Auckland District Health Board

A Report by the

Health and Disability Commissioner

(Case 09HDC01883)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

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Executive Summary

Background

1. This report is about the failure of Auckland District Health Board (Auckland DHB) to have an effective system in place to ensure that the triaging of an angiography referral from DHB 2 was carried out appropriately.

2. DHB 2's respiratory physician, Dr E, referred Mr A to Auckland DHB's cardiology department for an angiography.

3. Dr E telephoned Auckland DHB, then faxed his referral letter to Auckland DHB, and attached a copy of Mr A's exercise tolerance test (ETT)[1] results. The referral needed to be assessed to determine whether it was an urgent, semi-urgent, or routine priority. A key piece of information in this assessment is the objective findings of the ETT results (the time to the onset of ST segment changes and their maximum deflection).

4. The objective information contained in Mr A's ETT results was significant, and warranted an urgent priority or immediate admission. However, the triaging cardiologist, Dr D, was unable to decipher the ETT results as they were too faint to read. The referral letter stated that the ETT results were "positive".

5. Neither Auckland DHB staff nor Dr D followed up a legible copy of the ETT results. Dr D gave Mr A a "semi-urgent" grading based on the information contained in the referral letter. Mr A was subsequently offered appointment dates in August 2009 and September 2009.

6. Mr A died of a heart attack prior to the first of those appointments.

Decision summary

7. Auckland DHB's procedures failed in three important areas: staff did not obtain sufficient information to determine whether it was necessary to refer Dr E's call to the on-call registrar or consultant, did not seek a legible copy of the ETT results, and did not appropriately acknowledge the referral. As a result, Auckland DHB did not provide services with reasonable care and skill and breached Right 4(1)[2] of the Code of Health and Disability Services Consumers' Rights (the Code).

8. Auckland DHB did not communicate effectively with DHB 2 and so breached Right 4(5)[3] of the Code.

9. Auckland DHB failed to provide Mr A with adequate information about his referral and breached Right 6(1)(c)[4] of the Code.

[1] An ETT records the heart's electrical activity (rate and rhythm) during exercise.
[2] Right 4(1): "Every consumer has the right to have services provided with reasonable care and skill".
[3] Right 4(5): "Every consumer has the right to co-operation among providers to ensure quality and continuity of services".

10. Adverse comment was made about Dr D's failure to ensure that a legible copy of the ETT results were obtained and reviewed.

11. Adverse comment was made about DHB 2's failure to ensure the referral had been received and was being actioned.

Complaint and investigation

12. On 12 October 2009 the Commissioner received a complaint from Mrs A about the services provided by Auckland DHB to her late husband, Mr A.

13. An investigation was commenced on 5 March 2010. The following issues were identified for investigation:

- *The appropriateness of the care provided to Mr A by Auckland DHB, in particular, the management of Mr A's referral to Auckland City Hospital's Cardiology Department.*

- *The appropriateness of the care provided to Mr A by DHB 2, in particular, the management of Mr A's referral to Auckland City Hospital's Cardiology Department.*

14. On 8 July 2010 the investigation was extended to include the following issue:

- *The appropriateness of the care provided to Mr A by Dr D, in particular, the management of Mr A's referral from DHB 2.*

15. The parties directly involved in the investigation were:

Mr A	Consumer
Mrs A	Complainant
Dr B	Complainant
DHB 2	Provider
Auckland DHB	Provider
Dr D	Cardiologist/provider
Dr E	Respiratory physician/provider
Dr F	Locum physician/provider
Dr G	General practitioner/provider

[4] Right 6(1) "Every consumer has the right to the information that a reasonable consumer, in that consumer's circumstances, would expect to receive, including - (c) Advice of the estimated time within which the services will be provided."

16. Information was received from:

Auckland DHB
DHB 2
Dr D
Dr E
Dr G
Dr B
Mrs A

17. Independent expert advice was obtained from cardiologist Dr Gerard Wilkins (attached as **Appendix A**).

Information gathered during investigation

Referral to Auckland DHB

18. On 13 July 2009 Mr A consulted his GP, Dr G, complaining of a burning dull anterior chest pain on exertion after walking 100 metres, which resolved quickly on slowing or stopping. Dr G diagnosed Mr A with angina, prescribed metoprolol[5] and, on 16 July, sent a letter to respiratory physician Dr E[6] at Public Hospital 2. In this letter Dr G asked Dr E whether he thought Mr A should be booked for an exercise tolerance test (ETT).

19. Dr E replied to Dr G in a letter dated 21 July 2009 (which was typed on 24 July 2009). Dr E advised Dr G that Mr A had been booked for an ETT.

20. Mr A had the ETT on 23 July 2009, under the supervision of locum physician Dr F at Public Hospital 2. Dr E advised HDC that Dr F provided him with the results of the ETT immediately after testing, and that "it was clear from the results that Mr A had significant coronary artery disease that required urgent attention". The report stated: "Overall Impression: Positive stress test typical of ischemia[7]".

21. Dr F wrote a letter to Dr G informing him of Mr A's "grossly abnormal stress test with very bad exercise tolerance" and recommending that Mr A be referred for an echocardiogram to assess left ventricular function. Dr F added that "based on the other co-morbidities etc., it is your decision to refer him for coronary angiography or not". This letter was dated 23 July 2009 (but it was typed on 30 July 2009), and copies were sent to Mr A and Dr E.

[5] Metoprolol is a beta-adrenergic blocking agent that is used for treating high blood pressure, heart pain, abnormal rhythms of the heart, and some neurological conditions.
[6] Mr A had seen Dr E previously in relation to another chest problem (lingular opacity).
[7] A decrease in the blood supply to a bodily organ, tissue, or part caused by constriction or obstruction of the blood vessels.

22. Dr E advised HDC that, immediately after the ETT, he discussed the results with Mr A, and the need for referral for angiography and further intervention, but that Mr A wished to discuss the results with his GP before proceeding.

23. Dr E added a post-script to his letter of 21 July to Dr G, advising him of the ETT results and of Mr A's wish to discuss the angiography referral with Dr G before proceeding.

24. Dr E advised HDC that he recalls that Dr G contacted him about five days after sending the letter, to advise that Mr A wished to proceed with the angiography referral.

25. Dr E stated that he believes he then telephoned Auckland City Hospital's cardiology department about Mr A, and was informed by them that he needed to fax the referral letter and the ETT results to the cardiology department for prioritisation purposes.

26. On 28 July 2009, Dr E dictated a referral letter to Auckland City Hospital's cardiology department. Dr E included in his letter a list of Mr A's clinical problems, medications, presenting symptoms, and history, and concluded with the following: "My impression is that Mr A has angina that is increasing in severity. He has multiple risk factors for coronary heart disease and a positive stress test. We are requesting further work up for him."

27. Dr E stated: "A copy of the test is accompanying this letter" and he attached a copy of Mr A's ETT results to the letter. Dr E said that the letter and ETT results were faxed to Auckland City Hospital's cardiology department on 29 July 2009. However, Auckland District Health Board (Auckland DHB) said that the referral letter was "faxed to Auckland District Health Board on 31st July and triaged the same day". Dr D said that he read Dr E's referral letter but was unable to decipher the attached ETT report as it was "too faint to read".

28. Dr E advised HDC that he does not recall following up the referral with regard to the timing of the procedure, as he did not think he could influence it beyond what he had already provided to the cardiology department.

Auckland DHB referrals process

29. Auckland DHB advised HDC that cardiology referrals are received by telephone, fax, or post. They would not expect to receive referrals for critically ill patients via "routine mail". Rather, they would expect the referring doctor to call a cardiologist directly, and follow up with a hard copy of the referral in the post. Auckland DHB also advised HDC that the triaging process is not influenced by how a referral has been communicated, but by the information contained in the referral.

30. Auckland DHB advised that referrals should be sent directly to the Central Referrals Office (CRO) unless they are for urgent admissions. Once a referral is received, it is logged by the Referrals Administrator at the CRO and an acknowledgement of receipt of referral is sent to the patient within 10 working days. The CRO policy on the

"Process for Receiving Referrals" states that any referrals that are sent directly to the relevant department (eg, cardiology), as opposed to the CRO, are given to the Team Support Administrator for the department in which the referral has been received. The Team Support Administrator then makes the referral available for pick-up by the Referrals Administrator.

31. However, in this case, once the referral was triaged it was sent to the relevant scheduler without a copy being made to be collected by the CRO staff.

