Medical Registrar, Dr C

Locum Specialist Physician, Dr D

Consultant Cardiologist, Dr E

Medical Registrar, Dr F

A District Health Board

A Report by the

Health and Disability Commissioner

(Case 00HDC02818)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Parties involved

Mrs A	Complainant / Consumer's wife
Mr B	Consumer (deceased)
Dr C	Provider / Medical Registrar
Dr D	Provider / Locum Specialist Physician
Dr E	Provider / Consultant Cardiologist at the first public hospital
Dr F	Provider / Medical Registrar
Dr G	Consumer's general practitioner
Dr H	Cardiologist at the first public hospital
Dr I	Specialist Cardiologist in private practice
Dr J	Advisor to the Coroner
Dr K	Advisor to ACC

Independent expert advice was obtained from a cardiologist, Dr David McHaffie.

Complaint

The Commissioner received a complaint from Mrs A regarding the care her late husband, Mr B, received from a Crown Health Enterprise (now a District Health Board) following his admission to a public hospital on 15 November 1999 and 14 December 1999. The complaint has been summarised as follows:

- *On 15 November 1999 Mr B was admitted to the public hospital with chest pain. Dr C diagnosed indigestion and discharged Mr B on 18 November 1999 after a negative treadmill exercise test.*
- *The treadmill exercise test was done in an afternoon despite Mr B's request that it be done first thing in the morning when he was feeling the weakest.*
- *On 14 December 1999 Mr B was admitted to the public hospital after nine chest pain attacks in one night. Mr B was not seen by a cardiologist or referred to another public hospital for an urgent angiogram as he had requested. He was discharged on 17 December 1999 after passing a treadmill exercise test.*
- *Mr B did not receive a response to his letter of 16 December 1999 written to Dr D but given in person to Dr E. Dr E also did not respond to Mr B's letter of 20 December 1999.*
- *Mr B did not receive a response from Dr D to his letter of 20 December 1999.*
- *Mr B did not receive a response from Dr F to his letter of 20 December 1999.*
- *Dr F did not follow up the matter of Mr B's increasing chest pain reported to her by Mr B in a telephone conversation on or about 30 December 1999.*
- *On 4 January 2000 Mr B died at home of coronary artery disease. Had he been thoroughly assessed and his concerns been listened to by the medical staff at the first public hospital, or had he been referred to the second public hospital for an urgent angiogram, he would not have died.*

The complaint was received on 14 March 2000 and an investigation was commenced on 8 June 2000.

Information reviewed

- Mr B's records were obtained from Mrs A, Dr G, the Crown Solicitor's Office, and the first public hospital.

Information gathered during investigation

Background
47-year-old Mr B had a history of asthma, myocarditis, hyperlipidaemia (elevated blood cholesterol level), hypertension, chest pain and back problems. He was an ex-smoker, and had a family history of ischaemic heart disease.

On 8 August 1996 Mr B presented at the first public hospital with a referral from a locum general practitioner. Mr B was complaining of chest pain. The doctor's letter of referral to the first public hospital noted that Mr B's pain was relieved with Nitrolingual spray (glyceryl trinitrate – GTN). The doctor also noted that Mr B's pain seemed 'atypical' and noted "minor ECG[1] changes with T depression in AVL[2] plus some possible ST elevation in [leads] V1-3".[3] On arrival at the first public hospital Mr B was examined and an ECG, bloods and a chest x-ray were taken. All results were normal and his pain was considered to have been non-cardiac in origin. He was discharged a few hours later with an outpatient's appointment for an exercise tolerance test (ETT).[4]

On 2 September 1996 Mr B had the scheduled ETT. The result was negative.[5]

On 11 October 1996 Mr B was admitted to the first public hospital with a mild exacerbation of his asthma. His condition improved with treatment and he was discharged the following day.

[1] Electrocardiogram – graphic tracing of the electrical activity of the heart used in diagnosis of heart disease.
[2] Depression in the T valve of an ECG in one of the limb leads (AVL) indicative of ischaemic heart disease (lack of blood supply to the heart muscle).
[3] Elevation in the ST segment of an ECG in the first three chest leads (V1-V3) indicates heart muscle damage in that area of the heart.
[4] Controlled exercise on a treadmill at gradually increasing speed and gradient. During the test, the patient's symptoms, including heart rate, blood pressure, presence of any chest pain, as well as ECG tracing are monitored and recorded.
[5] Absence of chest pain, no ECG changes, and blood pressure and pulse response normal.

Events leading to the admission of 15 November 1999
Mrs A advised me that she and her husband had been together since the beginning of 1997. On the morning of 11 November 1999 she witnessed for the first time her husband having chest pain.

On 12 November 1999 Mr B saw his general practitioner, Dr G. Dr G recorded that Mr B had experienced two episodes of central chest pain in the preceding two days, on each occasion after a bowel motion. Unsure what was causing the pain, Dr G prescribed GTN spray and decided to refer Mr B to Cardiology Outpatients at a third public hospital. In the referral letter to the cardiologist, Dr G stated:

> "Please arrange to see [Mr B] for an opinion on his chest pain and further investigation. He came today following 5 minutes tight central chest pain following defaecation. No radiation, sweating or dyspnoea. He had a similar episode following defaecation yesterday. No chest pain on exertion and currently well. … His history is atypical but description of pain is classical and I feel he warrants further investigation."

Dr E, consultant cardiologist at the first public hospital, stated that the referral letter was received and a consultation with Mr B was given a "B" grading,[6] but no consultation occurred because Mr B was admitted to the first public hospital on 15 November 1999, as described below.

