his clopidogrel (required following the insertion of a drug-eluting coronary stent [a few months previously]). The medication is restarted and planned surgery is delayed until [Month10] when [Mr A] would have been on clopidogrel for a year, there is no further review planned prior to surgery. [Mr A] was given an ASA physical status classification of 3 (= severe systemic disease) and an ICU bed was booked for the post-operative period. His medical history includes hyperlipidaemia, hypertension, coronary artery stenting in 2008 and 2011, previous CVA and myocardial infarctions, CORD and smoking.

On [18 Month5] [Mr A] was referred to ED at [Hospital 1] by his GP with an onset of back pain. The GP reports that there had been similar pain before diagnosed as a gallstone. The GP lists renal colic as number one on his list of differential diagnoses and identifies [Mr A] is high risk as he is a vasculopath. [Mr A] has an ultrasound and this reveals right-sided hydronephrosis. [Mr A] is taken to theatre where a double J stent is inserted into his right ureter to relieve the obstruction of the right kidney. The stent was subsequently removed in outpatients on [6 Month7].

On [20 Month9] [Mr A] again presented to ED this time with pain on the left side. He was observed and discharged after 2.5 hours with no definitive diagnosis being made.

On [7 Month10] [Mr A] underwent his planned surgery. As expected the surgery was technically difficult and complicated by multiple enterotomies, the exact number or position is not stated. The operation note states in retrospect some of the right-sided pain might well be attributed to severe adhesions. The gall bladder was removed without complication and the incisional hernia repaired. [Mr A] was transferred to ICU post-operatively where on admission it is noted that he had a long procedure and that intra-operatively there were big changes in BP up/down. He had been on inotropic support but it is not clear if this was continued in ICU.

Post-operatively there were problems with [Mr A's] pain management necessitating a change of PCA 3 times and 3 attempts at an epidural. Despite increasing the PCA bolus dose and adding in ketamine the day following his surgery he continued to complain of pain with it being persistently 9 out of 10 when he was awake. In addition [Mr A] had acute renal failure, his creatinine had increased post-operatively (179 on 07:50 bloods) and was doubled to 211 by 13:00, his documented urine out was 530mls in 24 hours despite numerous fluid boluses (taking into account there was no urine measurement during the surgery this urine output is for more than 24 hours). During the morning of [8 Month10] [Mr A] also had episodes of bradycardia and at least one run of VT. By the afternoon of the same day he had started to deteriorate with blood gases showing hypoxia and acidosis, urine output remained poor and he had vomited. A catheter and a NG tube were inserted and he was started on BiPAP.

At 23:30 a surgeon reviewed him due to his ongoing deterioration. [Mr A] was desaturating to 72% on room air, was hypotensive and tachycardic and pain remained a significant problem. He was assessed as likely having an occult perforation and after intubation in ICU was returned to theatre for an emergency laparotomy. At operation a small perforation in the proximal jejunum was found as well as diffuse turbid soilage of the peritoneal cavity. The operation note does not mention any bowel ischaemia or hypoperfusion. The perforation was repaired and he returned to ICU intubated and ventilated in the early hours of [9 Month10].

Between return from theatre at approximately 2:30am and 10am the next morning [Mr A] became increasingly acidotic, his renal failure worsened and he required significant inotropic support. During the afternoon of [9 Month10] he was transferred to [Hospital 2]. His prognosis was poor and at 8:45am [the following day] he passed away.

The key factors in this case are, I believe, as follows:
a) The preoperative assessment of [Mr A]
• Surgical — Alternative causes for [Mr A's] pain were not considered despite his atypical presentation especially as he was later diagnosed with renal calculi. [Dr

D] was the first to document that [Mr A] had an incisional hernia, there is no evidence that this was a problem for him or that it needed repair. It was known that the operation could be difficult and as [Mr A] had a very significant history of vascular disease a watch and wait approach should have been considered and discussed.

[Comment regarding a non-peer redacted.]

b) Immediate post-operative care.
There were significant clues that all was not well with [Mr A] in the immediate post-operative period that appear to have been missed/misinterpreted. The nursing notes are extensive and the medical notes are at times very sparse and little information can be obtained. Medical notes also tend to contradict nursing notes particularly with respect to urine output. [Mr A] appears to have been reviewed at least twice by senior medical staff early on [8 Month10] as the nursing notes document this but the doctors themselves have not written in the notes. A number of discussions have been held about [Mr A's] care when he started to deteriorate but no immediate senior medical review occurred. The clinical notes give the impression that no one has taken 'ownership' of [Mr A's] post-operative care, no alternative reasons for his poor pain control apart from a non-functioning PCA are considered, his renal failure is treated with repeat fluid boluses and no consideration is given to possible causes other than fluid depletion.

Specific Commentary:

Pre-Op Assessment — (Questions 1–5)

The question as to whether [Mr A's] surgery should have been undertaken at [this] hospital is not the most important factor in assessing this case. His surgery could have been undertaken anywhere that has appropriate technical expertise and peri-operative support […]. The important question is should the surgery have taken place at all?