32. HDC asked Auckland DHB how it had communicated to referring doctors the DHB's expectation that it will receive verbal referrals for critically ill patients.

33. Auckland DHB advised HDC that:

> "[t]elephone referrals in urgent cases are well established as appropriate practice across the healthcare sector … It is unreasonable to expect a DHB to have educated a referrer of what is basic good practice. Educating referrers might be appropriate where shortcomings are identified in a defined group or where there is a material change in referring systems but not as a general obligation."

34. Auckland DHB advised HDC that if illegible referrals are received, it is the responsibility of the Referrals Administrator to request the required information.[8] However, clinicians may also contact the referrer directly if they wish to receive a more legible copy of a document. The DHB said that a regional electronic referral system is being developed, which will reduce the likelihood that the DHB will fail to follow up illegible documents.

Process for prioritising referrals

35. Once the referrals are logged by the Referrals Administrator, they are given to the triaging cardiologist rostered on for that week.[9] The triaging cardiologist then completes a two-page document. The first page contains the details of the proposed catheterisation procedure to take place. The second page is the national clinical priority assessment criterion tool (CPAC), the purpose of which is to determine whether the patient is an urgent, semi-urgent, or routine priority.

36. Under the CPAC tool, there are four fields that require data:

1. the grading of angina according to the Canadian Heart Association Scale (Class I–IV);

[8] The CRO has written procedures for handling referrals. Included in these procedures are the requirements for the Referrals Administrator to check the referrals for legibility and to contact the referrer by telephone to obtain "required information on identified incomplete or incorrect referrals".

[9] Dr D advised HDC that there are nine consultants, who are rostered on for one week five times a year to triage all cardiology referrals for that week. He further advised that 60–70 GP referrals are received each week, together with one to six referrals from Public Hospital 2 for consideration of angiography.

2. the objective findings of the ETT (the time to the onset of ST segment changes and their maximum deflection);

3. the presence of impaired LV function or associated valvular heart disease; and

4. the impact of the patient's symptoms on his or her ability to work, live independently, or care for dependants.

37. Auckland DHB advised HDC that, once the triaging cardiologist has prioritised the referral, the form is sent to the booking clerk to assign a date for the patient's appointment. The patient is notified of the appointment date one to two weeks before the scheduled appointment. In the previous year, the maximum waiting time for an angiogram had been six weeks.

38. Dr D advised HDC that when prioritising referrals, the most important factor for him is the patient's history and, if the patient's problem is chest pain, then "the result of any exercise test performed would be important". Dr D noted that some referrals from Public Hospital 2 include a copy of the ETT and some do not. Those that do not, summarise the results of the ETT in the referral letter.

Triage of Mr A's referral

39. Although Dr E said that he sent the referral fax on 29 July, Auckland DHB stated that Mr A's referral from Dr E was received by fax at Auckland DHB's cardiology department on 31 July 2009.[10] It was the responsibility of the cardiology department's Team Support Administrator to make a copy of the referral for the CRO. However, the CRO did not receive a copy of the referral, as was required by Auckland DHB's referrals policy. Auckland DHB stated that it did not know why this was not done.

40. Mr A's referral was reviewed by Dr D on 31 July 2009. Dr D said:

> "Because the chest pain was increasing in severity I graded it as class III in severity. I could not read the exercise ECG[11] as the faxed copy was too faint. The referral just mentioned a positive stress test and this in conjunction with class III symptoms would give the patient a semi-urgent classification. I knew our catheter waiting times were quite short and that the patient would likely wait no longer than 4 weeks … It did not occur to me therefore to chase the result of the exercise test further as I believed a reasonably prompt plan had been made to investigate the problem and I had no reason from the information supplied to suppose the patient was critically affected. If the exercise test had been described as very positive the patient would then have received an urgent priority."

41. Auckland DHB advised that "[Dr D] acknowledged the need to see the primary documents". However, in response to the provisional opinion Dr D stated: "While the

[10] The copy of the fax provided to HDC is undated.
[11] Electrocardiogram. A diagnostic tool that measures and records the electrical activity of the heart.

ETT is an important piece of information, it cannot be considered 'pivotal' to my decision to prioritise [Mr A] as semi-urgent." Dr D's lawyer submitted in response to the provisional opinion that "the simple expedient of Dr E adequately conveying the ETT results and/or attaching a copy of Dr F's letter to the referral would have provided all the information required to permit Dr D to have appropriately assessed Mr A as 'urgent', or possibly even resulting in an immediate admission for further investigation".

42. Dr D, Dr D's lawyer and Auckland DHB all made similar submissions. These were that Dr E did not include clinically significant information or express sufficient urgency in his referral letter. Dr D stated: "Regrettably, this crucial information was fully known to [Dr E] but was not communicated to me" and noted that it was "exceptional for a referring physician to not have drawn attention to the strongly positive nature of the ETT". Dr D stated: "Had the critical information from the ETT tracing been contained in the body of the referral letter or had [Dr E] attached a copy of [Dr F's] letter, I would have proceeded entirely differently", adding that if "full information" had been provided, "any triaging consultant would likely have recommended direct admission without putting [Mr A] on any waiting list".

43. On 10 December 2009, Auckland DHB acknowledged that the letter from Dr F which was typed on 30 July 2009 "would have clearly signalled the problem but does not appear to have been available at the time Cardiology received the referral to be triaged".

44. Dr D's lawyer also submitted that, due to Dr E's failure to "adequately capture the seriousness of the ETT results in the referral letter", neither the Referrals Administrator nor Dr D was alerted to the need to request a legible copy of the ETT tracing. However, Dr D's lawyer also submitted that Dr D's decision was contributed to by the "failure of the [Auckland] DHB policy being initiated when it must have been clear to the Referrals Administrator that the ETT tracing was illegible".

45. It was also submitted that it was reasonable for Dr D to rely on the Referrals Administrator following up a legible copy of the ETT results, noting the number of referrals triaged and "the practical impossibility of the cardiologist personally following up with every referring clinician". It was further submitted that had there been a request for a legible copy of the ETT results by the Referrals Administrator, "it would likely have had to be obtained via post, which would have delayed the triaging of Mr A's referral and thus delayed any appointment time".

46. Dr D believes that if any lessons are to be learned from this case, "it should be in respect of the necessity for referring doctors to include all important and relevant information, including a narrative of the results of the exercise ECG, in their referral letter, or to provide copies of all relevant letters". However, Dr D also advised HDC that if a similar situation were to arise again, he would personally telephone the referring physician to clarify the situation and receive a fair copy.

47. On the CPAC form (to assess priority), Dr D documented the following next to each of the four fields:

> 1. Angina — Class III angina
> 2. Objective findings of the ETT — ? fax too faint to read
> 3. Other diagnoses — [a dash indicating no other diagnoses]
> 4. Ability to work, give care to dependents, or live independently — not threatened but more difficult.

48. Dr D triaged Mr A's priority as "semi-urgent" based on the information contained in the referral letter, and appointment dates were assigned for either 31 August or 2 September 2009.

49. In response to my provisional opinion, Dr D submitted that Auckland DHB's target for urgent referral is an appointment date within six weeks and, as Mr A was given an appointment 4–5 weeks after receipt of the referral, his appointment may not have been much earlier even if he had been prioritised as urgent.

Auckland DHB's communication with Mr and Mrs A

50. Mrs A advised HDC that, by 14 August 2009, they had not received any acknowledgement of receipt of the referral from Auckland DHB, or advice about any appointment dates. Mr A telephoned his GP, Dr G, who attempted, unsuccessfully, to contact the cardiology department. Dr G advised Mr and Mrs A to try contacting the cardiology department themselves. On 17 August 2009, Mrs A left a message on the booking clerk's telephone. Her call was returned the next day and she was advised that Mr A had been assigned appointments on 31 August or 2 September 2009.

51. Auckland DHB advised that, as patients are not informed of their actual appointment date until two weeks prior to the appointment, it was not unusual that Mr A had not received a letter from Auckland DHB confirming his actual appointment date by 17 August 2009.[12]

52. Unfortunately, Mr A died of a heart attack in August 2009.

Complaint by family

53. On 11 September 2009, Mrs A's sister, Dr B, wrote to Auckland DHB's cardiology department outlining the course of events and seeking reassurance that "someone with medical training in cardiology reviews referral letters, and decides the appropriate time for an appointment". Dr B went on to comment that:

> "I would have thought a patient with such a poor stress [ETT] result, would have warranted an appointment earlier than 4 weeks after receipt of the letter. It may be that this was the earliest appointment that could have been made; if this [was] the case, then perhaps you can use this letter as a petition for more funds."