Admission of 15 November 1999
On Monday 15 November 1999 Mr B again saw Dr G and reported two episodes of chest pain daily over the weekend, each lasting 5–10 minutes. Dr G noted that the pain occurred with minor exertion and eased with lying down. Querying unstable angina, Dr G decided to refer Mr B for admission to the first public hospital for assessment.

On 15 November 1999 at 12.45pm Mr B was admitted to the Acute Assessment Ward at the first public hospital. He was assessed and had an ECG, chest x-rays, and blood tests taken, including cardiac enzymes and Troponin-I. The decision was made to observe Mr B for 24 hours with an ETT to be done before discharge.

On 16 November 1999, at 9.15am, Mr B was seen by Dr D on the consultant ward round. Dr D, a locum consultant physician, was covering for the regular consultant physician, who was on three months' leave (November 1999 to January 2000). Also present on the ward round was Dr C, Dr D's registrar, who also saw Mr B for the first time.

Hospital notes record that Mr B had two episodes of chest pain on the morning of 16 November 1999, prior to the ward round. The pain was brought on with minimal exertion and was promptly relieved by GTN. Two ECGs were taken that morning prior to the ward round. Hospital notes record minor ischaemic changes with flat T-wave on lead 1[7] and very

[6] Non-urgent category (patient considered to be of low risk of myocardial infarction or death), with a wait of between four to six weeks.
[7] One of the ECG limb leads.

slight ST segment depression[2] on V4 and V5[8] and with slight elevation on ST segment V1 and V3.[3] Dr D stated that he was "impressed" by Mr B's history of pain occurring at rest and felt that his ECG changes were significant, when taking into account Mr B's medical history and the diagnosis of possible angina.

Dr C stated that Mr B had an ECG taken on presentation, and had subsequent ones done with further chest pain, and routinely each morning. She said they did not demonstrate ischaemia. Mr B's cardiac enzymes, including Troponin-I, were normal on admission, 12 hours later and the following morning. His chest x-ray, other blood tests and physical examination were all normal.

Mr B was admitted to a ward under Dr D's care for observation and treatment of unstable angina. Dr D recommended the addition of nitrates (vasodilators) and Clexane (an anticoagulant) to Mr B's treatment regime, and an inpatient stress ECG.

On the morning of 17 November 1999, Dr C saw Mr B on the ward round. Dr C stated that Mr B reported feeling better, and that he had been pain free since the previous morning. Physical examination was normal. She stated that the Clexane was to be discontinued that evening provided that Mr B remained pain free. Dr C planned an ETT and possible discharge for the following day.

On the morning of 18 November 1999, Mr B reported two further episodes of chest pain after going to the bathroom, described by Mrs A as the worst pain he had had to date. The pain was immediately relieved with GTN spray. There were no changes on his ECG. At 12.20pm that day Mr B was seen by Dr D, who stated:

> "I felt that this patient had angina on minimal effort and a discussion about his further management took place in front of the patient. I cannot recall exactly what I said but it was something along the lines of 'whether you have angina or not is not the question, but we have to decide what level of treatment is required, whether you need an angiogram, angioplasty or bypass surgery.' … It is further noted that I was keen that a cardiologist assess this patient as I felt that this patient could have unstable angina. [Dr C] suggested that we do a treadmill test and that [Mr B] could be released to the care of his GP. I raised with her the reliability of the treadmill test in the presence of the patient in this situation and suggested to her that even if the treadmill was negative I would like him to be assessed or discussed with [Dr H] who I understood was the cardiologist at [he first public hospital]"

On the ward round, Mr B's vasodilator medication (isosorbide mononitrate) was increased. Hospital notes taken by Dr D's house surgeon record that Mr B was for a possible discharge later that day if the result of his ETT was negative.[5] The matter was to be discussed with cardiologist Dr H. This is consistent with the statement made to me by Mrs A that Dr D did not want Mr B discharged without him first being seen by the cardiologist (regardless of the ETT results).

[8] Fourth and fifth ECG chest leads.

Dr C advised me that Mr B did ask her to arrange his ETT in the morning. Dr C said:

> "I tried to do this, however there were no available appointments in the morning for the remainder of that week, and I decided that it was preferable to do the test earlier, and in the afternoon, rather than wait until the next week when a morning time may have been available."

Later that afternoon Mr B had a stress ECG done by Dr C. Mr B experienced no chest pain during the procedure and there were no indications of ischaemia on ECG. Dr C advised me that she explained to Mr B that on the basis of a normal ECG, two normal Troponin-I measurements taken after the chest pain, and a negative exercise test, the probability of unstable angina or significant ischaemic heart disease was low. She explained that his pain could be due to oesophageal spasm or indigestion but did not diagnose indigestion as such.

Mr B was discharged on 18 November 1999, at approximately 4.30pm. In the Discharge Summary, Dr C wrote:

> "With this negative exercise test, we think overall that [Mr B] is low risk of significant ischaemic heart disease. We have not organised an outpatient appointment for [Mr B], however, we would review him again should the need arise."

Dr D stated that Dr C discharged Mr B and that the actual discharge was not discussed with him.

Mrs A advised me that despite Dr D's comment that her husband was to be seen by Dr H, regardless of the outcome of the treadmill test, he was discharged by Dr C without seeing the cardiologist. No documentation was provided to me to indicate that Mr B was seen by Dr H before he left the hospital.

Following Mr B's discharge from hospital on 18 November 1999 Dr G, Mr B's general practitioner, noted that Mr B was discharged on antianginal medications (Imtrate, aspirin and Bezalip) with a diagnosis of chest pain of uncertain cause and no follow-up. Dr G stated:

> "I did not feel a man of his age with his risk factors should be left with this uncertainty and persuaded him to have a private consultation with [Dr I]."