[Mr A] was referred to see a surgeon on the basis of one presentation to an emergency department with back pain. The pain he described and its localisation were not typical for biliary pain and the blood tests and ultrasound did not support a diagnosis of cholecystitis. The doctor who attended [Mr A] appears to also have agreed with this as he was sent for a renal ultrasound. The renal ultrasound was reported as showing the possibility of a few smaller stones in the left kidney. The negative ultrasound does not exclude renal calculi as a possible diagnosis. However gallstones were seen and [Mr A] was referred to surgical outpatients for a consideration of cholecystectomy. Two months after the referral ([15 Month3]) [Mr A] was seen by [Dr D] who recommended cholecystectomy and incisional hernia repair. [Dr D] identified that the surgery could be technically difficult due to [Mr A's] previous abdominal surgery so an open operation was recommended.

[Dr D] appears to have accepted the ED provisional diagnosis that the pain was due to symptomatic gallstones. The handwritten clinical notes and dictated letter

do not provide any further information about [Mr A's] pain to confirm a diagnosis of symptomatic cholelithiasis. A history of the pain was not only important to ascertain if it was biliary in origin but also to determine if it was significant enough to offer potentially complex surgery to a high-risk individual. History taking would also have revealed [Mr A's] significant history of vascular disease and his CORD. [Dr D] did identify that [Mr A] was taking aspirin and had coronary stents but nothing more. [Mr A] was given treatment pamphlets and the common operative complications such as bleeding were discussed. The additional risks of this surgery that were specific to [Mr A] should also have been discussed, death is a risk of any operation but [Mr A's] risk was significantly increased over that of the standard population due to his multiple medical comorbidities.

The risks and benefits of not operating should also have been discussed with [Mr A]. [Dr D] should have considered re-reviewing [Mr A]. There was a 7 month delay to his surgery that she knew about (a copy of Dr G's letter from anaesthetic pre-assessment dated [Month3] was sent to her) and at some point [Dr D] must have become aware that [Mr A] had been diagnosed with right-sided renal calculi as she mentions this in her operation note of [7 Month10]. The GP's referral letter at the time [Mr A] was diagnosed with renal calculi states similar pain before diagnosed as a gallstone. I feel that the pre-operative assessment is therefore a moderate departure from good practice.

Post-op Care — (Questions 6–8)

I have been asked specifically if I have concerns about [Mr A's] care after his second operation. I have no concerns and I do not believe that earlier transfer to [Hospital 2] would have made any difference to the outcome. I do have concerns about [Mr A's] care after his first operation.

Operation — Post-operatively [Mr A] was admitted to ICU at approximately 16:00.

The admission note states it was a long procedure, there were quite big changes in BP up/down and he had been on some inotropic support. Despite this there are no plans for an ECG or Trop T unless he complains of chest pain or shortness of breath. [Mr A] had an arterial line for BP monitoring but no urinary catheter.

The anaesthetic chart shows the operation was approximately 3 hours long, systolic BP ranged from 95 to 150mmHg throughout the operation. There is no urine output recorded.

I feel the lack of a urinary catheter is therefore a severe departure from good practice. Both the anaesthetist and the surgeon had a responsibility to ensure [Mr A] had one.

Renal Function — At 22:00, 6 hours after admission to ICU [Mr A] had not passed urine, his bladder was checked indicating there was no urinary catheter. At 06:00, 14 hours after admission to ICU and 19 hours after the start of surgery the

nursing notes reveal a urine output of 190ml (10 ml/hour). [Dr D] saw [Mr A] at 08:20 the notes state the observations were normal, — either [Mr A's] charts were not reviewed or were ignored. As well as the oliguria (low urine output) he had also had a temperature of 37.6 recorded. The plan was for an epidural.

At some time after 12 (physiotherapy note written 12:15, medical note after this no time provided) [Dr I] noted [Mr A's] creatinine had increased from a pre-op level of 101 to 211, (bloods were also taken before 07:50 which showed an increase in creatinine to 179, this is not mentioned at any time therefore I query if anyone looked at [Mr A's] blood results). At this time urine output was documented at 190ml in 24 hours (8ml/hr) though nursing notes indicate 340ml of concentrated urine was passed at 11:00. The impression is that [Mr A's] acute renal failure was due to fluid depletion, management was discussed with another doctor and plasmalyte was charted with 2 litres to be given over 12 hours.

Another clinic note of unknown time (nursing notes indicate approximately 20:15) reveals [Mr A] was discussed with a surgeon ([Dr E]) and an anaesthetist ([Dr G]). He appears not to have been examined (no clinical notes) but some changes in management are made including a catheter and more fluid boluses. The nursing notes state 340ml was drained when the catheter went in and 50ml of urine in the 2 hours following that. Medical notes made after 22:00 state urine output had been >30ml/hour.

Medical and nursing notes are contradictory as to how much urine [Mr A] passed. However, what is not in any doubt is they both reveal acute renal failure with associated oliguria. It was assumed this was due to fluid depletion however [Mr A] did not respond to fluid boluses and no other diagnosis was considered. There is no evidence that [Mr A] was reviewed to assess his response to the fluid boluses.