[12] Auckland DHB advised that appointments are not notified sooner, as appointment dates are subject to change owing to acute presentations and referrals to the service.

54. Dr B had not received a response to her letter from the cardiology department by 9 October 2009. Mrs A then wrote to Auckland DHB's cardiology department (enclosing her sister's letter), noting that no reply had been received, and advising that she had decided to refer the matter to Auckland DHB and HDC.

Dr D's response

55. Dr D responded to Dr B's letter by way of a letter dated 5 October 2009. He advised Dr B that he was the triaging cardiologist at the time Mr A's referral was received. In relation to his decision to assign Mr A a "semi-urgent" priority, Dr D advised the following:

> "Unfortunately there was no information stating that the test was both strongly positive and early and unfortunately the [ETT] was indecipherable.
>
> Our waiting list has come down from the maximum of 3–4 months to about 4–6 weeks, and he was given a semi-urgent priority which in the circumstances did not seem unreasonable.
>
> …
>
> There was also a separate letter from [Dr F], the locum physician, which did detail the nature of the exercise test and the fact that after only one minute more than 4mm ST segment depression was present in the lateral precordial leads. Obviously if I had seen this information I would have arranged for his urgent catheterisation.
>
> I apologise for this poor outcome. I have taken the following positive steps to improve our system and minimise the chance of a similar situation arising:
>
> - I have asked (in writing) that our Clinical Director bring this to the attention of the [CRO], where all referrals initially are sent, and recommend that whenever an illegible document is received, that the referrer be contacted immediately and request that the original be couriered down.[13]
> - That a letter is sent to the referring physicians at [Public Hospital 2] recommending that where an urgent clinical referral to the Cardiology Department is requested, that a direct telephone consultation with the on-call consultant is made in addition to the written request."

56. In a letter dated 26 October 2011, Dr D also apologised to Mrs A for the contribution his role had to Mr A's death. Dr D advised Mrs A that he "strives to maintain a high standard of professional care" at all times, and regretted that the information provided to him resulted in a failure to provide Mr A with "the level of urgency that his heart condition warranted". Dr D added that he and his department have looked to understand why this occurred and to improve their referral system accordingly.

[13] Auckland DHB later advised HDC that the Referrals Administrators have been given retraining on the follow-up of illegible referral documents.

Auckland DHB's response

57. Mrs A was dissatisfied with Dr D's response to Dr B and wrote to Auckland DHB on 2 November 2009 with her ongoing concerns. On 10 December 2009, Auckland DHB responded to Mrs A.

58. In response to Mrs A's concern about Dr D's failure to view a legible copy of the ETT report, Auckland DHB advised: "You have highlighted a failing that is acknowledged and Dr D endeavoured in his last letter to suggest steps to remedy this in the future …" Mrs A was also concerned about the fact that her husband had not heard from the cardiology department by 17 August 2009. Auckland DHB advised that once Mr A's referral had been triaged, a letter of acknowledgement should have been automatically generated, advising Mr A that his referral had been received and the approximate waiting time for an appointment. Auckland DHB advised that as Mr A's referral was faxed directly to the cardiology department (as opposed to the CRO) an acknowledgement letter was not sent. Auckland DHB added that this is also the reason that the Referrals Administrator did not follow up and obtain a legible copy of the ETT.

Changes made by DHB 2

59. HDC's provisional opinion recommended that DHB 2 alert its clinicians on how they can reduce the risk of problems arising from sending referrals and ECG data by fax.

60. In response, DHB 2 advised HDC that on 11 October 2011 it sent a direction to all consultant physicians. The contents of the direction are summarised below:

- The ETT paper is pink and does not fax well. It is better to photocopy the ETT onto white paper and fax the white copy.
- DHB 2 is in the process of acquiring a laser printer for the ETT machine to ensure that the printout of the ETT findings are of the highest quality.
- The physicians are advised to ensure they know the quality of the ETT before it is sent.
- Referral letters to Auckland must include the salient investigation abnormalities. For ETTs this should include exercise time, degree of abnormality (amount and type of ST shift), time to onset of abnormality (ST shift or arrhythmias), blood pressure response, symptoms and recovery abnormalities, if any. The Auckland clinician is therefore able to identify the risk status without seeing a copy of the ETT results.
- In general, patients with highly positive ETTs should be considered for urgent admission and inpatient transfer as they are at very high risk for a poor outcome. This should be brought to their attention during the discussion as justification for the recommendation to admit. If in doubt, discuss with one of the resident cardiologists.

61. The provisional opinion also recommended that DHB 2 give consideration to the steps it can take to ensure that the referrals sent by its clinicians to other DHBs are received and actioned.

62. In response, DHB 2 advised HDC that they "do not consider it is realistic or reasonable to expect clinicians to constantly check to see if their referrals to other DHBs have been acted upon". DHB 2 is of the view that "[i]f resources were to be diverted to this extraordinarily time-consuming task, which is unnecessary for the vast majority of referrals which are dealt with in a timely manner, it would cause far more harm than good, as other more pressing clinical needs would be unmet".

63. DHB 2 said it considers that its current system is the most that it can reasonably be expected to do. That process is that DHB 2 provides the patient and his/her GP with a copy of the referral letter, which asks the patient to contact DHB 2 or the other DHB to which he or she has been referred, if he or she has not received an appointment from the DHB to which the patient has been referred within two weeks.

Mrs A's responses

64. Mrs A's responses to the provisional opinion have been incorporated into the opinion where relevant.

Preliminary comments

Introduction

65. In the dry language of systems and processes, of transmission technologies and referral protocols, we can miss the very human dynamics that give life to these systems and processes.

66. What happened here, despite the complexity of Mr A's condition, was straightforward. A system, designed to ensure that patients who require either immediate hospitalisation or an urgent assessment are assessed in a timely way, failed to deliver.

67. In any healthcare system, there are a series of layers of protections and people, which together operate to deliver seamless service to a patient. When any one or more of these layers do not operate optimally, the potential for that level to provide protection, or deliver services, is compromised. When a series of such events occur, although each are often minor in themselves, the fabric that is wrapped around the patient in the delivery of a seamless service is torn. When a series of tears, or holes, line up, poor outcomes result. Patients are at risk of being harmed.

68. I accept that the outcome may have been the same even if Mr A had been assessed as urgent. However, that is not the issue. The issue is whether Mr A received services of an appropriate standard. In my view, the system that Mr A trusted let him down.

What happened?

69. The facts of this case are straightforward. Mr A completed his stress test and, within a few days his GP, the assessing physician Dr F, and the referring respiratory physician, Dr E, all knew that Mr A required urgent referral to, and assessment by, specialist cardiologists at Auckland DHB.

70. Upon receiving Mr A's consent to the referral, Dr E "believes" he telephoned Auckland City Hospital's cardiology department and was advised that he needed to fax the referral letter and ETT results for prioritisation purposes. Dr E followed the instructions given — to fax the referral — but he did not speak to a clinician. His referral letter stated that Mr A's angina was increasing in severity and he had multiple risk factors for coronary artery disease and a positive stress test. This reflected the language in the ETT report, which stated: "Overall Impression: Positive stress test typical of ischemia."

71. Subsequently, Dr F's letter of 30 July referred to Mr A's "grossly abnormal stress test with very bad exercise tolerance" and recommended that Mr A be referred for an echocardiogram to assess his left ventricular function. Dr E did not forward the letter to Auckland DHB once he received it.

72. Dr E did not signal in his referral letter that his patient had "significant coronary artery disease that required urgent attention", although he advised HDC that this was clear to him on seeing the ETT. These features contributed to the triaging decision at Auckland DHB.

73. Upon receipt of Dr E's referral letter, Auckland DHB clerical staff did not follow up with the sender, despite the ETT results being illegible.

74. The triaging cardiologist at Auckland DHB, Dr D, received the letter, with the illegible ETT results. In the absence of a phone call from the referring clinician (which he stated he would have expected given the results of this ETT), together with the absence of important diagnostic information in the referring letter, he made the decision that he could triage without the benefit of the ETT results, and did so. He did not follow up to ensure he viewed a legible copy, and consequently did not review his decision in the light of its content.

75. In my view, all DHBs and triaging consultants have a responsibility to ensure that relevant information provided to them by referrers is taken into consideration when considering a referral.