On 24 November Dr G referred Mr B to Dr I, a specialist cardiologist in private practice.

Mrs A advised me that after being discharged on 18 November, Mr B continued to have chest pain. She said the pain was so bad that he would have to lie down for longer periods of time than normal. She described his pain as "4–5 on the pain scale".

On 2 December 1999, Mr B was reviewed by Dr I. In a letter to Dr G, Dr I wrote:

> "I agree that [Mr B], at the age of 47, is too young to be treated for angina and heart disease without evidence that he has it. I therefore feel comfortable in recommending an

> angiogram. [Mr B] and his wife would like to proceed with this. He has asked me to place him on the waiting list at [the second public hospital] which I am happy to do."

Dr G stated that Dr I put Mr B on the second public hospital's waiting list because he was unable to afford to have it done privately. On 2 December Dr I wrote a referral letter to a cardiologist at the second public hospital, asking him to list Mr B for coronary angiography.

The second public hospital stated that on 8 December, in response to Dr I's referral letter, the cardiologist completed a cardiac catheterisation booking form listing Mr B for a coronary arteriography with a "B" urgency priority. He advised that this usually entailed a wait of between four to six weeks. He also advised that no further contacts with a cardiologist or cardiology registrar at the second public hospital were made regarding Mr B.

Admission of 14 December 1999

During the night of 13/14 December 1999 Mr B experienced nine episodes of chest pain, each lasting three to five minutes. Mrs A said that through the night Mr B was woken from his sleep from the pain approximately every three-quarters of an hour. The pain rapidly responded to the GTN spray. Mr B saw Dr G at 8.14am that morning. Dr G contacted Dr I to arrange an admission to the second public hospital. Dr G said:

> "As [Mr B] was zoned for [the first public hospital], [Dr I] advised admission there with a diagnosis of unstable angina and expected, (as did I), that he would be transferred for urgent angiogram to [the second public hospital]."

Dr G thereupon wrote a referral letter to the admitting doctor at the first public hospital in which he stated:

> "Please admit [Mr B] with ? unstable angina. He was admitted with chest pain recently with follow-up negative stress test. However, he continues to have chest pain and saw [Dr I] who recommended angiogram for definitive diagnosis. He has remained on his discharge medications. However, he experienced chest pains x7 last night. Responded to nitrolingual. Lasted about 3 mins. BP 130/90. HS [heart sounds] = OK. P[pulse] = reg. D/W [discussed with Dr I] – requires admission as unstable angina."

Mr B presented at the first public hospital and was admitted at approximately 10.15am under the care of Dr D's team. The admission notes record that there were no ischaemic changes on ECG and his cardiac enzymes, including two serial Tropinin-I estimations, were negative. The notes also record that Mr B "is on a waiting list for angiogram – hoping he can have this during this admission".

Dr F, Dr D's registrar, stated that she first met Mr B on the ward round on 15 December 1999. She stated that Mr B was diagnosed with unstable angina and treated with a low molecular weight heparin [Clexane] and increased isosorbide mononitrate medication. She noted that Mr B's ECGs, including those taken while he had chest pain, were normal and that his cardiac enzymes, including two serial Troponin-I estimations, were negative. Notes record that Mr B "believe[s] himself in serious risk of getting severe heart damage".

On the morning of 16 December 1999, before the consultant ward round, Mr B wrote a letter to Dr D pleading for an urgent angiogram. A full transcript of the letter is attached as Appendix A.

Dr D advised me that on the morning of 16 December Mr B was seen on the ward round and read the letter to him. Dr D described the meeting as follows:

> "I saw [Mr B] on the ward round on the 16th December 1999. I found him to be in an agitated state. He claimed that he was having frequent bouts of chest pain and produced a letter which he read to me in the presence of the new registrar, [Dr F]. He was keen that we send him directly for an angiogram to [the second public hospital]. He again complained of chest pain and on examination no abnormality was found. I diagnosed unstable angina.
>
> I discussed with [Mr B] the various option levels. I said to him that besides angiogram we have other modalities to come closer to the diagnoses like a stress echocardiogram, a MIBI Scan of the heart to pick up areas of ischaemia. I suggested to him that we will get the cardiologist to see him immediately as I was not aware which facilities were available immediately at [the first public hospital]. [Mr B] agreed to be reviewed by the cardiologist.
>
> I was advised that the cardiologist on call for the hospital was [Dr E]. I then went down to find [Dr E] and discussed [Mr B's] problem with [Dr E] in the presence of [Dr F]."

In the notes Dr F recorded that Mr B was:

> "Concerned re 10% of negative ETTs that do have significant heart disease. Is afraid of having MI [myocardial infarction / heart attack] and requests urgent angiogram / angiography / CABG [coronary artery bypass grafts]. Chest pain he gets is different to indigestion, relieved with GTN. No further CP [chest pain] since yesterday mane [morning]. … Stop Enoxaparin [Clexane]."

Dr D advised me that he felt that he had adequately responded to Mr B's letter of 16 December in person and therefore did not respond to him in writing.

During the early hours of 17 December 1999, at 4.00am and 6.00am, Mr B experienced chest tightness which was relieved with GTN. At 7.20 am he was reviewed by Dr E as requested by Dr D the previous day. Dr E advised me that Dr D wanted to know whether urgent angiography was indicated. Dr E stated: "[I]n other words, I was being asked to risk-stratify [Mr B] and to consider upgrading his priority on the [second public hospital's] coronary angiogram waiting list. I [considered] this on the basis of his history, physical examination, resting ECG, ECGs with chest pain, serial Troponin estimations and an exercise test."