As part of managing [Mr A's] fluid status he should have been catheterised — this is standard of care for the type of surgery he had. [Mr A] had prolonged surgery with difficulties controlling his BP and no monitoring of kidney perfusion via measurement of urine output. Post-operatively a urinary catheter should also have been a mandatory part of monitoring when it was discovered he was in acute renal failure and was being given fluid boluses to treat this. If he had been catheterized and a fluid balance chart maintained the problems with his urine output would have been more obvious to everyone involved in his care and appropriate management instituted prior to [Mr A's] rapid deterioration later in the day.

I feel therefore that the lack of a urinary catheter is a severe departure from good practice. [Dr D] and [Dr G] still had a responsibility to ensure this was done post-operatively not only to manage fluids but as an epidural had been requested. [Dr E] should also have ensured a catheter was placed when he wrote in the notes that he wanted to monitor [Mr A] closely.

I do not feel [Dr I] or [Dr J] have departed from good practice as [Dr I] is [a house officer] and should have been better directed/educated about the value of a

catheter and there is no evidence that [Dr J] knew [Mr A] didn't have a catheter when contacted about his fluid management.

Pain Management — This was a problem from the beginning with the only plan from the medical ward round the morning after surgery being for an epidural. At 09:00 it is documented the PCA regime was sub-optimal and the regime was changed. The PCA itself was also changed 3 times. The physiotherapist wrote in the notes that they couldn't see [Mr A] at 12:15 as he was in a lot of pain and unable to take even half a breath due to pain.

The house surgeon note written after this reveals [Mr A] was sweaty, clammy and in the worst pain ever. Nothing was done for this except more fluid boluses were charted to treat [Mr A's] renal failure and investigations were instituted to *rule out perf*. Of note by this time there were changes in [Mr A's] ECG. [Mr A] continued to be encouraged to use his PCA and was given oral analgesia. Sometime after 3pm an attempt is made to insert an epidural that failed after 3 attempts. The PCA regimen was changed again to include ketamine.

There appears to have been a very blinkered view to [Mr A's] pain — it has been assumed that his pain was all surgical in origin and contributed to by a malfunctioning PCA or that [Mr A] wasn't using the PCA enough. Immediately prior to the epidural attempt (after the initial PCA regimen had been changed) and even afterwards [Mr A] was getting good analgesia which would normally be expected to deal adequately with most surgical/post operative pain. However, despite adequate analgesia [Mr A] was describing 9/10 pain and it is documented he did not look well. At this stage other causes for his pain should have been considered for example it is well known that ischaemic pain is severe, unremitting and doesn't respond well to opiate analgesia. The severe pain and acute renal failure together should have been an alert that there was a problem.

I do not feel there has been any departure from good practice in managing [Mr A's] pain but I feel there has been a mild departure from good practice in not considering alternative causes for his pain.

Medical Care — The clinical notes reveal that from the time of the initial operation to the second [Mr A] was seen by and/or treated by 8 different doctors [but] the impression is that no one has taken ownership of [Mr A's] post-operative care and there is no sense that the medical staff have communicated with each other about him either.

1. Ward round with [Dr D] 08:20 [Month10] — it is written in the notes that observations are normal, they were not and had not been overnight. The plan is for an epidural; [Mr A's] oliguria and overnight temperature of 37.6 were not mentioned.

2. Review later, [8 Month10] — [Drs D and G] saw [Mr A], the time is unknown as it is not documented. The notes describe a man who is not well in severe pain.

ECG changes are also documented. The plan was to rule out a perforation and investigations were directed towards this. [Mr A's] oliguria was not mentioned nor was there any plan/management for his ECG changes and ongoing pain.

3. [Mr A] was discovered to be in acute renal failure (creatinine elevated and poor urine output) — this was discussed with a [Dr J] who gave advice about fluid replacement. There was no medical review of the effect of the fluid boluses.

4. Nursing notes reveal [Mr A] had been having episodes of bradycardia and runs of VT. His Trop T result was reported as negative. (This does not exclude a myocardial infarction, [Mr A] had a MI in [early] 2011 without a Trop T rise.)

5. [Dr E] wrote in the notes (unknown time) — the failed attempt at the epidural was noted. Concern was expressed about a rising CRP in the immediate post-operative phase (it is quite normal for CRP to rise after surgery). The plan was to monitor HR, temp and respiratory status, ([Mr A] does not appear to have been physically reviewed or examined). [Mr A's] acute renal failure, poor urine output and ECG changes were not mentioned.

6. A house officer discussed [Mr A] with [Drs E and G] — there is nothing written in the notes to indicate why this discussion took place nor is there anything written in the notes to indicate [Mr A] was examined, (there is an ABG [arterial blood gas] result beside a list of management instructions). The nursing notes reveal [Mr A] was acidotic, had been hypotensive, had had a low-grade temperature and then become hypothermic, had been de-saturating to 72% on room air and that the discussion between the house officer and the two senior doctors was held at approximately 20:15. Management advice was given to the house officer, which included a catheter, more fluid boluses and BiPAP. Neither senior doctor physically reviewed [Mr A].

7. [Dr G] reviewed [Mr A] after 22:00. An urgent surgical review was requested and this occurred after 23:00. [Mr A] was then taken back to theatre.

[Dr D] in her letter to the ACC dated [the month after Mr A's death] correctly states [Mr A's] underlying condition was underestimated. However, it is impossible to state with certainty that the jejunal perforation directly led to [Mr A's] death because he had no physiological reserve to cope with it even if it had been diagnosed earlier.