Opinion: Adverse comment — Dr D

76. My expert cardiologist, Dr Gerard Wilkins, has advised that overall, the clinicians involved with Mr A's care "behaved in a rapid and timely manner … and the timeline from request by general practitioner for exercise testing to referral and grading is … indeed exemplary". In Dr Wilkins' view, and I agree, the issue in this case was not the time it took from referral to proposed catheterisation, but rather the actual grading (semi-urgent) that was offered to Mr A.

77. Dr D was responsible for assessing Mr A's risk and grading him accordingly. To do so, Dr D required objective information about Mr A's ETT results. This information was provided as an attachment to the referral letter which was faxed to the DHB, but was not legible.

78. Dr E's referral letter of 28 July 2009, which referred to the ETT results, stated: "My impression is that [Mr A] has angina that is increasing in severity. He has multiple risk factors for coronary heart disease and a positive stress test. We are requesting further work up for him." A copy of the ETT results accompanied the letter. It was reasonable for Dr E to believe the letter would be read in conjunction with the ETT results.

79. Dr D relied on the information in the letter of a "positive stress result" and chose not to follow up a legible copy of the ETT results. He gave Mr A a "semi-urgent" grading based on the limited information of a "positive stress result" contained in the referral letter. In fact, the information contained in the ETT results was significant, and would have warranted an urgent grading or immediate admission.

80. Dr D advised that he would have triaged Mr A's referral as "urgent" if he had reviewed a legible copy of the ETT results, or if Dr E had described the ETT results as "very positive" (as opposed to "positive") in the referral letter.

81. In response to my provisional opinion, Dr D said he would have proceeded entirely differently if "full information" had been provided, and that "any triaging consultant would likely have recommended direct admission without putting [Mr A] on any waiting list". Dr D stated: "Regrettably, this crucial information was fully known to [Dr E] but was not communicated to me. It is surprising that he did not include a copy of the letter [Dr F] wrote to [Mr A's] GP, which was copied to [Dr E], and which stated '… the patient has got a grossly abnormal stress test with very bad exercise tolerance. He was able to exercise for only one minute on the treadmill standard Bruce protocol …"

82. Dr E stated that he faxed the referral on 29 July (although Auckland DHB said it was faxed on 31 July). Dr F's letter was typed on 30 July 2009 and so, as stated by Auckland DHB, it was most likely not "available at the time Cardiology received the referral to be triaged". However, once he received Dr F's letter, Dr E could have forwarded it to Auckland DHB. That may have caused Dr D to review his initial

decision. Similarly, had Dr D ensured that the illegible ETT report was followed up, and then reviewed it, this may also have resulted in Mr A being admitted to hospital.

83. Dr Wilkins agrees that, based on the ETT results, Mr A warranted an urgent grading or possibly even immediate admission to hospital. Nevertheless, Dr Wilkins considers Dr D's risk assessment of semi-urgent at the time was reasonable, for the following reasons:

1. There was no direct telephone contact from Dr E to the acute cardiologist at Auckland DHB to discuss the urgent care of Mr A.

2. Dr E's referral letter does not clearly indicate that a high-risk situation was considered present. For instance, the only comment in relation to the ETT results was that they were "positive". There was no comment alerting Dr D to quite marked ST segment changes occurring before the end of Stage I.

3. Dr D was unaware of the additional risk features present in the ETT results as the ETT results were illegible.

Was it reasonable to make the triage decision without the information from the ETT?

84. The question for me is, was Dr D's decision, seen in context, consistent with standards expected in the Code?

85. The answer turns on another question: Was it reasonable for Dr D to make a triage decision based on a letter that had an ETT report attached, which he could not read?

86. I note my expert advice that "unfortunately, by the very nature of coronary artery disease, risk assessment is a difficult and an imperfect science". Triaging decisions are complex. My expert also noted, however, that "ECG data is pivotal to assessment" and that "it is the objective findings of this test [ECG] that can help predict risk".

87. I have received conflicting submissions as to whether the ETT results were "pivotal". In response to my provisional opinion, Dr D stated: "While the ETT is an important piece of information, it cannot be considered 'pivotal' to my decision to prioritise Mr A as semi-urgent." However, Auckland DHB stated that "[Dr D] acknowledged the need to see the primary documents" and Dr D's lawyer submitted in response to the provisional opinion that "the simple expedient of Dr E adequately conveying the ETT results and/or attaching a copy of Dr F's letter to the referral would have provided all the information required to permit Dr D to have appropriately assessed Mr A as 'urgent', or possibly even resulting in an immediate admission for further investigation".

88. In my view, it was appropriate to convey the ETT results either in the covering letter and/or by attaching the report itself. I accept that the report contained more information than just the ETT results. In my view, the information in the report containing the ETT results was pivotal to the effective prioritisation of Mr A.

89. Dr E's letter referred to the attached ETT results, and so he might reasonably have expected the letter and ETT results to be read together. However, Dr D's lawyer stated that because the referral letter did not capture the seriousness of the ETT results, "neither the Referrals Administrator nor Dr D were alerted to the fact that further information should be sought before an assessment was completed, including the necessity to request a legible copy of the ETT tracing".

90. However, Dr D's lawyer also submitted that Dr D's decision was contributed to by "the failure of the [Auckland] DHB policy being initiated when it must have been clear to the Referrals Administrator that the ETT tracing was illegible".

91. Dr D made two assumptions: (i) if it was serious the referrer would have called him; and (ii) if it was serious the letter would reflect that.

92. In my view, relying on such assumptions creates a significant risk for the patient. The referral letter did in fact contain information that indicated the seriousness of Mr A's condition. Part of that information was illegible. Unfortunately, the illegible information was, as I have been advised by my expert, pivotal to the assessment. The decision was nonetheless made to triage without that pivotal information, and without making any effort to follow it up and sight it.

93. Dr D advised me: "I had no reason from the information supplied to suppose the patient was critically affected." In fact, the information to show the critical effect was supplied to Auckland DHB and to Dr D, but it could not be read. The referrer was nonetheless entitled to believe that it would be.

94. Dr D has also advised me that some DHB 2 referrals include a copy of the exercise test and some do not. Those that do not, summarise the results in the letter. In this case, the only information in the referral letter about the ETT results was that they were "positive" which, as Dr Wilkins has advised, is "unhelpful as few if any patients would qualify for a publicly funded coronary angiogram without a positive test. It is the objective findings of this test that can help predict risk."

95. Accordingly, in these circumstances, where the referring clinician has attached the ETT results to the letter, but has not provided a detailed summary of the results in the body of the referral letter, I consider it is reasonable for the referring clinician to assume the triaging clinician will review the attached ETT results. In the event those results are illegible, I also consider it is reasonable for a triaging clinician to, at least, attempt to follow up this information before finalising a patient's priority. Dr D has since advised HDC that, if a similar situation were to arise again, he will personally telephone the referring physician to clarify the situation and receive a fair copy.

96. I note that the focus of Dr D's criticism has been on Dr E's "failure" to provide full information. It is accepted that Dr E did not provide a detailed summary of the objective findings of Mr A's ETT results in the body of his referral letter, and he also did not convey the seriousness of the results in this letter. However, I do not accept that he "failed" to provide full information. His letter reflected the language in the

ETT report and the objective findings of the ETT results were provided in the form of an attachment. It was reasonable for Dr E to assume these would be reviewed by the triaging clinician, particularly given the lack of detailed information about those results in the body of the referral letter.

97. It was submitted on Dr D's behalf that even if a legible copy of the ETT results had been requested, it is likely that this would have been obtained via post, which would have delayed the triaging of Mr A's referral, which in turn would have delayed any appointment time. I do not accept this. There was nothing to stop Dr D from triaging Mr A based on the information at hand, and then reassessing the decision once the new information came in. I note that this latter approach has been endorsed by my expert advisor, Dr Wilkins.

98. It was submitted on Dr D's behalf that it was reasonable for Dr D to rely on the Referrals Administrator to request the required information, given the impracticality of "personally following up with every referring clinician". In this case, the referral letter did not go through the CRO. However, it is not suggested that triaging clinicians should personally follow up with every referring clinician. Rather, I suggest that a process should be in place to ensure that follow-up action is taken by the triaging clinician in those rare instances where important (if not pivotal) information has been provided by the referring clinician, but is illegible.

99. I agree with Dr D that there were failings at DHB 2 by Dr E, and that it would have been better practice, given his concerns, to have spoken personally to Dr D, and to have signalled more concern in the covering letter. Nonetheless, the key triage decision was made knowing that important information had been supplied which could not be read, and choosing to take the risk that it did not contain information that would override the covering letter.