Dr E advised me that he "suggested to [Mr B] that we should perform another exercise test and that if this was in any way abnormal he would have an inpatient [coronary] angiogram.

If however, the test was once again normal, then he would wait for the outpatient angiogram already arranged."

The exercise test was conducted on the afternoon of 17 December 1999. Dr F noted that during the procedure Mr B did not experience any chest discomfort and there were no significant changes on his ECG. She said that the test result was discussed with Dr E. Dr J, on the other hand, noted that there was a "slight ST depression in leads V4 to V6 at ten minutes" and that in retrospect he thought this exercise test was "somewhat borderline".

Dr E advised me that Mr B was stratified as being of low risk for myocardial infarction and death and therefore his priority on the second public hospital's coronary angiogram waiting list was not upgraded. Dr F advised me that "as the exercise test was normal and [Mr B] was already on the outpatient angiogram [the second public hospital's] list, he was discharged with advice to see his general practitioner if he had prolonged chest pain or any ongoing problems in the community". He was discharged on aspirin, GTN spray and the increased dose of isosorbide mononitrate.

Dr F stated that during her pre-discharge conversation with Mr B, he enquired what other causes there could be for his chest discomfort, if not cardiac. Dr F said she informed Mr B that he was being managed as having unstable angina but that other possibilities mimicking chest tightness include oesophageal spasm/indigestion/gastro-oesophageal reflux. Dr F said that, at this point, she suggested to Mr B that in addition to his discharge medications he could also try an antacid preparation. A prescription for Mylanta was given. Dr F recorded that she discussed with Mr B the result of his ETT, and that he had a "low risk of a significant ischaemic event".

Dr F stated that on the day of Mr B's discharge, she contacted Dr G by telephone to inform him of the admission, results and follow-up plan. In the discharge summary she recorded that Mr B was "again managed as unstable angina", that although an urgent outpatient angiogram was being organised, it was not thought to be urgent. Discharge instructions to Mr B were "exercise and weight loss, and see doctor if prolonged chest pain greater than 20 minutes not relieved with nitrolingual". The discharge message to Dr G was to "monitor blood pressure in the community and treat if remains elevated … we have not arranged to see him again, and would be grateful if you would follow up the result of his angiography".

Dr D advised me:

> "[Dr F] did not discuss the negative stress ECG with me. Later that day I was told that the stress ECG was negative and that [Mr B] had been discharged."

Period following discharge on 17 December 1999

Mrs A advised me that after his discharge from the first public hospital on 17 December 1999, Mr B experienced chest pain every morning at 4.00am and after a shower. This chest pain started on his last day at the hospital and lasted until he died on 4 January 2000. She said that his medication was not working and the pains were getting worse and more frequent. The pain was relieved only with GTN.

On 20 December 1999 Mr B wrote a letter to Dr E, Dr D and Dr F expressing doubt about the reliability of ETT in the diagnosis of unstable angina. Based on his findings on the internet, Mr B drew the doctors' attention to the limitations of ETT, believing that the results of the ETT he underwent as an inpatient at the first public hospital were inconclusive. In the letter, Mr B pleaded with Drs E, D and F to reconsider their earlier decision, and to arrange an urgent coronary angiogram. Mr B stated that he had a feeling that he would "not make it". He was fearful of having a heart attack or dying. A full transcript of the letter is attached as Appendix B.

Mrs A advised me that her husband was fighting for further treatment without being overbearing. He wanted to give Drs E, D and F a chance to respond to his letters. Mrs A said that her husband was sure that he would receive a prompt reply to his letters, and told her that as a result of writing the letters, he expected to be in the second public hospital for an angiogram by Christmas. She said that her husband believed he would need to have a coronary artery bypass operation, and therefore expected he would be spending Christmas in hospital following the angiogram.

On 21 December 1999 Mr B was seen at Dr G's practice and had his Selectol, a medication used for the treatment of hypertension and angina, restarted. An entry in the records states that Mr B was waiting for an angiogram. The following day, 22 December 1999, Mr B saw Dr G, who noted that there was still "no word re angiogram".

Doctors' responses to Mr B's letters

Dr F advised me that referrals such as that requested by Mr B in his letter of 20 December 1999 to Drs E, D and F are always made in conjunction with a cardiologist. She stated that Dr E had said that he would reply to Mr B on behalf of Medical Services at the District Health Board. Dr F said, "It is for this reason alone that [Mr B] did not receive a response from me personally." Dr D advised me that he received the letter on 24 December 1999 when Dr F gave it to him. He said that Dr F explained that Dr E had already received a copy of the letter a few days earlier.

Dr E advised me that Mr B's two letters (of 16 and 20 December) were received by him at the same time. He said that he first saw them on either 23 or 24 December 1999. Dr E said that shortly after seeing the letters, he discussed their content with Dr D. Dr E said:

> "I undertook to reply to both letters although [Dr D] had already discussed the letter of 16 December with [Mr B]. After giving the matter some thought, I decided not to reply but to upgrade [Mr B's] priority for angiography after the Christmas/New Year break. I was aware that between Christmas and New Year only very urgent angiography was being performed at [the second public hospital] on in-patients."

Dr D advised me that on or about 27 December 1999, he discussed Mr B's letter with Dr E. Dr D said that it was agreed that, as Dr E had been consulted on Mr B's cardiac symptoms, Dr E would respond to the letter.