The ICU admission notes indicate there was already some instability in theatre and [Mr A] was oliguric from the time he was admitted to ICU. These clues for other possible diagnoses such as a pen-operative MI or fluid depletion were ignored. Even if [Mr A] had had an Ml that was diagnosed and appropriately treated with his cardiovascular history it cannot be said with certainty he would have survived. [Mr A's] death after the first operation may have been inevitable regardless of the cause but the warning signs appear to have been missed and when noted it was too late.

My concerns are that:
— [Mr A] was seen twice by [Dr D] on [8 Month10] his overnight oliguria was ignored, on the second visit his ongoing oliguria and severe pain despite adequate analgesia were ignored and not managed.

— There are no concerns with the initial assumption that the acute renal failure was due to fluid depletion however there was no medical review to assess response to the fluid boluses.

— ECG changes and arrhythmias are documented in both medical and nursing notes and nothing appears to have been done.

— There was a profound deterioration in the afternoon extensively documented in the nursing note (acidosis, hypotension, hypothermia, renal failure, respiratory failure).

Two doctors have written in the clinical notes [but] neither appear to have examined [Mr A] or looked at observation charts etc. One of these doctors and a third provided management advice from a distance [but] neither reviewed [Mr A] prior to this nor was there any review to see if there had been a response to the proposed management.

I feel therefore that there are multiple episodes of a moderate departure from good practice by all concerned with [Mr A's] post-operative care. The exceptions to this are the two house officers, both who should have been better supported when they identified problems and discussed them with more senior staff.

In addition to the issues the commissioner has asked me to address there are 4 questions from [Mrs A]:

1. Would the lack of morphine added to the extra stress and pain have affected his recovery and his main organs?

A lack of adequate analgesia can contribute to stress. However, in [Mr A's] case I do not think the pain caused additional physiological stress. If the pain was ischemic in origin as the post-mortem suggests then the stress had occurred prior to the pain being experienced.

2. Would he have recovered if his bowel had not been nicked?

If [Mr A's] bowel had not been nicked he may have recovered but this cannot be stated with certainty. Even if the bowel injury had not occurred [Mr A's] heart may not have withstood the stress of the operation. There is evidence that problems were occurring in theatre at the first operation independently of any bowel injury.

3. Why did it take so long to perform the second operation?

A symptomatic perforation that soon after an operation can be a difficult diagnosis to make. I believe that the perforation has contributed to [Mr A's] death but it is not the primary cause of it.

4. What were the consequences of not having either operation?

I am unsure as to the consequences of not having had the first operation. There is no evidence to indicate that he needed the first operation thus if he hadn't had it he would probably still be alive. If it had been proven that he had symptomatic cholelithiasis the outcome would depend on the impact the symptoms were having on his ADLs. Minor symptoms could have been managed for example with analgesia or dietary modification. Significant symptoms that failed simple treatments would have required careful discussion about all of the risks involved with surgery. Surgery if necessary could then be directed to just the pathology of interest with a limited laparotomy and adhesiolysis rather than the full adhesiolysis and hernia repair [Mr A] underwent. As for the second operation from the information provided I believe [Mr A] would have died irrespective of whether he had the operation or not."

Further advice provided

"I am writing in response to your request for further comment on the replies sent to the HDC by [Drs D and E] and Tairawhiti DHB in response to my initial report for case C12HDC00779.

[Dr D]

I will address [Dr D's] reply point by point, I start at point 4 of [Dr D's] response.

[…] [Redacted owing to repetition.]

15. [Regarding [Dr D's] comment that [Mr A] appeared on her surgical list on [7 Month10.] Both [Dr D] and Tairawhiti DHB need to review practices if it is true as [Dr D] says that a patient can just 'appear on a list' without the surgeon knowing about it. This is a severe departure from good practice and [Dr D's] explanation does not justify operating on someone who appears on your list and prefers you operate. If this is genuinely what occurred then to proceed in these circumstances without documenting anything about the 'thorough investigation and discussion' that were held departs from good and safe practice. [Dr D] also says she would normally only review the timing of more major cases, I would ask [Dr D] to explain what she considers to be a major case if it's not someone like [Mr A] undergoing the surgery that had been proposed.

17. [Regarding [Dr D's] comment that [Mr A's] post-operative histology supports her pre-operative diagnosis.] Pathology confirms there may have been recurrent attacks of biliary colic [but] it does not confirm that [Mr A's] pain in 2011 was biliary in origin. [Dr D] explains [Mr A's] pain as being due to small stones passing into the common bile duct (CBD), if this is the case as she now states why did she not do anything to ensure [Mr A's] CBD was clear of stones either pre-operatively (ERCP) or during the operation (cholangiogram)?

20. Ward round notes do not support any of what [Dr D] states occurred on [8 Month10]. [Mr A's] observations had not been normal overnight and he was oliguric with a urine output of 10mls/hour since surgery. There is no evidence that [Dr D] noticed this and it is severe departure from good practice to 'consider it reasonably

likely his urine output would improve over the next several hours' especially when nothing was done to address the issue. Blood results were available at the time of the ward round showing that [Mr A's] creatinine had increased from a pre-op of 101 to 179 indicating he was either hypovolaemic or had had an acute renal injury. Though a further urine output of [340]ml was recorded making a total of approximately 20ml/hour this is low volume especially in a patient with a rising creatinine.

