Bay of Plenty District Health Board

A Report by the
Health and Disability Commissioner

(Case 18HDC00347)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

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Executive summary

1. This report considers the services provided to a man in his nineties by Bay of Plenty District Health Board (DHB).

2. The man presented to the Emergency Department (ED) at the public hospital with severe abdominal pain. He was assessed and treated for gastritis and subsequently discharged that evening.

3. The man's pain worsened overnight. He was transported by ambulance to the ED in a severely ill condition the following morning. A CT scan was performed and he was diagnosed with an ischaemic bowel, secondary to a superior mesenteric artery thrombus. Unfortunately, the man's condition could not be improved with further treatment and he was provided with comfort cares until his death a short time later.

Findings

4. The care provided to the man by Bay of Plenty DHB was deficient because he was not seen by a doctor until four hours after arriving at the ED; upon arrival he was not given a bed and was allocated an incorrect triage category; there was a five-hour delay in taking a complete set of vital signs; the man was incorrectly diagnosed as having gastritis; there was a lack of supervision of a junior ED doctor and no senior doctor saw the man in person; and the documentation of his care was inadequate. These failures contributed to the man being assessed inadequately and discharged inappropriately, and opportunities were lost to identify and respond to his condition appropriately. It was acknowledged that the ED was particularly busy on the night in question.

5. The Commissioner considered that the errors that occurred indicated broader systems and resourcing issues at Bay of Plenty DHB, and found that the DHB breached Right 4(1)[1] of the Code.

Recommendations

6. The Commissioner recommended that Bay of Plenty DHB apologise to the family, provide an update on the implementation of an Acute Abdominal Pathway document, conduct an audit of the past three months of ED wait times and whether these correlate to the triage category ascribed to each presenting patient, and provide junior ED doctors with clinical documentation training.

[1] Right 4(1) of the Code of Health and Disability Services Consumers' Rights states: "Every consumer has the right to have services provided with reasonable care and skill."

Complaint and investigation

7. The Health and Disability Commissioner (HDC) received a complaint from a woman about the services provided by Bay of Plenty District Health Board (DHB) to her late father, Mr A. The following issue was identified for investigation:

   - *Whether Bay of Plenty District Health Board provided an appropriate standard of care to Mr A in 2017.*

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

9. The parties directly involved in the investigation were:

Mrs A	Consumer's wife
Complainant	Mr A's daughter
Bay of Plenty DHB	Provider

10. Further information was received from an ambulance service.

11. Other parties mentioned in this report:

Dr B	Senior house officer (SHO)
Dr C	Emergency Department consultant

12. Independent expert advice was obtained from an emergency physician, Dr Shameem Safih, and is included as Appendix A.

Information gathered during investigation

Background

13. Mr A, aged in his nineties at the time of events, presented to the Emergency Department (ED) of the public hospital with abdominal pain on a Saturday afternoon. He was examined and discharged later that evening. Mr A was readmitted the next morning after being transported by ambulance in a severely ill condition. He was advised that his condition was serious and that nothing more could be done for him, and to gather his family around him. He died at 12.40pm on Tuesday.

14. The cause of Mr A's death was an ischaemic bowel[2] and a superior mesenteric artery thrombus.[3]

[2] Reduced blood flow to the large intestine causing a shortage of oxygen to the area.
[3] A blockage in one of the main arteries that supplies blood to the intestines.

First presentation to ED — Saturday

15. Mr A presented to the ED with his wife, Mrs A, at 3.13pm on Saturday. He complained of severe abdominal pain that had been sporadic over the previous few days but was much worse that day. Mr A's family describe him as a "stoic" man who would not have requested to be taken to hospital unless he was in immense pain.

16. Mr A told ED staff that he had vomited once that morning and it had been a brownish/red colour. He had not had a bowel motion for two days but had had some loose stools earlier in the week and had not noticed any bleeding from his rectum or dark tarry stools.

17. Initially Mr A was triaged by a registered nurse. The nurse assessed Mr A's pain score as being within the range of 1–3 out of 10, with 10 being the most painful. Mrs A recalls him describing his pain to her as 8 out of 10. His temperature was normal and he is documented as showing no signs of distress. Mr A was given a triage category of 4.[4] His blood pressure was not recorded at this time.

18. At the time of Mr A's presentation to ED, the department was in "variance response management (VRM)[5] yellow", which indicates that the department was becoming busy and under strain.

19. At 3.36pm, approximately 20 minutes after his arrival at the ED, Mr A was assessed by the waiting-room nurse and was given paracetamol and ibuprofen.[6] Bay of Plenty DHB told HDC that a wait of 20 minutes for pain relief would be outside its expected standard. A urine test was taken and showed no abnormality.

20. At 4.23pm, Mr A was assessed again by the waiting-room nurse. His routine observations were taken (not including blood pressure) and a falls risk was performed. He was experiencing discomfort whilst sitting, so was made comfortable lying down in the Whānau Room located in the ED.

21. Mr A was given codeine[7] for abdominal pain at approximately 7pm. His respiration rate and pulse were recorded but not his blood pressure.

22. Bay of Plenty DHB told HDC that because the ED was busy, one extra staff member was called in and arrived at 7.00pm. The department was at 150% occupancy.

23. Mr A was reviewed by Dr B, a senior house officer, at approximately 7.30pm after being moved to a bed in the corridor. Dr B told HDC that when he assessed Mr A, he was uncomfortable but not in distress. On palpation, Mr A's abdomen was soft but tender in

[4] In New Zealand, EDs use the Australasian triage scale to indicate how urgently treatment is required for each individual patient. The scale used has five triage categories, with 1 being the most urgent score and 5 being the least urgent score. A score of four is described as "potentially serious, or potential adverse outcomes from a delay >60 min, or significant complexity or severity, or discomfort or distress".

[5] Bay of Plenty DHB utilises an electronic tick box tool (VRM) that instantly flags how busy a ward is at that time across the whole hospital using a colour coding system.