100. It may have been administratively inconvenient to do so, but I think a triaging cardiologist is both entitled to expect that relevant information is provided from referrers, and required to ensure that important information sent to him or her is considered.

101. However, I consider there were mitigating factors present in this case. These factors are that Dr E did not speak to a consultant, did not include a more direct signal in the covering letter and did not forward Dr F's letter when it arrived. A failure in the clerical process meant the illegible information was not picked up on receipt. In these circumstances, the decision to triage was not wholly unreasonable, but the choice not to arrange follow up of the illegible information was sub-optimal.

102. Dr D was the senior decision-maker in the process, and his decision was the last part of the process that could have corrected the prior process defects. In my view, Dr D should reflect on his actions in this case. The better practice would have been to triage as he did, but arrange for the illegible information to be followed up.

Opinion: Adverse comment — DHB 2

103. There are actions that could have been taken by DHB 2 and/or its clinicians to alert Dr D to Mr A's significant ETT results, which would have resulted in a more appropriate triage grading.

104. For instance:

- Dr E could have included more details of Mr A's ETT results in his referral letter, in particular that the ETT result was "strongly positive" or that the summary in the report was "Overall Impression: Positive stress test typical of ischemia";
- Dr E could have forwarded a copy of Dr F's letter detailing the ETT results once it was received;
- Dr E could have contacted Dr D directly to discuss Mr A's case;
- Dr F could have sent a copy of his letter, detailing the ETT results, to Auckland DHB's cardiology department; and
- Dr E could have followed up the referral to ensure that the urgency and risk had been acknowledged.

105. I note that Dr E "believes" he telephoned Auckland DHB's cardiology department and was told to fax the information. He was not put through to the relevant clinician to discuss the case. In response to my provisional opinion, Auckland DHB advised that it has no record of this call and that there is no evidence that Dr E requested to speak with a cardiologist or indicated that he had an urgent referral. In the absence of any direct evidence, I am unable to reach any conclusions about this conversation.

Dr F's letter

106. Dr Wilkins noted that a letter written by the locum physician who supervised Mr A's ETT, Dr F, contained much more explicit statements regarding the results of the ETT, but this letter was not sent to Auckland DHB (it was only sent to Dr E, Mr A, and his GP). It was therefore not seen by Dr D. Dr Wilkins has suggested that there may be value in DHB 2 putting in place a system to ensure all available, relevant letters are forwarded to the assessing hospital, noting that the presence of Dr F's letter may have substantially altered Dr D's grading of Mr A.

107. I agree that it would have been helpful for Dr D to have received a copy of this letter. It may be useful for DHB 2 to consider what steps it can take to ensure its clinicians forward all available, relevant letters to the assessing hospital.

Duty of referring DHB

108. This Office has previously commented:[14]

> "I accept that it may be unduly onerous for a referring DHB to have a system in place to track and monitor referrals to another DHB. Such a system may only be

[14] 07HDC19869, 28 October 2008.

achievable once New Zealand has an integrated electronic system for all DHB referrals. I fully endorse the statement by [DHB 2]:

'A more appropriate and comprehensive solution would be the development of a single electronic health record and record management system in New Zealand, which could provide automatic electronic tracking of referrals and appointments together with the capacity for all health providers (including GPs and patients) to view the progress of referrals in the system and appointments made.'

However, referring district health boards do need to *ensure* that a referral has been received[15] (and take follow-up action in the absence of confirmation of receipt), and that the receiving board has accepted care of the patient."[16]

109. If Dr E had followed up the referral to check that the fax had been received and was legible, and that the urgency and risk had been acknowledged, he would have been aware that the ETT results were illegible and able to take steps to remedy the situation.

110. In response to my provisional opinion DHB 2 stated that they "do not consider it is realistic or reasonable to expect clinicians to constantly check to see if their referrals to other DHBs have been acted upon". DHB 2 is of the view that "[i]f resources were to be diverted to this extraordinarily time-consuming task, which is unnecessary for the vast majority of referrals which are dealt with in a timely manner, it would cause far more harm than good, as other more pressing clinical needs would be unmet".

111. DHB 2's current system is that the patient and his/her GP is provided with a copy of the referral letter, which contains the information that the patient should either contact DHB 2 or the DHB to which they have been referred if they have not received an appointment within two weeks. I do not accept that this is the most that DHB 2 can reasonably be expected to do.

112. In particular I note that the current Operational Policy Framework, which DHBs are required to adhere to, requires DHBs to have a system in place to ensure that, where a referral is made by a hospital-based clinician to another secondary or tertiary provider, the referral sent has been received.[17]

Summary

113. In my view, DHB 2 and, in particular, Dr E, showed a regrettable lack of initiative. The severity of Mr A's condition should have been evident once Dr E received Dr F's letter. Steps should have been taken to alert Auckland DHB to this information and follow up the referral to ensure it had been received and that Mr A was being seen promptly. Seamless patient care requires that clinicians act to ensure their concerns

[15] Not merely "to ensure that the referral has been conveyed by reliable means to the correct address", as DHB 2 submitted.
[16] See also the discussion in a concurrent case, 07HDC20199 (3 October 2008).
[17] Inter-DHB referrals, paragraph 9.9.7 b. *2011/2012 Operational Policy Framework*. Wellington: Ministry of Health.

are being appropriately actioned. DHB 2 should have policies in place to ensure such follow-up occurs.

Opinion: Breach — Auckland DHB

Duty of care — general principles

114. District Health Boards owe patients a duty of care in handling outpatient referrals, under Right 4(1) of the Code. This duty applies no less to referrals from other DHBs (inter-DHB referrals) than to referrals from GPs within the district. A specific aspect of the duty of care is the duty to co-operate with other providers to ensure continuity of care, under Right 4(5) of the Code.

Communication between clinicians

115. Dr Wilkins considers that the key deficiencies contributing to Mr A's lower than desired grading were not Dr D's failure to follow up a legible copy of the ETT results, but:

1. the lack of any direct telephone contact by Dr E with the acute cardiologist at Auckland DHB to discuss the urgent care of Mr A; and

2. the lack of any comment on the referral letter alerting Dr D to the quite marked ST segment changes occurring before the end of Stage I, the knowledge of which would have resulted in a grading towards the more urgent end of the scale.

116. With regard to the first point, Dr D advised HDC that he "would not expect to be notified of severely compromised patients in a routine way through a referral letter but for me or the consultant on call to have been telephoned directly to arrange early/immediate patient admission". However, I note that Dr E advised HDC: "I believe I telephoned Auckland City Hospital cardiology about [Mr A] and was informed that I needed to fax the referral letter and the exercise ECG to the cardiology department at Auckland City Hospital for prioritisation purposes". As stated above, there is no record of this conversation, so I am unable to determine the extent of urgency expressed by Dr E.

117. I note that the ETT report stated: "Overall Impression: Positive stress test typical of ischemia". Dr E included in his letter a list of Mr A's clinical problems, medications, presenting symptoms, and history, and concluded with the following: "My impression is that [Mr A] has angina that is increasing in severity. He has multiple risk factors for coronary heart disease and a positive stress test. We are requesting further work up for him." The letter stated: "A copy of the test is accompanying this letter" and Dr E attached a copy of Mr A's ETT report to the letter. Auckland DHB advised HDC that the triaging process is influenced by the information contained in the referral, not by the method by which the referral is communicated. It further advised of its

"expectation" that in cases where a patient is considered an urgent priority or high risk, referring clinicians will make direct telephone contact with the on-call registrar at Auckland DHB. However, Auckland DHB was unable to provide any evidence to HDC that it had notified referring clinicians of this expectation or ensured it had a process in place to make sure telephone calls were passed to the appropriate clinician, stating that it was "basic good practice" for a referring doctor to make telephone contact in urgent cases, and it is unreasonable to expect it to have educated referrers of this.

118. As this Office has previously stated:[18]

> "It is not for HDC to prescribe the correct solution to these problems. But it is my job to state the obvious: whatever referral system is operating between district health boards, it has to work for patients, who should have justified confidence that referrals will lead to action in sufficient time to treat preventable problems that the public system undertakes to treat."

119. Dr D's proposal to prevent a similar situation recurring was for a letter to be written to the referring clinicians at DHB 2, recommending that where an urgent clinical referral to the cardiology department is requested, a direct telephone consultation with the on-call consultant is made in addition to the written request. Dr Wilkins supports this proposal, noting that one of the key issues, in his view, was the lack of any direct telephone contact from Dr E to Dr D to discuss the urgent care of Mr A.