[…] [Redacted owing to repetition.]

54. [Regarding [Dr D's] comment that limited adhesiolysis was intended and performed.] Contradicts [Dr D's] operation note that states a complete adhesiolysis was performed. She now reports she did a limited operation (suggested by me as the appropriate operation (if necessary) in my initial review). The signed operation report from [7 Month10] is what I would accept as the true and accurate record of events.

56. [Regarding [Dr D's] comment that she did not intend pre-operatively to use a urinary catheter unless it became indicated because contemporary ERAS concepts do not include a urinary catheter.] ERAS protocols usually require a urinary catheter for 24 hours. I am aware of seven NZ hospitals with a fully operational and supported ERAS protocol [and] all use catheters for the first 24 hours. In addition these protocols allow one to make changes if the patient requires it. [Mr A] was high risk and had a long and complicated operation and though he may have been stable post-op he had had some intra-operative instability.

I do not question the validity of the information [Dr D] has supplied in support of the use of ERAS protocols; however if [Mr A] was on one why did he not have the appropriate pre-operative preparation for this? […] In addition there is no research about ERAS that supports blind adherence to the protocol when the patient's condition mandates variation and change. An ERAS protocol is not justification for not catheterizing a patient.

[Regarding the ERAS protocol] The wording of this is concerning: 'neglect urine output if patient is in good condition and no pre-existing renal diseases'. This suggests that they would ignore urine output even if the patient was anuric (producing no urine) or oliguric (producing very small amounts of urine) both circumstances that shouldn't be ignored.

With respect to [Mr A] he was not in good condition he was deemed ASA 3, he had a long operation with many small bowel injuries and the anaesthetist states he had been unstable. In addition he had had prior kidney stones.

Therefore those caring for [Mr A] appear to have ignored their own ERAS protocol as urine output should not have been ignored.

57. [Regarding [Dr D's] comment that, at 10pm on [7 Month10], it would not have been unreasonable to place a urinary catheter but, according to the ICU curve, [Mr A] had no urge to void.] I do not understand the instruction 'see ICU curve' to support [the] claim [that] [Mr A] had no desire to void. I have discussed the use of a catheter not because the patient needs to void and can't but because accurate assessment of the fluid status was needed.

[…] [Redacted owing to repetition.]

63. [Regarding [Dr D's] account of the surgical grand round.] The surgical grand round, [Dr D] states this occurred between 10 and 11am on [8 Month10]. The clinical notes supplied reveal

— [Dr D] saw [Mr A] at 08:20 on [8 Month10].
— There was an ICU round at 09:00 [and] clinical notes reveal the presence of only two doctors not one of whom was [Dr D].
— [Mr A] was seen again in the afternoon after problems, the house officer's notes are written after midday.
— [Dr E] has no recollection of a formal handover from [Dr D] and says he first became aware of [Mr A] after 17:00.

It is a major departure from good practice that such a round could have occurred in the presence of the number of doctors [Dr D] says were present and there is not a single thing documented. On the basis of the information supplied to me I do not believe this round as described by [Dr D] occurred and the timeline of events as discussed in previous points support this belief.

[…] [Redacted owing to repetition.]

[Dr E]
[Dr E] has acknowledged that documentation with respect to [Mr A's] surgery and care is limited and confusing. He has acknowledged his personal deficiencies re documentation. Though he has not documented an assessment of [Mr A] I acknowledge that he has documented his concern and accept that to be concerned he would have had to assess [Mr A]. [Dr E] has not made any attempt to justify anything that occurred and has been honest about the time elapsed since [Mr A's] surgery and the impact of this on his memory of events.

Tairawhiti DHB
I have questioned the need to proceed not because of the benefit of hindsight but because there is no evidence that surgery was necessary or that [Dr D] considered any alternative course of action.

Yours sincerely

E R Dennett FRACS, FASCRS"

Appendix B — Independent anaesthetic advice to the Commissioner

The following expert advice was obtained from anaesthetist Dr Nigel Robertson:

"I received a request from the office of the Health and Disability Commissioner (HDC) regarding the anaesthesia care provided to the above named gentleman at [Hospital 1] for the procedure of open cholecystectomy and mesh repair of hernia and the subsequent management of his condition prior to his unfortunate death.

Specifically, I have been asked to comment on the care provided by [Drs F and G].

It should be noted that my scope of practice under the HPCAA (2003) is limited to anaesthesia and does not extend formally to Intensive Care. However I have considerable experience in dealing with critically unwell peri-operative patients, including complex HDU/ICU patients, as part of my normal work. My comments and opinions regarding [Mr A's] post-operative care should be interpreted in that light. The office of the HDC may wish to gather further opinion regarding [Mr A's] post-operative course from vocationally registered intensive care specialists but that, of course, is the HDC's prerogative.

The best way to cover the response is to work through the timeline of care from when [Mr A] came to the attention of the anaesthesia department in [Month3].