[6] Oral pain relief medication.

[7] Opioid pain medication used for the relief of moderately severe pain.

some areas. Blood tests showed elevated inflammatory markers, which Dr B documented could have been caused by infection, inflammation, or steroids. The blood tests also showed normal liver and renal function and mildly raised amylase,[8] which was consistent with an inflammatory response. A chest X-ray did not show anything of concern.

24. At 8.59pm, Mr A's observations were recorded, including blood pressure, and the results were within normal ranges.

25. Dr B recalls discussing Mr A's case with Dr C, the only ED consultant on duty that Saturday evening. Dr B told HDC that this was necessary as he was a junior doctor at the time, and at this point had been working in the ED for only six weeks.

26. Dr C did not see Mr A personally, and does not recall discussing him with Dr B. No discussion is documented in the nursing or medical notes.

27. Dr B explained to HDC that in weighing up all the information presented, a decision was made to treat Mr A for potential gastritis[9] causing abdominal pain, and minor gastrointestinal bleeding causing the brownish/red vomit. Dr B described this as a provisional diagnosis, as there was no way of confirming it without performing a gastroscopy,[10] and this investigation was unavailable on a Saturday evening.

28. Mr A was treated with intravenous omeprazole[11] and paracetamol and observed for another three hours.

29. Dr B told HDC that because Mr A's pain had improved, he had had no further vomiting, and his vital signs were normal, following a further discussion with Dr C it was decided that Mr A could be discharged with an increased dose of omeprazole and follow-up by his general practitioner the following Monday morning to ensure that he continued to improve. Mr A was advised to return to the ED if he did not improve. Dr B stated that Mr and Mrs A agreed with this plan.

30. At 10.47pm on Saturday, Mr A was discharged. Documentation from his admission, including the discharge summary, did not include information such as the time Mr A was seen, the explanation for the diagnosis made, differential diagnoses, and advice given at discharge.

Period between hospital admissions

31. Mr A's family told HDC that during the night after he was discharged from the ED, Mr A slept but must have pressed his medic alert bracelet, as the ambulance service knocked on the door in the night. Mr A was not uncomfortable, so was not examined, and he went back to sleep.

[8] An enzyme that helps to digest carbohydrates.
[9] An inflammation of the protective lining of the stomach.
[10] A procedure whereby the lining of the upper part of the gastrointestinal tract (oesophagus, stomach, and duodenum) is examined with a small camera.
[11] Medication that reduces the amount of acid present in the stomach.

32. The ambulance service confirmed that this incident was cleared as "ambulance not required".

33. The following morning, Mr A complained to family of an aching stomach. Family state that he then proceeded to vomit "copious amounts of blood" a number of times. An ambulance was called at 7.24am.

34. An ambulance arrived at 7.54am, and crew assessed Mr A for abdominal pain and determined that he had been vomiting blood since earlier that morning. The ambulance crew noted that he had been at the ED the previous day with a history of abdominal pain for a number of weeks. He was then transported to the ED by ambulance.

Second presentation to ED — Sunday

35. Mr A was seen in the ED at approximately 9am. He was noted to have worsening pain and a tender and distended abdomen. He was referred to General Surgery for assessment.

36. A computerised tomography (CT) scan[12] of Mr A's abdomen undertaken at 9.35am showed a superior mesenteric artery thrombus and an ischaemic bowel.

37. A discussion was held with Mr A's family, who were told that Mr A's prognosis was poor. Comfort cares were provided until Mr A passed away on Tuesday.

Further information from Bay of Plenty DHB

ED workload on Saturday

38. On Saturday, Dr C was the only senior doctor working in the ED. Dr B was one of three house officers and clinical nurse specialists working with Dr C during the shift when Mr A presented. Each of them asked for advice when needed, and Dr C also had her own workload of patients.

39. During the Saturday shift on which Mr A presented, there were 72 attendances to the ED. This was higher than the average at the time, and constituted 53% of the total attendances over the 24-hour period. Further, the rate of arrival of new patients per hour was increasing and, as a result, department occupancy was building up. At 2pm — approximately one hour before Mr A arrived at the ED — 16 patients had yet to be seen.

Changes made/reflection since events

40. The DHB advised that the following has occurred since these events:

- There has been an increase in the number of senior doctors on each ED shift on most days to enable one senior doctor to concentrate on the junior doctors, and a second to be able to concentrate on treating other patients. This has resulted in all patients now being discussed with a senior doctor and reviewed as needed.
- It is in the process of rolling out an Acute Surgical Abdomen Pathway to improve the care and management of patients who present with abdominal pain. Red flags for

[12] A type of X-ray that gives a highly detailed picture of organs and other structures in the body.

immediate discussion with ED SMOs include an age of over 55 years and significant co-morbidities.

- It has used Mr A's case at both junior doctor teaching sessions and in morbidity and mortality meetings to highlight the difficulties in assessing elderly patients. It has also highlighted to junior staff the unsafe nature of sending home elderly patients overnight, and has provided clear advice that this should not occur (this has been implemented in the DHB's Observation Suite Management Policy).

Further information from Dr C

Changes made/reflection since events

41. Dr C told HDC the following:

- She now actively encourages her junior doctors to document clearly all discussions with a senior doctor.
- Since these events, she has undergone the Medical Council of New Zealand intern supervisor teaching session, and is now employed as a prevocational educational supervisor. In this role she has learnt new skills for supervising junior doctors and managing those who have difficulties.
- After these events she met with Dr B and his educational supervisor to discuss Mr A's case and to examine the learning points and clinical signs of mesenteric thrombus.
- Since these events, she has made a concerted effort to be aware of all patients in her department, especially the frail. She noted that on a busy shift this is not always possible, but that it has become easier to achieve with the increased number of senior doctors on each shift. She stated that she has also made an effort to ask further questions and elicit detail from junior doctors, especially those who are reserved in their character.