Mrs A stated that in the meantime, on or about 23 December 1999, Mr B telephoned Dr F saying that he was experiencing chest pains every morning between 4.00am and 5.00am,

and two to three times a day. She advised me that her husband phoned Dr F because he wanted to avoid the "4.00am pains". The medication did not seem to work. Dr F asked Mr B whether he had been taking his indigestion medicine and was told that he was but that it was not working.

Dr F stated that, at about this time, several days after receiving Mr B's letter of 20 December 1999, Mr B telephoned her and left a message on her pager requesting that she contact him by telephone. She called him back the same day and recalled their conversation as follows:

> "… [Mr B] asked whether he should try his antianginal medication [isosorbide mononitrate] at night if his chest discomforts were in the morning, as I recalled, the same as it had been in hospital. I advised him that this was indeed worth trying. My impression of the conversation was not of [Mr B] describing increasing chest pain or crescendo angina. I reiterated to [Mr B] to see his general practitioner if there were any ongoing problems. I did not hear anything further from [Mr B] or his general practitioner."

When later asked by the family why at the time she appeared to be interested only in Mr B's indigestion medication and why she had not readmitted him at the time he telephoned her, Dr F explained that she agreed with Mr B when he asked about changing the times he took antianginal medication and that it was her usual practice to ask about any other medication a patient was taking. She also said that she asked Mr B about the type of pain he was getting and that it did not appear to be any different than when he had been in hospital.

Period preceding Mr B's death
On 23 December 1999, Dr G went on holiday. During his absence, Mr B was in touch with Dr G's medical practice for monitoring of his blood pressure.

Mrs A advised me that from Christmas Day onwards her husband's pain was "really bad" and that during the pain he was holding his chest. At about this time he also started getting chest pain in the afternoons. Mrs A said that her husband knew that there was more to it than what he was told at the first public hospital and felt that he was "not going to make it". Mrs A said that her husband tried to play down his concerns while waiting to receive a response to his letter of 20 December. He hoped to receive advice that his angiogram date had been brought forward. She said that her husband would go to the letterbox each day in anticipation of receiving a response.

Mrs A advised me that her husband telephoned the second public hospital a "couple of times" and he also spoke to someone who she thought was a booking clerk. Mrs A said that Mr B had phoned to ask where he was on the waiting list for the coronary angiogram and whether he could be put forward. Mrs A said that her husband indicated that if there was a cancellation "he was willing to step in at any time of the day". She also said that Mr B indicated to her that if nothing happened by 5 January 2000, he was going to "turn up on [the second public hospital's] door".

On 29 December 1999 Mr B saw Dr G's nurse, who recorded: "[Mr B] wishes to increase to 1 tablet daily (as previously discussed with [Dr G]). Advised recheck 1/52 [one week] or prn [as required]." Mr B's blood pressure was recorded as 132/96.

On 4 January 2000, at approximately 4.00am, Mr B experienced further chest pain. Mrs A recalled being woken up by his use of the GTN spray. When she asked him whether he was all right, she did not receive a response. Mr B had died. An ambulance was called and at 4.23am the Police were informed of the death. The following day, 5 January 2000, a post-mortem examination was conducted. The autopsy revealed severe triple vessel coronary artery disease. Death was stated to have resulted from coronary atherosclerosis.

Responsibility for Mr B's care
In response to my provisional opinion, Dr D informed me that he was responsible for management of Mr B's care, but that in the course of the December admission the patient was referred by him to Dr E for a cardiological opinion and management plan. Dr E, in response to a question from the family at a meeting subsequent to Mr B's death, said that he had not been the physician in charge of Mr B's care and treatment. At the meeting these comments were reinforced by Dr F, who also said that Dr E was only asked for a cardiology opinion.

Family meeting following Mr B's death
A meeting was held on 10 April 2000 in order for Mrs A and members of her family to express their concerns about Mr B's treatment. It was attended by Drs E and F, two administrators from the District Health Board, and a Patient Advocate. The report of that meeting, prepared by one of the administrators, records that Dr E "expressed his sadness" at the death, and that he "also stated that we accepted that the system had let [Mr B] down".

It was at this meeting that Dr E stated that he had been requested only for a "cardiology opinion" and was not managing Mr B's care. These comments were reinforced by Dr F. Dr E also said that he had "planned to ring [Mr B] and tell him that he would try to get his angiogram brought forward but unfortunately he had not got to this quickly enough. Dr E was deeply apologetic that this had not happened."

Independent advice to Commissioner

Dr David McHaffie, an independent cardiologist, provided the following expert advice:

> "Re: 00/02818 concerning the death of [Mr B]
>
> Following your request for advice to assist the Health and Disability Commissioner form an opinion whether various staff at the [first public hospital] gave appropriate care to [Mr B] I have reviewed all the materials you sent me, (plus the extra notes gathered by [the investigation officer]), and written my report.

The report is enclosed.

The essence of this case is that [Mr B] had very marked concerns about the possible consequences of coronary heart disease and during the last few weeks of his life he sought, unsuccessfully, to have an early coronary angiogram. That test would have been likely to help decide the best options for his treatment and would almost certainly have resolved doubts that [Mr B] had about the results of the non-invasive assessments he had undertaken at [the first public hospital]. On this matter I have formed the opinion that [Mr B] did not receive optimal care because staff at the [first public hospital] did not show an adequate response to a clearly expressed, reasoned and specific plea for assistance from their patient.