Preoperative assessment and work-up

[Dr G] first met [Mr A] at anaesthesia assessment clinic on [15 Month3] and gave a good account of [Mr A's] known ischaemic heart disease and his recent management, including insertion of drug-eluting stents [a few months previously] with good effect. [Mr A] had also been seen around this time by a cardiologist and a repeat echocardiogram [prior to his initial ED presentation] had shown significantly improved cardiac function post stent insertion. However, [Dr G] noted that [Mr A] had stopped taking Clopidogrel and recommended that he re-start the drug and that the surgery be postponed until 12 months had elapsed from stent insertion. This was appropriate.

It was clear, therefore, that [Mr A] had significant ischaemic heart disease, vascular disease (occluded Carotid artery) and dyslipidaemia. He was also still occasionally smoking. His renal function was mildly impaired with a usual serum Creatinine of 101–110 micromol./l (just at the upper limit of normal).

Nevertheless, he had been well managed by cardiology and was on appropriate treatment. His cardiac status was stable and his ASA score of 3 was correct. His exercise tolerance was MET > 4, which is a predictor of good outcome. He was as well as he could be.

Of note is that he had tolerated a general anaesthetic, provided by [Dr F], for his [renal lithiasis] without adverse event. His preoperative instructions were documented and appropriate and given the proposed procedure (open

cholecystectomy and repair of hernia) and his co-morbid state, an ICU bed was booked, again appropriately. Given the surgical plan, I believe it was appropriate to proceed to surgery, with the information available. I would have been comfortable to anaesthetise him.

Initial Surgical Procedure — Open Cholecystectomy, Adhesiolysis and Mesh Hernia Repair. Date [7 Month10]

[Dr F] was the attending anaesthetist for this case. The pre-anaesthesia record was completed accurately and [Dr F] appeared to have a clear picture of [Mr A's] condition and wrote a brief plan. Both patient and anaesthetist signed the consent form but there is no record of discussion of risks. This may have occurred but is not documented.

The conduct of the anaesthesia was within acceptable limits. The record was complete and legible. [Mr A] was reasonably stable during the case and received appropriate doses of anaesthesia drugs. The anaesthetic lasted approximately 3.5 hours and transfer to and care within PACU was standard.

Of interest, [Dr F's] ASA score on the chart was 2, at variance with my own and [Dr G's] assessment — this is a minor discrepancy in the circumstances.

[Mr A] received bilateral TAP nerve blocks for postoperative pain management, which was appropriate. The surgery was more complex than had been anticipated, with extensive adhesiolysis performed and a number of serosal defects repaired. After 72 minutes in PACU, [Mr A] was transferred to ICU/HDU. [Dr F] wrote an informative admission note with instructions. On admission, [Mr A] was alert, stable and complaining of some pain for which he received paracetamol and a PCA morphine pump with good effect. His IV fluids were reduced to 40ml/hr and he tolerated sips of water.

He had not received a bladder catheter in the OR, which was surprising and in hindsight would have been very useful. By 2200hrs on the night of surgery, he had not passed urine and his bladder was soft.

He remained stable overnight and only used 4mg Morphine intravenously from the PCA pump plus 1 gram paracetamol at 0400hrs on [8 Month10]. He complained of nausea (not unusual) and passed a small amount of urine (190ml) overnight.

The main issue on the morning of [8 Month10] was ongoing and moderately severe abdominal pain. He was reviewed by his surgeon and [Dr F] by 0900 hrs and by that time had only used 15mg Morphine (a low dose in my opinion but perhaps secondary to the residual effect of the TAP blocks done in the operating room). His pain management regime was adjusted to a higher bolus dose of Morphine. His observations remained stable, although his respiratory rate was 23/min, possibly secondary to abdominal pain.

The pump failure was not consequential, I believe, as the staff were able to replace the defective equipment.

By 1245hrs on [8 Month10], [Mr A's] pain was becoming difficult to control and the physiotherapist was unable to provide effective care for him as a result. He was reviewed by the junior medical staff at about the same time, to whom he reported 'the worst pain ever' and who noted a distended, mildly tender abdomen and evidence of worsening respiratory function (94% saturation on 3 litres oxygen/min and a respiratory rate of 23/min (elevated)).

Around this time, he was also reviewed by [Drs D and G] and a note was made by the house officer, querying an ileus and the need to rule out a bowel perforation.

I note from the blood results that his serum creatinine by this time was already elevated at 211 micromol/l, more than double the pre-operative value and that no note had been made until the house officer did so at some time during the day (not timed). The physician, [Dr J] was contacted for advice and the patient's fluid regime was then radically altered to attempt to improve his urine output and renal function. He had also had a short run of ventricular tachycardia at 1108hrs that was captured on a rhythm strip.

By the nursing note timed 1515hrs, [Mr A's] pain management had become a major issue, with increasing pain despite strong analgesic administration. He was unable to tolerate oral medication because of vomiting but was being given oral Gabapentin to try and control his pain and was being considered for an epidural block insertion.

He was described as flushed and sweaty. By the end of the duty, his oxygenation had deteriorated to 92% on 3litres/min. oxygen. He was also noted to have a cough productive of greenish sputum.

His abdomen was described as more distended over the course of the nursing duty.

[Dr G] reviewed [Mr A] late in the afternoon and decided to insert a thoracic epidural catheter. This was unsuccessful and [Dr G] noted at that time that ketamine should be added to the PCA morphine mix and that the patient had deteriorating oxygenation and thick purulent chest secretions. The surgeon [Dr E] also commented that the rising CRP (C-reactive protein level) was concerning and asked for closer monitoring.