Further information from Dr B

42. When first contacted regarding this complaint, Dr B told HDC that his review of Mr A's admission to ED has provided him with the opportunity to reflect on the clinical decisions made at the time. As a learning opportunity, he has engaged with senior staff to talk about learning points and what could have been done differently. He expressed his deepest sympathies to Mr A's family.

43. Dr B is no longer living and working in New Zealand. Since this complaint was initially made to HDC he has returned to his home country and was unable to be contacted to draw the matter of this formal investigation to his attention or retrieve further comment.

Responses to provisional decision

44. Bay of Plenty DHB was given an opportunity to comment on the provisional decision. The DHB advised HDC that it has no further comment to make.

45. Mr A's family were given the opportunity to comment on the "Information gathered during investigation" section of the provisional decision report. Where appropriate, their comments have been incorporated above.

Opinion: Bay of Plenty DHB — breach

46. District health boards are responsible for the operation of the clinical services they provide. In addition, they have a responsibility for the actions of their staff, and an organisational duty to facilitate continuity of care. This includes ensuring that staff are adequately trained and familiar with appropriate guidelines, that resources are available, that junior staff are provided with adequate support, and that all staff communicate effectively. It also requires appropriate systems to be in place to ensure that necessary tests and assessments are undertaken and results are monitored, even in circumstances in which workloads are high.

Lack of timeliness of review and inadequate assessment

47. On Saturday, Mr A was not seen by a doctor until four hours after he arrived at the ED. Initially, he was not given a bed, and instead was placed in the Whānau Room. He was allocated a triage category of 4. There was a five-hour delay in taking a complete set of vital signs for Mr A after he arrived in the ED (his blood pressure was not taken until five hours after his arrival), and he was incorrectly diagnosed as having gastritis.

48. My expert Emergency Medicine advisor, Dr Shameem Safih, advised me that for an elderly patient with abdominal pain, a wait time to be seen of this length is risky. Dr Safih noted that there was only one supervising consultant during this shift, and considers the wait time to be a mild to moderate departure from the accepted standard of care.

49. Dr Safih explained that when overloaded, EDs are forced to place patients in inappropriate places. When this happens, every effort should be made to clear cubicle beds for patients who need to be in a bed. Dr Safih stated that despite the circumstances and this being the best they could do, not placing Mr A in a proper ED cubicle in a bed was a mild to moderate departure from the accepted standard of care.

50. Dr Safih noted that the Australasian College for Emergency Medicine (ACEM) guidelines recommend a triage category of 3 for an elderly patient with undifferentiated abdominal pain and no high-risk features apart from age. Mr A was given a score of 4. Dr Safih stated that in reality, changing the category from 4 to 3 in a busy department does not often translate to the patient being seen with any more urgency. For these reasons, Dr Safih considers the incorrect triage score to be a learning point rather than a departure from a standard.

51. Dr Safih also advised that elderly patients with abdominal pain must have their blood pressure taken as part of the initial nursing assessment. He stated that in terms of process, even if the department is busy, this is a serious departure from accepted standards.

52. Further, Dr Safih explained that a tender abdomen in an elderly patient is a "red flag", even if it is soft and there is no guarding (tensing of the abdominal wall when the abdomen is palpated). He considers that this should not have been attributed to gastritis. In an elderly patient, more serious causes need to be ruled out first. Dr Safih noted that the misdiagnosis reflects the relative inexperience of Dr B, and advised that this constituted an important lesson to be learned for Dr B.

53. I accept Dr Safih's advice regarding the timeliness of review of Mr A when he first presented to ED on Saturday, and the adequacy of the assessment. I am critical that Mr A was not assessed in a timely manner, and that when he was assessed, the assessment was inadequate.

Supervision of junior doctors/senior doctor input

54. Mr A was reviewed by Dr B, a junior doctor, at approximately 7.30pm on Saturday. Dr B recalled discussing Mr A's case with Dr C, who was the only ED consultant on duty that Saturday evening. Dr C did not see Mr A personally, and does not recall discussing him with Dr B.

55. Dr B discharged Mr A later that evening, and described discussing the decision with Dr C. However, Dr C does not recall any such conversation taking place, and no discussion is recorded in the clinical notes.

56. Based on the facts presented to me, there appears to have been inadequate supervision of Dr B as a junior doctor, and I am also concerned that no senior doctor saw Mr A.

57. Mr A was an elderly patient with a complex clinical presentation. Dr Safih considers that in this instance, there was a failure in terms of appropriate supervision of Dr B, and I accept his advice. Dr Safih stated that inadequate supervision represents a mild to moderate departure from the expected standard.

58. Dr Safih noted that it is not possible for a consultant in a busy department to see every patient, especially a lone consultant having input into the care of the sickest patients. He advised that "the level of consultant input provided (none vs discussion only vs direct review of the patient) depends on a number of factors such as how sick the patient is, the consultant's personal clinical load, the consultant's knowledge of the junior's skills and the junior doctor's level of comfort managing the patient". Dr Safih noted that Mr A was a high-risk patient, and at the very least he would have expected a discussion between Dr B and the supervising consultant to have occurred. Dr Safih believes that under normal circumstances (i.e., less busy), almost certainly the consultant would have examined Mr A's abdomen herself.

59. It is noted that there was only one consultant on duty for what was a very busy shift, and that Bay of Plenty DHB has introduced an extra consultant shift during weekends, which

should help with broader supervision. However, I remain concerned that appropriate systems were not in place to account for a busy shift. Adequate staffing and resourcing allows for appropriate supervision of junior doctors, and is necessary for the effective operation of an ED. It is not surprising that in the absence of these two crucial elements, Mr A's care fell below the accepted standard.

Inadequate documentation

60. Dr B did not document crucial discussions with Dr C, or the time at which Mr A was seen, the explanation for the diagnosis, differential diagnoses, and the advice given at discharge.