120. As stated above, direct communication between clinicians is ideal. I agree that it would be a worthwhile step for Auckland DHB to implement a policy around telephoning urgent referrals, and to communicate its expectation to referring clinicians to clarify responsibilities and help prevent situations like Mr A's from recurring. Additionally, Auckland DHB staff should be aware of the importance of referring such calls to the on-call registrar or consultant, and Auckland DHB should communicate the process clearly to referring DHBs.

Methods of transmission

121. Dr Wilkins has noted that, by their very nature, ECG printouts (with graph paper background and superimposed ECG tracings) are difficult to fax. He suggested that investment in better quality fax machines or sending the ECG as a scanned attachment by email may improve the quality of the ECG that is received.

122. I agree with Dr Wilkins' advice. I note that DHB 2 has taken steps to improve the quality of the ECG results that are faxed. However, I consider that DHB 2 and Auckland DHB should continue to discuss how they can improve the transmission of data, for example, by scanning and emailing the data.

[18] 07HDC19869, 3 October 2008.

Failure of staff to follow referral process

123. Dr E faxed Mr A's referral letter directly to the cardiology department. The Auckland DHB policy, requiring it to be given to the CRO for processing, was not followed. Accordingly, there was no opportunity for the CRO staff to follow up a legible copy of the ETT results, and as the referral had not been logged, no acknowledgement letter was sent to Mr A.

124. Auckland DHB was unable to advise me the reason why, in this case, the referrals policy, which required all referrals to pass through the CRO, was not followed. I consider that Auckland DHB should take steps to find out why the policy was not followed, and give consideration to how that situation can be prevented from recurring. Auckland DHB advised that in addition to CRO follow-up, the triaging doctor is expected to check the legibility of the referral documents, and assess whether further information or a more legible copy of documents is required.

Letter acknowledging receipt of referral

125. Right 6(1)(c) of the Code states that patients have the right to receive full information about their condition and treatment options, including advice about the estimated time within which services will be provided. Involving patients at all stages of the communication process provides a check in the system to correct errors and ensure communications do not go astray.

126. As this Office has previously stated:[19]

> "In my view, a receiving DHB should acknowledge receipt of the referral, promptly notify the patient (with a copy to the patient's GP and to the referring DHB) of an approximate time frame for an appointment, and then notify the patient (again, with a copy to the GP and referrer) of a specific appointment time."

127. With regard to the letter of acknowledgement that was not generated or sent to Mr A, Dr Wilkins advised that it is a Ministry of Health requirement that DHBs appropriately acknowledge and process referrals within 10 working days of their receipt. Dr Wilkins commented that while it was unfortunate this acknowledgement letter never reached Mr A, it would not have altered the outcome as it was simply an acknowledgement that Mr A was on a waiting list for angiography.

128. While I accept that the acknowledgement letter would not have altered the outcome for Mr A, I consider that Auckland DHB failed to provide Mr A with adequate information about his referral and breached Right 6(1)(c) of the Code.

Summary

129. Auckland DHB had policies and procedures in place. However, in my view, it is of concern that Auckland DHB's procedures failed. The referral letter was not given to the CRO, which resulted in a lost opportunity to follow up a legible copy of the ETT

[19] 07HDC19869, 3 October 2008.

results and, in addition, the referral was not appropriately acknowledged. Dr D was given an illegible copy of the ETT results, and no action was taken to obtain a legible copy. As a result, the DHB did not provide services to Mr A with reasonable care and skill and breached Right 4(1) of the Code.

130. A specific aspect of the duty of care is the duty to co-operate with other providers to ensure continuity of care. Auckland DHB failed to adequately communicate the expected referral process to Dr E and DHB 2 and so Mr A was not provided with adequate continuity of care. Accordingly, Auckland DHB breached Right 4(5) of the Code.

131. Auckland DHB failed to provide Mr A with adequate information about the estimated time in which services would be provided to him. Accordingly, Auckland DHB breached Right 6(1)(c) of the Code.

Recommendations

132. I recommend that DHB 2 give further consideration to the steps it can take to ensure that its clinicians forward all available, relevant letters to the assessing hospital, and follow up referrals to ensure they are received and actioned, and advise HDC **by 13 July 2012** of any steps being taken.

133. I recommend that Auckland DHB apologise to Mrs A for its breach of the Code. The apology should be provided to HDC **by 29 June 2012** for forwarding to Mrs A.

134. I recommend that Auckland DHB take steps to raise awareness of its expectation that in circumstances where a patient is considered an urgent priority or high risk, a direct telephone consultation will take place with the on-call consultant, in addition to the written request, and advise HDC **by 13 July 2012** of any steps being taken to ensure all parties are aware of the necessary processes.

135. I recommend that Auckland DHB take effective steps to ensure that all referrals are given to the CRO for processing, regardless of where they are first sent, and advise HDC by **13 July 2012** of any steps being taken.

136. I recommend that Auckland DHB and DHB 2 have further discussions in relation to improving the methods used to transmit data, and that Auckland DHB and DHB 2 advise HDC by **13 July 2012** of any steps being taken.

Follow-up actions

- A copy of this report with details identifying the parties removed, except the expert who advised on this case and Auckland DHB, will be sent to the Medical Council of New Zealand, and the Council will be notified of Dr D's name.

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

Names have been removed (except ADHB and the expert who advised on this case) to protect privacy. Identifying letters are assigned in alphabetical order and bear no relationship to the person's actual name.

Appendix A — Independent cardiology advice to Commissioner

The following expert advice was obtained from cardiologist Dr Gerard Wilkins:

> "I have been requested to provide an expert opinion to the Health & Disability Commissioner and confirm that I have read and agreed to the guidelines provided.
>
> I am a qualified medical practitioner with specialty training in areas of cardiology.
>
> I completed the Fellowship of the Royal Australasian College of Physicians (Cardiology) in 1986 and underwent further postgraduate research and training beyond that.
>
> I confirm that I have many years of clinical experience in clinical cardiology with a particular interest in the management of coronary artery disease and acute coronary syndromes. The management of such cases comprises a considerable proportion of my daily task.
>
> I believe I am appropriately trained to provide an expert opinion regarding the requested case review.
>
> ***General Comments***
> I first must acknowledge the unfortunate outcome that occurred here with the death of [Mr A] prior to cardiac investigations being performed. I have read the extensive correspondence and responses from those concerned in his clinical care and the handling of his correspondence and assessment onto a waiting list for coronary angiography. My overall impression, having read this correspondence, is that the process followed the usual practices in public hospitals throughout New Zealand, including the use of the CPAC guidelines in order to be listed for publicly funded coronary angiography, and that this occurred in a timely manner. The process fundamentally ran as intended with two key exceptions that may have contributed to this unfortunate outcome. Now with the value of hindsight these two shortcomings may have contributed to the death of this man.
>
> The two key issues that may have contributed to [Mr A] receiving a lower grading on a waiting list for coronary angiography at Auckland Hospital than that which may have been desirable are:
>
> 1. The lack of any direct telephone contact with the acute Cardiologist at Auckland Hospital to discuss the urgent care of [Mr A], if that was the intention of the referring Physician, [Dr E], at [DHB 2]. The referral note from [Dr E] on the 28th July does not clearly indicate a high risk situation was considered to be present.

2. A more high risk situation would usually have been recognised by the grading cardiologist ([Dr D] at Auckland District Health Board) from an assessment of the ECG recordings of [Mr A's] exercise test. However, they were illegible and thus the grading cardiologist was unaware of the additional risk features present in the tracings. The only comment in the referral note was 'a positive stress test'. There was no comment alerting the grading cardiologist to quite marked ST segment changes occurring before the end of Stage I. A knowledge of such changes would likely have resulted in a grading towards the more urgent end of the scale.

These key deficiencies may have contributed to a delay as the assigned priority given this man was in the semi urgent category. Whether coronary angiography would have revealed important prognostic information that would have resulted in a successful life prolonging intervention can only be the subject of speculation however.

It is my overall impression that the clinicians involved in [Mr A's] care (from general practitioner to [DHB 2] and to the referral and responses at Auckland Hospital) behaved in a rapid and timely manner. Indeed at each point in the clinical journey the patient was handled with clinical rapidity that would be the envy of many District Health Boards in New Zealand. I note that from general practitioner referral to exercise test at [DHB 2], only a period from the 16th to the 23rd July (seven days) lapsed before this test was undertaken by [Dr F]. A further short delay now occurred as the patient wished to consider his options on whether to proceed to coronary angiography. After taking advice from his general practitioner a letter to Auckland Hospital was dispatched by fax to Auckland City Hospital's Cardiology Department on the 29th July. At the receiving end in Auckland Hospital the clinical grading occurred on the 31st July (1–2 days after receipt of the fax) and the timeline from request by general practitioner for exercise testing to referral and grading is therefore rapid and indeed exemplary.