By early evening, [Mr A] was worsening, with a metabolic acidosis, indicating possible systemic inflammatory response syndrome (SIRS)/sepsis or renal failure or both. He was charted 750ml of HES colloid fluid late in the evening and also high flow BIPAP oxygen therapy. His renal function had also worsened with a rising creatinine, which was 290 micromol/l from a 2130hrs specimen.

Only at this time was a catheter placed in his bladder and after an initial 340 ml drain, the hourly rate was very poor thereafter. He was still complaining of severe

pain and this was impairing his ability to cough. His abdomen was reportedly 'tight as a drum'.

He was given more Gabapentin and was sedated with Diazepam at 1945hrs. His blood pressure fell during the latter part of the day, from around 140mmHg systolic to 80mmHg systolic by 1800hrs, where it remained for the rest of the evening. At 2230hrs, an arterial line was sited for the first time.

He was reviewed by [Dr G] at 2200hrs and suggested a trial of BIPAP ventilatory assistance, a bolus of colloid fluid and commented that he thought the patient was 'heading toward ventilation'. A further note at 2245 asked for urgent surgical review and that a bowel perforation was queried.

At 2330hrs the surgeon reviewed [Mr A] and made the decision to take him back to the OR to re-explore his abdomen. [Mr A] was intubated and ventilated in the ICU and the nursing note mentions a large vomit during the intubation. There was no report of aspiration as a result of this and the chest X-ray 2 hours later did not describe an aspiration appearance.

The anaesthesia care for the second procedure at around 0030hrs on [9 Month10] was provided by [Dr G] and appears to be appropriate. He inserted a central venous line during the case. All other aspects of the anaesthesia record were acceptable in the circumstances.

At surgery, an 8mm perforation was found and was oversewn.

[Dr G] made an informative note on return to ICU with a reasonable plan. Blood gas estimations during the night showed metabolic acidosis and hypoxaemia with a raised serum lactate, indicating a failure of metabolism.

Indeed [Mr A] was now in established multi-organ failure, requiring circulatory support from a Noradrenaline infusion, increasing ventilatory support and worsening renal function.

By 0625 on [9 Month10], [Mr A] was critically unwell, with rising Noradrenaline requirements, very poor peripheral circulation and worsening gas exchange.

At 1000hrs on [9 Month10], [Dr E] reviewed the patient and discussed his ongoing management with [Hospital 2] surgeons and ICU, arranging a transfer of care as soon as possible.

By 1400hrs, just prior to transfer on [9 Month10], [Mr A] was severely hypoxic and completely dependent on Noradrenaline to maintain his circulation.

He arrived at [Hospital 2] ICU at about 1730hrs and survived for approximately 14 hrs before being pronounced life extinct [at 0845hrs].

It was important, I believe, to describe the course of events in the above manner, to bring together a timeline of [Mr A's] care at [Hospital 1].

To summarise:-

- [Mr A] had significant co-morbidities that were reasonably controlled but still constituted a moderately high risk, with an ASA score of 3
    - Ischaemic heart disease
    - Vascular disease (occluded carotid artery)
    - Dyslipidaemia
    - Evidence of mild renal impairment
- His surgery was of intermediate risk for cardiac scoring purposes but was more complex than expected, with an elevated risk of post-operative surgical complications due to the need for extensive adhesiolysis of the gut.
- Anaesthesia for the first procedure, provided by [Dr F], was appropriate, as was HDU placement postoperatively.
- It appears that problems started on the morning of day 1 ([8 Month10]) with increased pain and abdominal distension but [Dr F's] note was appropriate at that stage and his plan was reasonable.
- A note was made around midday commenting on the need to rule out a bowel perforation. This indicates that the team had some concerns but the patient was not returned to the OR for another 12hrs.
- By the middle of the day on [8 Month10], [Mr A] was in renal failure.
- There were extensive multimodal efforts to control his pain during the day on [8 Month10] but in retrospect, [Mr A] was already 'declaring himself' to be unwell by his worsening oxygenation and blood pressure measurements by late afternoon.
- It was concerning that he was only catheterised late on [8 Month10] and only had an arterial line inserted late in the evening on [8 Month10], when I believe he was already very unwell and in multi-organ failure.
- The second anaesthetic, provided by [Dr G], was well conducted and appropriate in the circumstances.
- The perforation was relatively minor without obvious faeculent soiling of the peritoneum and may not have been the only cause of his deterioration, as he was also noted to have obviously purulent sputum that may have acted as a focus of sepsis.

Reviewing the timeline and evidence as provided to me, I believe that there was a collective failure on the part of the medical staff to appreciate how rapidly unwell [Mr A] was becoming during the day on [8 Month10] and to expedite his return to the OR to re-explore his abdomen. There was a focus on pain management, which was laudable but which missed the fact that his pain and general worsening of condition was indicative of another problem.

His course was very probably compounded by his co-morbidities, especially his ischaemic heart disease, which would have diminished his reserve and ability to withstand the physiological consequences of SIRS/sepsis syndrome. Having said all of this, his physical signs (core temperature, blood pressure, white cell count) were not obviously deranged initially and may have falsely reassured the medical team that all was well.