61. Dr Safih advised that good documentation is critically important, and I agree. While clinical records do not need to be exhaustive, they certainly do need to cover all the essential aspects of the patient's care, such as discussions between clinicians, the time at which a patient is seen, consideration of differential diagnoses, and a plan of management. Contemporaneous documentation of key decisions is essential in that it allows for communication between clinicians, and thus effective coordination of care. Further, as advised by Dr Safih, the patient should be provided with good written follow-up advice. In Mr A's case, this did not happen, and Dr Safih considers this to represent a mild to moderate departure from standards. The completion of an accurate discharge summary containing relevant information is a basic requirement that should have been met.

Conclusion

62. Having carefully considered the information provided by Bay of Plenty DHB, as well as the expert advice provided to HDC, I am critical that the care provided to Mr A on Saturday was deficient in the following respects:

- Mr A was not seen by a doctor until four hours after arriving at the ED.
- Initially, Mr A was not given a bed, and instead was placed in the Whānau Room.
- Mr A was given an incorrect triage category.
- There was a five-hour delay in taking a complete set of vital signs for Mr A after he arrived in the ED.
- Mr A was incorrectly diagnosed as having gastritis.
- There was a lack of supervision of a junior ED doctor.
- No senior doctor saw Mr A in person.
- The documentation of Mr A's care was inadequate.

63. As a consequence of the above failures, Mr A was not assessed adequately and was discharged inappropriately, and opportunities were lost to identify and respond to his condition appropriately.

64. Whilst I acknowledge that the ED was particularly busy on Saturday night, I consider that Bay of Plenty DHB should have had systems in place to support staff to manage such surges in workload, which are not uncommon in an ED setting.

65. As a healthcare provider, Bay of Plenty DHB is responsible for providing services in accordance with the Code of Health and Disability Services Consumers' Rights (the Code). In this case, I consider that the errors that occurred are indicative of broader systems and resourcing issues at Bay of Plenty DHB. For the reasons outlined, I find that Bay of Plenty DHB breached Right 4(1)[13] of the Code by failing to provide services to Mr A with reasonable care and skill.

Recommendations

66. I recommend that Bay of Plenty DHB:

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

b) Provide HDC with an update on the Acute Abdominal Pathway document and its implementation, within three weeks of the date of this report.

c) Conduct an audit of the past three months of ED wait times and whether these times correlate to the triage category ascribed to each presenting patient, and provide HDC with the result of the audit within four months of the date of this report.

d) Provide junior ED doctors with clinical documentation training, and provide evidence of this to HDC within four months of the date of this report.

Follow-up actions

67. A copy of this report with details identifying the parties removed, except Bay of Plenty DHB and the expert who advised on this case, will be sent to the Health Quality & Safety Commission and placed on the HDC website, www.hdc.org.nz, for educational purposes.

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

Appendix A: Independent advice to the Commissioner

The following expert advice was obtained from Dr Shameem Safih:

"My name is Shameem Safih. I am a Fellow of The Australasian College of Emergency Medicine and have been in practice as a specialist for over 20 years.

The Health and Disability Commissioner has requested me to provide advice in the case of [Mr A]. [Mr A] was taken to [the Emergency Department] on [Saturday] with abdominal pain. He was seen, assessed and discharged with pain relief medication and medication for treatment of the presumed diagnosis of gastritis. He returned the next day with worsening pain and greater distress. This time he was referred to the surgical speciality and a CT scan was done. This showed mesenteric artery thrombosis and ischaemic bowel. The condition was considered not amenable to further treatment. He was provided comfort cares until he passed away on [Tuesday].

Expert Advice requested

The specifics of the request are as follow: Advise whether I consider the care provided to [Mr A] by [the ED] was reasonable in the circumstances, and why. In particular, please comment on: Whether [Mr A] should have received an abdominal CT scan on [Saturday]. When answering this question, please advise: What is the standard of care/accepted practice? If there has been a departure from the standard of care or accepted practice, how significant a departure do you consider this to be? How would it be viewed by your peers? Recommendations for improvement that may help to prevent a similar occurrence in future.

I have reviewed the following documents:

Letter of complaint dated […]
Bay of Plenty District Health Board's response
Clinical records from BOP DHB covering [the period]
Statements by [Dr C] and [Dr B].

Review of Clinical Notes

[Mr A] was a [man in his nineties] who was brought to [the] Emergency department on [Saturday] with abdominal pain. His medical history was significant for:

Coronary Artery Bypass Graft
Moderate Mitral and Tricuspid valve regurgitation
Congestive Heart failure
Aortic valve replacement
Encephalomalacia with cortical infarcts and microvascular ischaemia
Pacemaker for 3rd degree heart block.

He was on a number of medications, namely aspirin, clopidrogel, quinapril, isosorbide mononitrate, and furosemide. He was triaged at 1513 hours. At the time of triage his pain is recorded as being mild (1 to 3 out of 10). However in the complaint letter the

family mentioned that the pain was severe and I believe it may have been moderate to severe prior to presentation to the hospital. His pulse and temperature are recorded at 80 per minute and 36.2 deg C respectively. These in themselves are unremarkable. He is noted to have vomited once — this is later noted by the doctor and a nurse to have appeared reddish brown in colour. The thought was the vomit may have contained blood. He was triaged as a Category 4. This triage is not in alignment with the recommendation by the Australasian College of Medicine: 'Abdominal pain without high risk features — moderate or severe or if the patient's age is greater than 65 years should be triaged as a Category 3'. This may not have affected the outcome or the actual time to being seen by a doctor, but it does signal to medical staff that the patient is in a more acute category for one of the following reasons (extract from ACEM document on Triage).

> '**Potentially Life threatening** The patient's condition may progress to life or limb threatening, or may lead to significant morbidity, if assessment and treatment are not commenced within thirty minutes of arrival **or Situational Urgency** There is potential for adverse outcome if time-critical treatment is not commenced within thirty minutes **or** Humane practice mandates the relief of severe discomfort or distress within thirty minutes.'