In addition to confirming the serious nature of his coronary heart disease my review also raises the possibility that [Mr B] was affected by obstructive sleep apnea (OSA). This disorder would not usually be considered to be a likely factor in the aetiology of sudden death. However, in the circumstance where OSA could have coexisted with severe coronary disease there is a possibility that the two processes, reduced myocardial blood supply and periods of reduced oxygen saturation of the blood, combined to cause fatal cardiac arrhythmia. The clinical manifestations of sleep apnoea are not clear-cut and the impacts of the condition on the circulation are variable. I do not consider that a failure to consider the diagnosis in [Mr B's] case constituted a dereliction of care on the part of the [first public hospital's] staff.

However, I would advise the Commissioner that this is an issue that should be taken into account before coming to the conclusion that coronary disease was the sole cause of [Mr B's] death.

MEDICAL REPORT regarding Health and Disability Commission Case Number 00/02818

My name is David James McHaffie, I am a registered medical practitioner employed by the University of Otago at the Wellington School of Medicine (as a Senior Lecturer in Medicine) and by the Wellington Hospital (as a Cardiologist).

I am not aware of any personal or professional conflict in making this report.

Medical Participants in this case:

Dr E, Consultant Physician

Dr D, Locum Physician

Dr C, Medical Registrar

Dr F, Medical Registrar

Dr G, General Practitioner

Dr I, Cardiologist

The Medical History of [Mr B]:

Brief notes regarding background and pathology findings

Heart disease, including possible myocarditis was mentioned in 1970. The background also included asthma (limiting the use of betablockade), raised blood pressure and raised serum cholesterol. Assessment for chest pain was first done in 1996; effort testing to 9.4 mins was negative. Admitted 15 Nov 1999 with tight cramping chest pain and treated for unstable angina using anticoagulants. Troponin I values normal. Effort testing to 10 minutes with no positive features. Reviewed at private cardiology clinic and accepted for waiting list angiogram at [the second public hospital]. Admitted 14 December 1999 with recurrent pain and treated with anticoagulants. Normal test results including exercise test (exercised for 12 minutes). [Mr B] died during his sleep on Jan 4th 2000. The coroner's post mortem reveals that he weighed 104kg and had extensive atheromatous narrowing of all 3 principal coronary trunks. There was no recent coronary thrombosis and no evidence of previous infarction.

Relevant concepts of disease:

1. Regarding the mechanism for angina, unstable angina and acute myocardial infarction.

Stable angina is usually caused by physical effort or emotional upset that raises the energy requirements of the heart muscle. Satisfying the energy needs of tissues is a primary purpose for arterial blood flow (perfusion). Where significant and fixed narrowings (plaques of atheroma) occur in the coronary arteries perfusion may be compromised. Imbalances between the demands of the heart muscle for blood and the supply of blood through narrowed coronary arteries can produce characteristic squeezing chest pains that require the patient to rest until the pain subsides (angina). Patients who have this syndrome may have normal EGG tracings at rest but many show characteristic EGG abnormalities during exercise. Protocols have been designed that suggest when patients with symptoms and characteristic test results should be referred for further testing (eg angiography). These more advanced and invasive tests are done in the expectation that they will identify patients most likely to benefit from interventions to treat the arterial lesions (for example angioplasty or bypass surgery). When the patient has stable symptoms it is usual for the testing and the interventional treatment to be done in an elective fashion.

Modern concepts suggest that unstable angina and acute myocardial infarction are caused by a different model of pathophysiology. Here it is felt that an additional factor, coronary thrombosis or clot formation, is the chief aggravating influence that modulates any underlying coronary narrowing. As the name implies patients with unstable angina show some degree of unpredictability – sometimes the pains wax and wane on an hour-by-hour or day-by-day basis. A possible reason for this variation is the variable extent to which recently formed thrombus in the vessel interferes with the flow of blood. Should

the clot be extensive and occlude the artery it is likely that pains will occur at rest and there are often EGG changes that denote ongoing injury. When occlusion persists for minutes and hours it is common for the muscle supplied by that artery to becomes scarred (myocardial infarction). On the other hand intensive treatments to combat thrombosis (eg heparin type drugs) may relieve symptoms by reducing the size of the thrombus or eliminating it. Under these circumstances patients may find that their symptoms settle and in some circumstances they may regain their ability to undertake physical activity. When patients in this category return home they may remain stable but some find that the symptoms of unstable angina return. Variability in the extent and influence of any residual coronary thrombosis is thought to be one of the explanations for the exacerbations and remissions that are seen in the symptoms and the variations that occur in exercise performance in these patients. Given the unpredictabilities and uncertainties about the course of illness with unstable angina there has, in recent years, been a trend towards more aggressive use of coronary angiography in the assessment of such patients. Most patients with unstable angina who have recurrent bouts of pain while on full hospital treatment or who need to return to hospital because their symptoms have recurred should be offered urgent coronary angiography.

2. Application of Effort Testing

Progressive exercise testing using walking on a treadmill with variable speed and inclines has become one of the most frequently undertaken tests in cardiology units. As noted above it is common for patients with coronary narrowings causing stable angina to show typical chest pain and EGG abnormalities during the progress of the test. When pains and EGG features occur at low work rates the results are usually taken to indicate the need for referral of the patient for more advanced testing (such as coronary angiography) in the expectation that this will identify patients most likely to benefit from interventions. Where test results are negative or show mild changes at high work rates (for example exercise loads of 9 minutes duration or greater) it is frequently the case that the patient is given reassurance that the risk of future heart attack is low. This reassurance is based on the results of extensive population studies using standard testing and predicts that where patients are able to exercise to high work rates it is unlikely that acute myocardial infarction or sudden death will occur during the following 2 year period.