At this point the patient was graded according to the data in the legible letter (but without a contribution from the Exercise Stress Test) and registered to receive angiography based on that grading. For a semi urgent case (as assessed) a delay of four to five weeks is entirely acceptable, and probably better than many comparable Cardiology Units in other New Zealand District Health Boards. I do not believe therefore that the time to proposed catheterisation was an issue in this case, but rather the grading offered to the patient in the first place, due to a lack of clinical information and missing ECG data available to the grading cardiologist.

A further problem, which is unlikely to have affected the outcome for [Mr A], occurred at this point in the process. It is common practice, and required under the Ministry of Health's national provider framework, that an acknowledgement of the referral for angiography and registration on a waiting list, should be sent to the patient within ten working days. Correspondence from Auckland Hospital acknowledges that this letter probably was not sent, even though it is generated

automatically when the patient's data is loaded onto the waiting list after prioritisation. Note that communication to a patient on a waiting list is usually (within District Health Boards) a two-step process due to the length of waiting lists. Firstly, a letter goes to the patient to notify them that they are on a list for a given procedure and an indication of their CPAC grading in relationship to the expected wait time is usually supplied. Secondly, some time later a letter with the date for admission for such a procedure is sent when a booking can be made. To my knowledge this is standard practice throughout New Zealand and is the result of the unpredictable impact of acute demand on elective throughput in the public sector. Offering a firm admission date for a procedure, many weeks or months in advance, is not practically possible. It is therefore unfortunate that this acknowledgement letter did not reach [Mr A] and his family. However, sadly, the receipt of this letter would not have altered the outcome as it was simply an acknowledgement that he was indeed on a waiting list for angiography.

As can be seen in the correspondence, some difficulty contacting Auckland Cardiology's Booking Section was encountered, but it would appear that only a single voice message was left and to this a prompt verbal contact was made the next day with details of the expected admission dates being conveyed to the patient at that time. Sadly, from the correspondence offered, there does not appear to have been any evidence of clinical deterioration in [Mr A's] state from the point of referral to the time of his death which may have alerted his general practitioner or referring physician, [Dr E], to any increasing risk.

Unfortunately by the very nature of coronary artery disease, risk assessment is difficult and an imperfect science. I note that by using a well respected risk assessment tool (the Duke treadmill score) [Mr A's] score would have been minus 23 which translates into an expected one year mortality estimate of 5.3–8.3%. This risk classification is considered to be high and he falls into a category where angiography would usually be indicated.

Clearly a key issue in this case is the illegible nature of the faxed exercise test data. By their very nature, ECG printouts (with graph paper background and superimposed ECG tracings) are difficult to fax. Transmission of higher quality data may well have influenced the level of grading that [Mr A] received for angiography. Copies provided to me of the data received at Auckland Hospital are of a very poor quality. Although I do not profess to be an expert in data transmission it is highly likely that much higher quality ECG data could be transmitted with better quality fax machines or as scanned attachments on an e-mail. Since ECG data is pivotal to assessment I would suggest that this is worth exploring. Unfortunately the grading given to [Mr A] was in the absence of the ECG data, as outlined above, and no active process to pursue the ECG data was followed at Auckland Hospital. I note however that in the letter to [Mrs A], and a subsequent letter to [the] Clinical Director of Cardiology at Auckland Hospital, [Dr D] proposed that an active process of seeking illegible data be put in place. It would then represent good practice to addend this data to the already completed

grading forms and have them reassessed a second time in case the new information substantially changed the original grading. I note also in [Dr D's] letter to [the Clinical Director of Cardiology] on the 13th October that he suggested a general communication to [Public Hospital 2] to encourage clinicians to make direct telephone contact if they perceive a high risk situation is present, thus encouraging a faster clinical process than one essentially through clerical staff. In my opinion this is a key additional ingredient to create a more rapidly responsive and fail-safe system around high risk cases.

The adequacy of systems in place at Auckland District Health Board for receiving, assessing and prioritising incoming referrals.

Correspondence suggests that a well developed system for receiving and assessing protocols is present at Auckland District Health Board. Prioritisation of the incoming referral was achieved within a very short time frame however, as noted above, no system to chase up inadequate or illegible documentation was in place. That has now been rectified.

The adequacy of systems in place at Auckland District Health Board to ensure patients, their general practitioners, and referring doctors are kept informed throughout the referral process.

It would appear that a standard process is followed at Auckland Hospital, common to all District Health Boards, and required by the Health Department. Once the referral is received the patient is assessed and placed on a waiting list. A letter is automatically generated to the patient with copies to the referring doctors to notify them that this has occurred. The aim is to achieve this within ten working days. On this occasion it would appear a letter was not issued and therefore it represents a breakdown in the process.

Whether sufficient steps have been taken by Auckland District Health Board prior to these events, to advise referrers about how to expect to receive referrals

It would appear that standard practices are followed in the Cardiology Department at Auckland District Health Board. It is the expectation of the Auckland District Health Board that urgent referrals will be notified by telephone in direct conversation with the on-call clinician and admission would be arranged immediately. This is common practice throughout New Zealand. It would be expected of referring specialists that they would assess risk and notify in this way. That did not occur in this case, presumably because risk was assessed to be high but not excessively so. Contact therefore followed the usual process of a letter directed through clerical staff to the assessing cardiologist and the process of using the CPAC tool for coronary angiography was used in a standard manner. In light of this case some further verbal discussion between the two District Health Boards may be appropriate to encourage more verbal communication when more hasty action is required, or should the referring clinician be in doubt.

The adequacy of systems in place at [DHB 2] for referring patients to District Health Boards.

The process of assessment and referral here followed quickly after [Mr A] indicated that he wished to be considered for angiography. It is unclear from [Dr E's] letter whether he sought communication with a clinician or contacted clerical staff directly regarding this admission. His letter suggests the latter. A letter was therefore generated rapidly and dispatched by fax. I have commented on the difficulties of transmitting ECG tracings by fax and it may be worth considering higher quality ways of sending ECG data to a receiving hospital, based upon more high quality fax scanning, or high quality scans sent as e-mail attachments. The need to transfer ECG data to a tertiary centre is likely to be a common practice at [Public Hospital 2].

The adequacy of systems in place at [DHB 2] to ensure any referral it makes to District Health Boards are received and actioned.

From correspondence attached it is unclear to me that there is any secondary follow up of referrals to check that information was received. A letter written by [Dr F] (typed on the 30th July 2009) was much more explicit in its statements regarding the early positivity of the exercise test on [Mr A]. This letter was directed to the general practitioner, [Dr G], with copies to the patient and to the original referring physician [Dr E]. Since it was typed after the faxed referral letter to Auckland Cardiology and was not copied to Auckland Cardiology, it seems highly unlikely that this letter ever reached the Cardiology Department at Auckland Hospital. Some system to ensure that all available, relevant letters are forwarded on to the assessing hospital may have value as the presence of this letter may have substantially altered the grading applied to the patient.

The adequacy of changes made by Auckland District Health Board and [DHB 2] in light of this complaint.

The letter [Dr D] wrote to [the Clinical Director of Cardiology at Auckland Hospital], on the 13th October 2009 appears to specifically identify the two issues I describe above as key features of the case. Firstly, that assessment of [Mr A] occurred without the benefit of legible faxed ECG data. On this point he suggests that the central referrals office be responsible for contacting the referrer to request original documents be couriered so they can be used as part of the assessment. Secondly, he requests that in general [Public Hospital 2] physicians are encouraged to communicate directly to a consultant cardiologist their concerns if they believe that there is considerable urgency in a clinical situation. Acting on these two recommendations will prevent such a further event occurring in the future. I see no documentation to confirm that a discussion with the [DHB 2] has occurred.

SUMMARY

In my opinion the processes in place in both [DHB 2] and Auckland District Health Board appear appropriate and in [Mr A's] case highly responsive with very rapid evidence of assessment and referral. The level of priority accorded to [Mr A] is probably lower than both the referring clinician and grading cardiologist would, with the value of hindsight, have wished to have applied. This occurred when the referral note failed to describe the high risk exercise test and the exercise test data was illegible once faxed. No system to chase up the illegible data was in place and this resulted in the patient being graded as semi urgent with a modest delay for angiography.