The next set of observations recorded is at 1623 hours. A heart rate, respiratory rate and temperature are recorded. He has two further sets of recordings, one at 1850 and the final set at 2039 (? 2059). His blood pressure was not taken until this last time, more than 5 hours after arrival at the ED. This 5 hour delay in taking a complete set of vital signs does not meet standard of care. An elderly patient with abdominal pain suspected to have vomited blood should have a blood pressure recorded on arrival, at or soon after triage. This is a significant departure from standard of practice.

While these are reminders of good practice (triage category and completion of vital signs) they did not make a difference to the outcome in this case. From triage [Mr A] was placed in the Whānau room. He was apparently not brought into the main department. The family have complained that he was in severe pain and wanted to lie down but this need was not provided in time. Nursing entry at 1625 (over an hour later) indicates he was lying down in the whānau room. He was given medications: paracetamol and ibuprofen at 1546, codeine at 1859. He was given omeprazole at 2115 and some more paracetamol at 2156. He was seen by a 3rd year house officer, [Dr B]. The time seen is not recorded. In their complaint letter the family have stated that he was not seen by a doctor until 2230. The nursing note at 1850 states he was seen by an ED doctor, given intravenous omeprazole and an x-ray of the abdomen was requested. It is likely that he was seen earlier than the family's impression, which suggests there was a gap in communication between ED staff and the family. Regardless, a delay of 3 hours to see [a man in his nineties] with abdominal pain is below the expected standard of care. However in busy emergency departments especially when there is a surge in number or acuity of presentations medical resources get overwhelmed and this delay is not an infrequent occurrence.

[Dr B] notes the presenting complaints of abdominal pain, vomiting and frequency of micturition. In the history he notes 1 week of abdominal pain which became severe on the day of presentation to the ED, associated with one vomit of reddish brown material. He says there was some diarrhoea before the vomiting. The pain at the time of examination was 3 out of 10 (after paracetamol, ibuprofen and codeine). He also noted the symptoms of frequency of micturition without pain, and a dry cough. He noted the absence of fever, sweating and chills. On physical examination he says [Mr A] was uncomfortable. There was tenderness in the upper and lower abdomen in the middle (epigastrium and hypogastrium) and in the left upper quadrant. He did a rectal exam looking for bleed (given the history of bloody vomit) but this was negative. He noted the following findings of the blood tests: amylase 139 (which is mildly raised), neutrophils 15.1 (which could imply stress or infection) and a C-reactive protein of 15 (another inflammatory marker which was not significantly raised). Blood urea was normal (usually this would be expected to be raised with significant bleed in the bowel). He formed the impression that [Mr A's] problem was a duodenal ulcer. Later he revised this diagnosis to gastritis. He ordered IV omeprazole and reviewed [Mr A] 3 hours later. He then discharged [Mr A] on paracetamol, oral omeprazole and a recommendation that he follow up with his GP. A clear list of differential diagnoses is not apparent from his documentation. From his investigations he appears to have thought of pancreatitis, gastritis and duodenal ulcer. In his statement he says he consulted with the Emergency Medicine Consultant on duty before proceeding with the decision to treat as he did. He says prior to discharge he discussed the disposition with the ED consultant ([Dr C]) again. However, he has not documented any of this. If he did consult and received advice it would have been appropriate for him to have documented this. In her statement, [Dr C] does not recall having any discussion about [Mr A] with [Dr B].

To summarize this first presentation, [Mr A] presented with abdominal pain which may have fluctuated between mild and severe, had fairly normal vital signs, but had a tender abdomen, and was suspected to have vomited a small amount of blood. He was seen by a 3rd year house officer, diagnosed as having gastritis and discharged on treatment for gastritis. The next day [Mr A] returned with worsening pain and a tender and distended abdomen. He was seen by an ED doctor and referred to the general surgeons. A CT abdomen was obtained. This showed superior mesenteric artery thrombosis (blockage by clot of the blood vessel supplying a large part of the intestines), and ischaemic bowel. His prognosis at this presentation was poor. A discussion was held with the family about ceiling of care and comfort cares were provided until he passed away on [Tuesday]. Even if the diagnosis had been made on the first presentation, the outcome would probably have been no different for several reasons, including the age and the co-morbidities. The condition carries a high mortality with or without treatment (59 to 93%).

In summary the main issues around the first presentation are: The triage category was 4. It could have been raised to 3 because of his age. There was a 3 hour delay in seeing [Mr A]. His placement in the department in terms of comfort and quality of care (failure to provide a bed initially) left the family disappointed. He was seen by a third

year junior doctor. This junior doctor was inadequately supervised. No senior person saw [Mr A]. A diagnosis of gastritis was made without consideration of other serious conditions. A CT scan was not done. [Mr A] was discharged from the emergency department.

Opinion Advise whether you consider the care provided to [Mr A] by [the ED] was reasonable in the circumstances, and why.

The care provided at the first presentation fell below standard of care. A [man in his nineties] with abdominal pain should have life-threatening conditions ruled out. These include vascular disorders like ruptured abdominal aortic aneurysm, dissection of the aorta, superior mesenteric artery thrombosis, bowel obstruction, diverticular disease, appendicitis, pancreatitis, and biliary tract disease (infections). The elderly do not have the same physiological response to abdominal pathology as a younger person. They could have serious pathology but minimal findings on abdominal examination. The temperature and heart rate may be normal. The blood pressure may appear to be normal. Blood tests such as white cell count and CRP are also unreliable in the elderly. The diagnosis of gastritis in an elderly patient with abdominal pain should not be made unless the clinician is fairly confident that no other serious condition could be causing the pain. Making the diagnosis of relatively benign conditions such as gastritis, gastroenteritis, constipation and renal colic in the elderly without advanced imaging is associated with a high clinical risk. The house officer should have been more closely supervised. In the busy emergency department it is usually not possible for the supervising consultant to see every patient that a junior discusses with them. However high risk patients can be identified and these should be personally examined by a senior. An elderly patient with abdominal pain comprises one of the highest risk populations of patients seen in day to day practice in the ED. Physical examination of the abdomen cannot differentiate acute mesenteric ischaemia from other abdominal pathology. Physical findings may be minimal but the pain perceived by the patient is severe, described as being disproportionate to the findings.