On the face of it there would be expectation that exercise testing would provide totally specific information in all patients with chest discomfort who undertake a standardised test. That this is not the case adds considerable complexity to the application of this assessment (and most other biological tests as well). The variation in sensitivity and specificity of exercise testing is related to several factors including the age and sex of the patient. Also important are the prevalence of coronary disease in different groups of the population, details of the clinical history and the technical factors involved in obtaining and interpreting the electrical tracings. Even when these factors are accounted for there are instances when false positive test results are obtained – in other words the test result suggests a diagnostic abnormality when none is present. Conversely, in some instances, the test result shows no abnormality but later events or another test method may indicate that true disease is present.

Dealing with these complexities in the analysis of test results is a demanding part of modern clinical practice. NZ patients are also finding that in their understandings of informed consent they have to confront the difficulties that may occur with the interpretation of test results.

One approach that is often used by clinicians to deal with this problem is to discuss with patients the use of a more specific test to clinch the diagnosis. It is obvious that difficulties can arise if the recommendation to undertake a more advanced test involves the patient in taking more risk or incurs expense or is frustrated by restricted availability.

[Mr B] was aware of these concepts. In his letters he was able to express a good understanding of the pitfalls that affect biological test results. It is apparent that he had come to believe that his exercise tests had shown false negative results. He expressed the view that the most appropriate way forward was to undertake the next most specific test that was appropriate for his condition – coronary angiography. He informed his clinicians that he could not afford to undertake such a test in private and asked for it to be done within the public system and without delay.

3. Obstructive Sleep Apnea (OSA)

During the last decade this condition has become more clearly appreciated as an important cause of ill-health and an aggravating factor in some circulatory disorders. Affecting up to 4% of adults the most notable features are loud snoring, disrupted sleep and excessive daytime somnolence. Patients with OSA suffer from fragmented sleep and may develop cardiovascular abnormalities, including cardiac arrhythmias, following repetitive cycles of snoring, airway collapse, and hypoxia. Because many patients are not aware of their heavy snoring obstructive sleep apnea may be overlooked. Detection of the condition often requires the assistance of the bedroom partner of a patient with chronic sleepiness and fatigue.

Synthesis and Opinion

Using a retrospective analysis it is apparent that the crux of [Mr B's] case is that it was difficult to use the usual methods of clinical assessment (history taking, physical examination, blood tests and exercise testing) to reach the diagnosis that he had severe multi-vessel coronary heart disease. Although his medical attendants considered that he was probably reporting brief bouts of angina they were not able to easily override the stumbling blocks confounding that diagnosis – ie that there were no positive test results indicating heart disease. Chief impediment of all was the consistent finding that [Mr B] had repeatedly normal exercise tests (in 1996, and twice in 1999).

The net result of these difficulties is that the [first public hospital's] staff put more weight than they might otherwise have done on such issues as alternative causes of pain, eg dyspepsia. Further, they used strict interpretation of local guidelines for referring patients for angiography. By downplaying the possibility that they might be confused by false negative exercise results they arranged for an elective angiogram. If there had been

strong suspicion that the exercise test had produced a false negative result they might have considered an urgent angio study.

The regrettable aspect of the case is not so much that the overall diagnosis was mistaken. Episodically, this happens to most doctors and patients and is likely to remain a long-term feature of clinical practice. The inappropriate aspect of the [first public hospital's] practice in this case was that the staff were not able to respond to the concerns, and finally the pleas, of the patient that the clinical course being followed was mistaken and should be changed.

In this respect [Mr B's] letters to [Dr D] and [Dr E] are notably important. They show evidence of considerable research in the evaluation of medical literature and argue well-reasoned conclusions pointing to the appropriateness of undertaking coronary angiography. [Mr B's] synthesis of the clinical situation and his appreciation of the difficulties that surround the impact of false positive and false negative test results were apt. There is a level of understanding shown in [Mr B's] approach that is exceptional and this adds to my conviction that his concerns were deep-seated and genuine and that his letters should have been accorded a prompt and specific response.

While it might be argued that the plan for investigations that was adopted at the first public hospital could be recommended as a general policy for a group of patients presenting with chest pains and negative effort tests I do not think that it was appropriate to follow such a 'policy guideline' in [Mr B's] case. The reason for coming to this conclusion is that this particular patient believed that the diagnosis and the proposed course of action were incorrect. As far as I can understand them these beliefs were not based on a whimsical or vexatious approach by the patient. [Mr B] had a rational reason for his concerns and he expressed them in a clear fashion to his medical attendants. To fail to respond to those concerns added a burden of mental stress and strain upon the patient that was unjustified. I believe that this was an instance where a guideline-based decision should have been superseded by a clinical decision that addressed the specific needs of the patient.

Answers to your questions

In giving the following answers to your questions I am taking into account the above synthesis and my understanding of current norms of New Zealand practice.

1. What specific professional and other relevant standards apply in this case and did medical staff at [the first public hospital] follow them?

   The relevant and expected standards are those that reflect the common goals of practice within the health service – that patients will be seen in a timely fashion, be encouraged to explain their health concerns to competent medical attendants, and have investigations and treatment that address their specific needs. At the same time it is acknowledged that these rights and expectations operate within a health service framework that requires that some efficiencies and equities in health care delivery

will come from the use of guidelines and that some facilities are restricted by constrained availability of resources.

In my opinion the staff at [the first public hospital] applied these standards in an appropriate way up to the period of [Mr B's] hospital admission in December 1999. I feel that from that date onwards there was a failure to provide adequate services to [Mr B].

2. Was [Mr B] assessed appropriately following his admission to [the first public hospital] on 15th November 1999, was the right diagnosis made, was he treated appropriately, and how appropriate was the decision to discharge him on 18th November 1999?