In retrospect this patient probably carried an adequately high risk that an urgent score, or even immediate admission to hospital, should have been considered. It is important to note however that methods of assessing a patient's risk are imprecise and that by its very nature coronary artery disease can result in sudden and unexpected death. The same event (unexpected death) may have occurred even if the patient had been graded urgent, with only a day or a week's delay and in my opinion therefore no blame for this outcome can be apportioned to either the referring chain or the receiving hospital. As requested by [Mrs A] this case has some salutary lessons on the adequate provision of data from the referrer and actions necessary by the receiving hospital, to ensure that a full and appropriate clinical assessment is provided. Steps appear to have already been taken to rectify these matters. The fault therefore lies with the process at a minor level and I do not believe that the outcome reflects a major deficiency in patient care."

The following further advice was received from Dr Wilkins on 4 October 2010:

"I refer to your letter of the 19th August requesting further expert advice to the Commissioner regarding this matter, specifically the Commissioner wishes to formally investigate [Dr D] and has sought further information from him as well as the Auckland District Health Board and [DHB 2].

You have included in your 19th August letter a list of further expert advice required. I will provide my responses under those headings.

1. Has your initial advice changed in any way in light of new information?

My initial response (25.6.2010) is unchanged by the additional information provided. This further information makes no material difference to my comments or conclusions. It does confirm that the Auckland DHB has standing orders around the processing of referrals consistent with other DHBs in New Zealand. It confirms that there is a process for dealing with illegible documents and that this is not the primary responsibility of the grading consultant. It therefore adds support to [Dr D's] position that he acted in good faith, grading [Mr A's] referral letter as rapidly as possible, based on the information provided.

2. If not already discussed, please comment on the following in relation to [Dr D]:
(a) The adequacy of [Dr D's] classification of [Mr A's] referral as semi urgent.

I have commented on this already in the earlier letter. To summarise [Dr D] has used the information presented in [Dr E's] referral letter to appropriately classify this referral. Since [Dr E's] letter did not summarise the pertinent facts related to the exercise test data, the reader in this case, [Dr D], was left unaware of any further risk stratification data that may have been present in the exercise test result. I have re-read this referral note (29.07.2009, [Dr E]). It commences with problems and ischaemic heart disease is preceded with a question mark suggesting that a diagnosis is being requested here rather than immediate action. The description of [Mr A's] clinical status is fundamentally one of a stable pattern of symptoms without rest pain and would tend to point towards a low risk/low priority situation. The comment 'positive exercise test' is unhelpful as few if any patients would qualify for a publicly funded coronary angiogram without a positive test. It is the objective findings of this test that can help predict risk, as I noted in previous correspondence. This risk is much better expressed in [Dr F's] letter of the 23rd July 2009 and as previously noted this was not typed until the 30th July and not included in the original data sent on to [Dr D] to assess. I note also that going back to the original tracings the summary on the graph paper (which was potentially a little more legible than the wave forms) states that there was, chest pain: none, ST changes: depression horizontal, and overall impression: positive stress test typical of ischaemia; but this interpretation summary fails to state the severity of the ST depression either.

(b) The appropriateness of [Dr D's] belief that he did not need to review a legible copy of the ETT as he had sufficient information at hand to assign a reasonable priority.

I agree with [Dr D] that grading proceeded appropriately to the perceived level of need communicated in [Dr E's] referral letter. There is no way, from this referral letter, that [Dr D] could have perceived that there was potentially more risk associated with [Mr A's] presentation. Placing myself in a similar position I would have proceeded in a similar manner:

(i) My concern would have been to get the patient graded and on a list in a timely manner without delaying investigations further. If paperwork was pursued it would likely (according to the tone of the referral letter) add nothing further. I note that sometimes the pursuit of further paperwork is sometimes a lengthy and ultimately futile process between organisations.

(ii) If the referral letter had suggested that some additional valuable information was present in the exercise test, I would have pursued this as by inference review of the exercise test data would have been pivotal to grading. No such inference was communicated in the referral letter.

(c) [Dr D's] comment that 'most of his triaging colleagues would also assign a priority based on the facts in the referring letter rather than requesting copies of the exercise test if they did not accompany the letter'.

I take from [Dr D's] response that a similar approach is taken by himself and other senior clinicians to that which I have outlined under sub section (b) above which would be my own practice in this situation. Such a response arises from an overriding concern that the patient is graded in a timely manner and enters a waiting list chain as quickly as possible, thus avoiding further unnecessary delays as paperwork is pursued. It should be remembered that the triage consultant, [Dr D] on this occasion, is working from a presupposition that any patient perceived to have an urgent priority, or high risk, will have been the subject of either an in-hospital to hospital transfer, or a direct phone call discussion to facilitate rapid action.

(d) The adequacy of changes made by [Dr D] to his practice since this incident.

The changes made in practice are detailed in [Dr D's] response letter of 22nd July 2010 under heading 4. They are entirely in line with suggestions that I had made in my initial response to the HDC. They are appropriate responses to this problem. I also note in a further letter from [the Customer Liaison Team] (13th August 2010) from the Auckland DHB that the primary responsibility for assessing legibility of documents lies with the central referral office staff (section 1a and 1b). Pursuant to this [the Customer Liaison Team] confirms that retraining of staff in relationship to this policy has occurred (section 5 of her letter).

3. If not already discussed, please comment on the following in relation to Auckland District Health Board.
(a) The adequacy of Auckland DHB's systems for receiving and handling cardiology referrals from other DHBs.

Under section 2 to 3 of [the Customer Liaison Team's]letter from the Auckland DHB (dated 13th August 2010) the process of receiving and grading letters is laid out in detail. Processes CRAO1-O7 details a common stepwise process for all referrals which appears robust and I would guess is largely common to all DHBs. A general guideline for cardiology referrals is included under Section 3 of this letter. Note that this is largely directed at outpatient assessment of letters from general practitioners which would represent the vast majority of letters received. Guidelines for the prioritisation of patients for angiography — the subject of this referral — would usually follow the elective services CPAC tool for prioritisation of elective coronary angiography.

(b) The adequacy of Auckland DHB's system for prioritising cardiology referrals.

I have commented on this previously but the system appears to be robust and in line with that of other DHBs. The letter from [the Customer Liaison Team] (13th August 2010) confirms that there is a process under document CRA01, sub section 5, for checking the legibility of referrals and she confirms in this letter that central referral office staff are expected to contact the referrer and ask for a legible copy to be supplied. She also confirms that it is the expectation that original copies will be forwarded to the Auckland DHB when non urgent referrals have been sent by fax (sub section 4). As a result of this problem the letter confirms that no changes to policies and procedures have been necessary but that retraining has been directed at referral administrators regarding the follow up of illegible referral documents in an attempt to minimise the possibility of such a problem reoccurring.

(d) Is there anything further that Auckland DHB could do to improve its process for receiving and prioritising referrals, to minimise the risk of similar problems reoccurring?

I have commented on this in my original response. Since the transmission of ECG data is difficult a review of the quality of fax connections and the possibility of e-mail attachments as a more appropriate way of sending such data may be worthwhile. The processes in place already are robust and are common to all DHBs.

4. If not already discussed, please comment on the following in relationship to [DHB 2].
(a) The adequacy of [DHB 2's] process for sending referrals to Auckland DHB.

I have commented on this already in the original letter. The speed with which [Mr A's] exercise test was provided and referrals made were exemplary. Since the transmission of ECG data was part of the referral process, a review of the adequacy of faxed resolution to confirm that an adequate facsimile is transmitted should be confirmed.

(b) Is there anything [DHB 2] could do to improve its referral process to minimise the risk of similar problems reoccurring?

[Mr A] would likely have received a substantially higher priority for coronary angiography had the referral letter contained a complete summary of the necessary data to assess his risk. Under New Zealand Elective Services CPAC tool guidelines for the assessment of coronary angiography four fields require data.

1. The grading of angina according to the familiar Canadian Heart Association Scale (Class I-IV),

2. The objective findings of the exercise test (the time to the onset of ST segment changes and their maximum deflection),

3. The presence of impaired LV function or associated valvular heart disease, and

4. The impact of the symptoms upon the patient's life and ability to give care.

A reminder to clinicians that each of these pieces of pertinent data would allow a referral letter to be graded, independent of the transmission of faxed data, and may avoid a repetition of this unusual event."

[The following comments were deleted as not being relevant to the clinical care.]