The documentation by [Dr B] is poor. He should have documented his discussion with the senior. He should have also clearly written the time he saw the patient, and in his written notes a differential diagnosis and a plan of management. There were other prudent courses of action available, such as referral to general surgery on the first presentation, or admission to a short stay unit in ED for observation. A bedside ultrasound could have been done looking for an abdominal aortic aneurysm. A blood gas could have been done which may have showed raised lactate levels, a marker of intestinal ischaemia. In particular, please comment on: Whether [Mr A] should have received an abdominal CT scan on Saturday. I think a physical review and a second opinion from a more senior person were definitely indicated. This person could have been the supervising ED consultant or the surgical registrar. The review would have led to any one of a number of immediate outcomes: discharge, extended observation, admission, further investigation (bloods and bedside ultrasound) and a CT scan. Should he have received a CT scan? In most NZ hospital EDs, a house officer is unable to request a CT themselves. The request needs to go through an ED consultant or the

surgical services. Even then whether a CT scan is obtained or not depends on the degree of clinical suspicion for a potentially serious condition. Unfortunately, history, physical examination and laboratory findings are unreliable in the elderly. In a study addressing this question Esses et al found that diagnosis and disposition were altered by CT in about one half and one quarter of patients respectively. This is quite a significant finding. Ref: Ability of CT to Alter Decision Making in Elderly Patients with Acute Abdominal Pain, Am J Emerg Med 2004; 22; 270–272. CT scan as a diagnostic tool should be easily available to ED clinicians. There should be a low threshold for doing CT in the elderly with undifferentiated abdominal pain. In some hospitals in NZ it is not easy for the ED doctor to obtain a CT scan. Radiologists often insist on justification for the test on the basis of blood tests and physical findings, all of which can be unreliable in the elderly. They may ask for a surgical review first. The answer to the CT question is yes, with the benefit of hindsight, it should have been done during the first presentation.

When answering this question, please advise: What is the standard of care/accepted practice?

Currently it is not standard of care to do a CT scan on all elderly patients with abdominal pain as a first step. Whether a scan is obtained or not, and how urgently it is done depends on the individual case, the clinician's impression. For example if an unstable patient is suspected to have a ruptured aortic aneurysm clinically and on bedside ultrasound they do not need a diagnostic CT scan. On the other hand with undifferentiated acute abdominal pain in the elderly, a CT scan is generally the standard of care. In this case it was thought that the patient had gastritis. One would not do a CT scan for gastritis but one would think several times before making this diagnosis in the first place. It would be prudent to do a CT scan to rule out other more serious pathology.

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

In this particular case, I would consider not doing the CT scan to be a mild to moderate departure from accepted practice.

How would it be viewed by your peers?

On its own this would be viewed as mild to moderate departure from expected standard of care. Standard of care includes the whole package of junior supervision, review by senior, referral to general surgery and admission for observation, and doing a CT scan in the right patient.

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

My recommendations specific to this case would be: Elderly patients with abdominal pain should be regarded as a high risk group. They should be assessed promptly,

according to triage category. Junior doctors in the emergency department should be supervised closely. Ideally this group of patients should be examined by the supervising ED consultant, or by a senior ED registrar or by the surgical services. The threshold for CT scan in the elderly with acute abdominal pain should be low. The pathway to CT scan should be worked out in a collaborative way between the emergency department, surgical and radiology specialities.

Shameem Safih FACEM"

The following further advice was obtained from Dr Safih:

"I provided an opinion on care provided to [Mr A] at [the public hospital] on his first presentation to the hospital [in] 2017. The HDC approached the DHB to respond to my comments and in particular to clarify

1. the obligations of junior physicians to consult or report to senior physicians
2. the process of escalating concerns in ED, and
3. the process around the discharge of patients from ED, including specific information relating to discharging patients of [Mr A's] nature.

The Bay of Plenty DHB has supplied the HDC with [the] ED RMO (Resident Medical Officers) Orientation handbook and also provided a response to my report. The RMO orientation handbook is excellent and covers the issue of supervision and the pitfalls associated with the assessment of abdominal pain in the elderly.

The HDC has now asked me to consider whether the response changes my advice, in particular with regard to the severity (mild/moderate/severe) of the departures relating to the 5 hour delay in taking a complete set of vitals and the omission to perform a CT scan, and if so to set out the reasons why.

Further I have been asked to clarify the following specific points I had made

- Triage category not correct
- 3 hour delay in seeing [Mr A]
- Placement in the department in terms of comfort and quality of care (failure to provide a bed initially)
- Inadequate documentation by House Officer [Dr B] (e.g. discussions with ED Consultant, time seen by [Dr B], explanation for change in diagnosis, differential diagnoses/plan of management not documented)
- The diagnosis of gastritis was made without consideration of other potentially more serious conditions
- Inadequate supervision of junior doctor ([Dr B])
- No senior doctor saw [Mr A]
- [Mr A] was discharged from the Emergency Department.

The HDC has asked me to state if these departures were mild, moderate or severe. The HDC has also asked me to clarify what I consider the overall level of departure in the standard of care at the first presentation to have been.

The first thing to note is that in their response the DHB acknowledges the shortcomings in the care provided to [Mr A] and have undertaken measures to address them.