His co-morbidities would not ordinarily have constituted a reason not to proceed with the initial surgery.

The impression gained (rightly or wrongly) is that the medical team expected him to recover quickly and were employing some elements of an Enhanced Recovery Programme (intra-operative nerve blocks, minimal IV fluid, early oral fluids and feeding etc.) that were laudable but perhaps in retrospect not the best plan in the circumstances, given the actual surgical findings and his co-morbid state. It was fairly obvious by 18hrs post-op that he was not tracking as well as he should have been.

[Dr F's] care was within acceptable standards.

While [Dr G] acted with compassion and was clearly heavily involved with [Mr A's] care, I believe that he underestimated the seriousness of [Mr A's] condition, particularly in the afternoon of [8 Month10] and did not escalate the level of monitoring and care as would be expected, given the circumstances. He appeared to be somewhat fixated on [Mr A's] pain management.

By the time [Mr A] reached the OR at 0030hrs on [9 Month10], he was already critically unwell. The notes supplied to me do not detail any other conversations regarding timing or urgency of return to the OR and therefore I assume that [Dr G] was not advocating for an earlier return.

Despite the caveat that I believe there was a medical team failure to recognise the seriousness and rapidity of [Mr A's] deterioration and expedite measures to mitigate this, I would regard [Dr G's] care as being a departure from the expected standard. In the context of the care setting, however, it is challenging to ascribe a degree of departure, as a retrospective view almost always has greater clarity. No single act or omission was responsible for the outcome.

It is important also to reiterate that the eventual outcome may not have been altered by an earlier return to the operating room as the findings at surgery were relatively minor in the context of [Mr A's] overall condition at the time."

Further advice provided

"HDC's question: In the second paragraph under the heading 'Initial Surgical Procedure …' you note that [Dr F] gave [Mr A] an ASA score of 2, at variance with your own and [Dr G's] assessments. You state this is a minor discrepancy in the circumstances. Can you please clarify whether you consider that [Dr F's] ASA scoring was reasonable and why?

Dr Robertson's answer: The definition of ASA is 'severe systemic disease requiring control with drugs but which is not incapacitating'. [Mr A] had known moderate to severe ischaemic heart disease for which he had had cardiology intervention, at moderate to severe vascular disease with known complete occlusion of one carotid artery, hypertension, dyslipidaemia and a history of impaired renal function. By any measure, this was ASA 3 due to the additive risk of his conditions as opposed to ASA 2 which is defined as 'mild systemic disease not limiting normal activity that may be controlled by drugs'. [Dr F's] scoring was not accurate but this did not contribute to

the plan and outcome materially as there are no strict guidelines or protocols regarding levels of intervention for a given ASA score. Therefore I would discount its relevance and only commented on it almost as an aside.

HDC's question: Further down the page you note that [Mr A] had not received a bladder catheter in the OR and that you consider this is surprising. Later, in your summary, you state that it is concerning that [Mr A] was only catheterised (and an arterial line placed) late on [8 Month10]. In relation to these statements, can you please clarify:

a. Whether you consider that [Dr F] should have catheterised [Mr A] in the OR during the first operation, and if so, whether his failure to do so was a departure from expected standards and, if so, what was the severity of the departure.

Dr Robertson's answer: 'It was not [Dr F's] sole responsibility to catheterise the patient; normally this decision is a collective one and ordinarily, I would have expected what was essentially a laparotomy procedure to warrant a bladder catheter to monitor fluid balance more accurately post-operatively, especially in the context of [Mr A's] co-morbidities. However, the absence of the catheter in the context of what the attending team knew at the time would only be considered a mild departure and not solely [Dr F's].'

HDC's question: b. Whether the failure to insert a bladder catheter and/or arterial line earlier was a departure from expected standards. If it was a departure, please state whether [Drs F or G] should have inserted a catheter and/or arterial line and when, and what the severity of their departure from expected standards was in failing to do so.

Dr Robertson's answer: 'In my hands and in this scenario as it is described, I would have inserted or strongly suggested insertion of a bladder catheter at the time of the first procedure, particularly when the surgery was found to be longer and more complex and I would have inserted an arterial line probably by around the middle of day one [8 Month10] if not sooner as [Mr A's] condition began to fail. I consider these omissions to be a moderate departure.'

HDC's question: Later in your summary you state that you consider [Dr G's] care was a departure from expected standards but that it is challenging to ascribe a degree of departure as a retrospective view almost always has greater clarity, and no single act or omission was responsible. In relation to this comment — in the absence of an indication from expert advisors about the severity of departures from expected standards in regards to clinical issues such as in this case, it is difficult for the Commissioner to decide what further action to take. I must therefore ask you to please indicate whether you consider [Dr G's] departure from expected standards to be mild, moderate or severe.

Dr Robertson's answer: 'Moderate. [Dr G] knew that [Mr A] was heading towards renal failure (his creatinine had doubled, giving him an "I" on the RIFLE definition of renal impairment), that his oxygenation was worsening and that his pain was still severe and, by around 5pm, that his blood pressure was falling. I believe that he failed to appreciate the rapidity of [Mr A's] overall deterioration.'"