My comments on each of the points raised is as follows:

1. Triage category not correct

[Mr A] was [in his nineties]. He had multiple comorbidities. He presented to the hospital with abdominal pain. There may be some disagreement between triage and the family on how severe the pain at presentation was. The triage nurse has documented the pain as being mild. A full set of vital signs was indicated but only the heart rate and the temperature were done. A blood pressure should have been done at triage or soon afterward. [Mr A] was given a triage category of 4. ACEM guidelines would recommend a triage Category of 3 for an elderly patient with undifferentiated abdominal pain and no high risk features apart from age. Triage looks at a patient at a moment in time and it can be subjective. It answers the question of how long a patient can wait safely prior to be seeing by a clinician. It is based on history, vital signs and the degree of life or limb threat. The assessment is done quickly often with minimal information. This is problematic in the elderly who even with serious pathology can present with vague and mild symptoms and can look deceptively well. This is why ACEM triage guidelines recommend up-triaging the elderly patient with abdominal pain. A higher triage category makes the clinician more vigilant for potentially serious and life-threatening illness. In reality, changing the category from 4 to 3 in a busy department does not often translate to the patient being seen with any more urgency. For these reasons I regard the shortcomings of triage more as learning points than a departure from standard.

2. 3 hour delay in seeing [Mr A]

Triage is meant to be done immediately or at least within minutes of patient arrival. ACEM recommends that a minimum of 70% of Category 4 patients should be seen within 1 hour of triage, and a minimum of 75% of category 3 patients should be seen within 30 minutes of triage. In a busy department significant delays in these two categories are common, as staff focus on the more acutely unwell patients (category 1 and 2). [Mr A] wasn't seen until 3 hours after arrival. For an elderly patient with abdominal pain this delay can be quite risky. However in a very busy department such delays are not uncommon. Regular nursing observations can mitigate the risk. I regard this departure from recommended waiting time as mild to moderate rather than severe. If these delays are happening consistently then the DHB needs to look at safer staffing levels or alternative strategies for ensuring the safety of waiting patients.

3. Placement in the department in terms of comfort and quality of care (failure to provide a bed initially)

When [a man in his nineties] with abdominal pain is placed in the whānau room because the department is blocked then the expected quality of care is not met. Location in the department often determines the level of care provided. When overloaded, EDs are forced to place patients in inappropriate places like the corridor, the waiting room or the whānau room, as in this case. When this happens every effort should be made to clear cubicle beds for patients who need to be in a bed. In their response the DHB has said they are addressing patient flow through the ED.

While given the circumstances this probably was the best the ED could do, I consider not placing [Mr A] in a proper ED cubicle in a bed a mild to moderate departure from standard.

4. Inadequate documentation by House Officer [Dr B] (e.g. discussions with ED Consultant, time seen by [Dr B], explanation for change in diagnosis, differential diagnoses/plan of management were not documented)

Good documentation is critically important, and while it does not need to be exhaustive, it certainly needs to cover all the essential aspects of a patient episode. The patient should be provided with good written follow up advice. [Dr B] did document some pertinent stuff but also missed out on some important aspects of the episode. In particular there is no record of the alleged consultation with [Dr C], and [Dr C] does not recall being consulted. It is also not clear what discharge instructions he gave to [Mr A] and his family. The documentation in this case represents a mild to moderate departure from standard.

5. The diagnosis of gastritis was made without consideration of other potentially serious conditions

There was no standard breached here but there is a lesson to be learned for the junior doctor. Blood investigations had been done which ruled out pancreatitis and made infection less likely (although blood tests for infection are unreliable in the elderly). Gastrointestinal bleed was also considered (hence the rectal examination to look for bloody stool). [Dr B's] initial impression was of a duodenal ulcer and his discharge diagnosis was gastritis. The basis for these diagnoses is not clear. He did not consider the possibility of the more serious vascular disorders like aortic aneurysm or mesenteric ischaemia. In this scenario most ED doctors would consider doing a bedside ultrasound. A raised serum lactate may have been a clue to mesenteric ischaemia. It is necessary to approach the elderly patient with abdominal pain with a 'rule out the worst-case scenario' approach.

6. Inadequate supervision of junior doctor ([Dr B])

[Dr C] does not recall discussing [Mr A] with [Dr B]. Inadequate supervision represents a mild to moderate departure from the expected standard. In mitigation, there was only one consultant for what seems to have been a busy shift. The RMO handbook clearly says the RMO should consult with the consultant within half an hour of seeing a patient

so some of this onus lies with the RMO. The DHB has introduced an extra consultant shift in the weekend which should help with broader supervision.

7. No senior doctor saw [Mr A]

See comments under 6 above. It is not possible for a consultant (esp if they are the lone consultant having input into the care of the sickest patients in a busy department) to see every patient. The level of consultant input provided (none vs discussion only vs direct review of patient) depends on a number of factors such as how sick the patient is, the consultant's personal clinical load, the consultant's knowledge of the junior's skills and the junior doctor's level of comfort managing the patient. [Mr A] was a high risk patient and at the very least I would expect a discussion between [Dr B] and the supervising consultant to have occurred.

8. [Mr A] was discharged from the Emergency Department.

There is no clear universal standard. [Dr B] based the discharge on his impression and his diagnosis at the time.

The challenge is to determine which patient needs to be admitted and which patient is safe to be discharged. Not every elderly patient with abdominal pain will be admitted. Some will clearly have a benign problem that resolves. Patients who are discharged should have life threatening causes ruled out. This can be on the basis of a combination of history, examination, investigation, observation and response to treatment. However it would be fairly standard to admit an elderly patient if the pain is ongoing and if the cause of the pain is unclear. In this case it is not clear whether [Mr A's] pain had completely resolved. Given what is known about the cause of his pain, it probably wasn't resolved. [Dr B] acted upon the diagnosis he had made.

9. 5 hour delay in taking a complete set of vital signs

The blood pressure was not done until 5 hours after arrival. An elderly patient with abdominal pain must have their blood pressure taken as part of the initial nursing assessment. In this case it probably did not make any difference to the management or the outcome, and was probably an inadvertent omission, but in terms of process, even if the department was busy, this is a serious departure from standard.

10. Not doing the CT

This cannot be considered in isolation. There are a number of factors that lined up here — low triage score, junior doctor, an incorrect diagnosis, and no senior review. I probably would be quite critical if a senior physician or a senior registrar saw a 90 year old man with undifferentiated abdominal pain and a tender abdomen, and discharged him without advanced imaging (and without resolution of symptoms). The junior ED doctor is probably not allowed to request a CT on his own. But there are other things he can or must do, such as discussing the patient with his own consultant, or referring them to a speciality service, in this case, the surgeons. Therefore I do not criticize [Dr B] for not obtaining the CT scan.

11. Overall departure from standard of care at the first presentation

There probably were multiple factors at play here, such as poor patient flow, ED overcrowding, busyness of the department, and presence of higher acuity patients. For these and possibly other reasons there was failure of supervision of the junior and lack of consultant input. An incorrect diagnosis was made at the first presentation and contributed to increased pain and suffering. Doing things differently at the first presentation may not have altered the final outcome. Regardless, I consider the overall care provided to [Mr A] at the first presentation to be a moderate departure from the expected standard of care.

Shameem Safih"

The following additional comment was obtained from Dr Safih:

"My name is Shameem Safih. I am an Emergency Physician. I had given the Health and Disability Commissioner (HDC) my opinion on care provided to [Mr A] at [the public hospital] [in] 2017.

The DHB has produced more documents for review.

1. Statement from triage nurse. This is a brief statement describing their triage assessment. This does not change my opinion about the appropriate triage category. As I said previously the assignment of a higher acuity when triaging an elderly patient as per ACEM guidelines is a learning point and not a point of criticism. Elderly patients with abdominal pain should be up triaged. They should have a blood pressure taken as part of the assessment sooner rather than later. If a patient is upright, walking, not looking pale or unwell it is easy to assume that the blood pressure is 'normal'. In this case the delay to measuring the blood pressure did not impact on the outcome.

2. Evidence of how busy the ED was on the day. On the day in question there were many obviously sick patients requiring urgent attention. The rate of arrival of new patients per hour was starting to rise and department occupancy was building up. At 2 pm (an hour before [Mr A's] arrival) there were 16 unseen patients. This explains the placement of [Mr A] in the whānau room. It also explains the delay to being seen by a doctor. There was only one supervising consultant.

3. The Junior Medical Officer handbook. As noted previously it provides excellent practice guidelines, gives links to some excellent learning sites, specifically with regard to assessment of abdominal pain in the elderly. It also expressly gives guidelines for consultation with consultant staff. It states that juniors must present their patients to the consultant within 30 minutes of seeing the patient. It also states that the juniors must not overload themselves with more patients than they would be expected to be able to concurrently manage. There are also guidelines for the juniors on the essentials of documentation.

4. The Acute Abdominal Pain Pathway: This is an excellent document. If used properly it should reduce the chances of a similar occurrence. It emphasizes red flags, and ensures review by ED consultant and surgical staff as required. It also gives indications for a CT scan in the patient with abdominal pain.

5. Statement from [Dr B]. He states within his statement that 'On palpation his ([Mr A's]) abdomen was soft but tender in the hypogastrium, epigastrium, and left upper quadrant.' Comment: A tender abdomen in an elderly patient is a red flag, even if it is soft and there is no guarding (tensing of abdominal wall when the abdomen is palpated). This should not have been attributed to gastritis. In an elderly patient more serious causes need to be ruled out first. He also states 'Due to [Mr A's] extensive list of comorbidities, it was decided to treat any possible medical causes before exploring surgical causes e.g. ischaemic bowel. No further investigations, such as a CT abdomen, were performed at this point.' Comment. This is quite the wrong way of doing it. One would want to rule out a surgical life threat first.

   [Dr B] says he remembers discussing [Mr A] with [Dr C], the supervising consultant. Nothing is documented about the consultation. It is imperative that junior staff document an accurate record any consultation.

6. Statement from [Dr C], ED consultant. [Dr C] has been very frank in saying she cannot recall being consulted. She describes that shift as a very busy shift. She was managing her own work load as well as supervising 4 other persons. She outlines the steps the DHB has taken since to improve supervision, and her own endeavours in improving house officer supervision.

These new documents give evidence of how busy the department was. Appropriate space would have been difficult to find initially. There were multiple sick patients present at the same time. […]

My previous criticism had been directed at [Mr A's] management at various steps of his journey through the emergency department. These were

1. Failure to do a blood pressure at triage or soon afterward in an elderly man with abdominal pain who may have vomited blood
2. Placing [Mr A] in an inappropriate location
3. Long delay in being seen by a doctor
4. Failure to make the correct diagnosis
5. Making the diagnosis of a relatively benign condition in a high risk patient without ruling out more serious diagnoses
6. Failure to consult with supervisor (or refer to surgeons)
7. Failure to proactively supervise a junior
8. Inadequate documentation

I did not particularly criticise the House Officer for not doing the CT, because the more appropriate action for him would have been to refer to a senior.

After reviewing new information provided I feel there were some essential steps that should not have been omitted in spite of the busyness of the department. I remain critical of the blood pressure not being taken for 5 hours in spite of it not impacting on the outcome, but am aware of how busy the nursing staff may have been. The issues around clinical assessment and diagnosis reflect the relative inexperience of the house officer. There are conflicting accounts regarding the supervision provided. It is clear however that there was a failure of appropriate supervision. The consultant under normal circumstances would have almost certainly examined [Mr A's] abdomen herself. This supervision was compromised by everything else that was happening in the department at the time. This can and probably does happen in many busy EDs in real life. One consultant cannot physically see every patient in the department, and whether they do see a patient themselves or not depends on multiple variables, including the way the patient is presented to them. What happened in [Mr A's] case is very regrettable. The outcome may not have been any different even if the right things had been done. Given the extenuating circumstances I regard the departure from the usual standard of care on the day to be mild and close to unavoidable. I do commend the DHB in increasing the consultant staffing, increasing supervision, laying out clear guidelines for the junior doctors and in developing the pathway for managing acute abdominal pain."