   In hindsight it is easy for commentators to conclude that the diagnosis was incorrect at the time of the November 1999 admission. However, my opinion is that [the first public hospital's] staff made the appropriate assessments and appropriate management plans at the time, including the decision to discharge [Mr B] from hospital.

3. Was [Mr B] assessed appropriately following his admission to [the first public hospital] on 14th December 1999, was the right diagnosis made, was he treated appropriately, and how appropriate was the decision to discharge him on 17th December 1999?

   As mentioned in my synthesis of the case I feel that because chest pain had recurred and required [Mr B] to be readmitted to hospital it would have been appropriate to have given greater prominence to the diagnosis of unstable coronary heart disease at that time. Further, because of the patient's specific and reasoned requests for tests to clarify the diagnosis it would have been appropriate to have kept him in hospital until a coronary angiogram could be done.

4. Was an urgent angiogram indicated during the November 1999 and/or December 1999 admissions?

   Yes, it is my opinion that an angiogram was indicated during the period 16-20 December 1999.

5. Was [Mr B] given appropriate advice on discharge and were appropriate follow-up arrangements made?

   No, in my opinion, at the time of his discharge, inadequate arrangements were made for his on-going care and need for further investigation.

6. Did [Dr E], [Dr D] and [Dr F] respond appropriately to the correspondence from [Mr B] and to the call made by [Mr B] to [Dr F] after his discharge?

   No.

In the account given of the family conference which was held after [Mr B's] death it is apparent that [Dr E] shouldered the responsibility for the incomplete state of the correspondence between patient and medical staff. I admire the way he took that stand and share his regret that he did not make early contact with [Mr B] with arrangements for urgent angiography.

In my opinion [Dr D] and [Dr F] were not expected to be the principal correspondents in this matter and do not bear the primary responsibility for writing letters to maintain a firm therapeutic alliance with the patient. This was a role that [Dr E] had agreed to discharge.

In her report of the telephone conversation that she had with [Mr B] [Dr F] indicates that she made a prompt reply to his bleeper call, did not conclude that he was reporting a deterioration in unstable angina and agreed that he could test the effect of optimising his medications by altering the time of the dosages. She concluded by counselling him to contact his family doctor if there was any deterioration. In the circumstances where [Dr F] was a) a member of a team of doctors who shared significant doubts about the presence of coronary disease and b) had reason to believe that written instructions were about to be issued for an early angiogram to be done to establish the correct diagnosis I conclude that her actions were appropriate.

7. Are there any other issues that arise from [Dr E], [Dr D], [Dr C] and [Dr F's] responses, and other information provided?

   No, except to consider the presence of OSA.

   The hospital records show that [Mr B] was overweight. The report of the coroner's pathologist indicates that although there was extensive coronary atheroma there was no evidence of coronary thrombosis or acute myocardial infarction in the post mortem examination. This raised questions in my mind about whether a factor in addition to coronary disease could be implicated in his sudden death. Notes sent to me by [the investigation officer] after he had discussed further clinical history with [Mrs A] indicate that [Mr B] was troubled by progressive weight gain during the last few years of this life, that he often had restless and unrefreshing sleep and he was subject to snoring at night. Further to this he would occasionally take naps during the day, tending to be more sleepy than when he was younger and of leaner body build.

   I have concluded that it is likely, but not certain, that [Mr B] had obstructive sleep apnoea."

Independent advice to Coroner

The inquest into the death of Mr B was held in the Coroner's Court at [a city] on 30 October 2000. The Coroner obtained independent expert advice from a specialist cardiologist, Dr J, who stated:

"1. There is no doubt that [Mr B] died from cardiac arrest associated with the presence of severe triple vessel coronary artery disease.

2. [Mr B] had several important risk factors (family history, smoking, excess weight, hypertension, cholesterol) which would predispose him to premature coronary artery disease.

3. In late 1999 [Mr B] was twice admitted to [the first public hospital] with unstable angina. His clinical presentation was somewhat atypical but the correct diagnosis did seem to have been made by most attending medical staff and he did receive appropriate medical treatment for unstable angina. The correct diagnosis was made somewhat difficult because the chest pain was not obviously precipitated by physical effort and by the fact that the electrocardiograms, treadmill tests and enzyme tests did not reveal obvious objective evidence of myocardial ischaemia. However, despite the atypical features there were other features that strongly suggested his chest pain was due to important coronary artery disease – e.g. the response to Nitrolingual spray and the short duration of the chest pains. No other sensible explanation for his chest pain was seriously suspected or investigated. The possibility of pain of oesophageal origin was mentioned by some medical staff though no particular investigations were suggested to try to substantiate any alternative to angina.

4. As mentioned earlier, [Mr B] had 9 episodes of chest pain on the night before his admission on 14/12/99 and he continued to have episodes of chest pain in hospital on medical treatment. Thus, [Mr B] had Class 4B angina (unstable angina on oral therapy in hospital). [The second public hospital's] priority guidelines for coronary angiography state that Class 4B angina patients should have emergency priority – i.e. angiography while in hospital and within a few days.

5. Unfortunately it appears that some of [Mr B's physicians at the first public hospital] put excessive emphasis on the test results such as treadmill exercise and Troponin and not sufficient emphasis on the patient's symptom history. As [Mr B] himself pointed out, treadmill exercise tests do have a false negative rate of at least 20%. Also, though it is true that patients with a negative Troponin test are at less risk of important cardiac events in the near future, the risk is still by no means excluded and in fact the risk is about one third of those with Troponin positive. However the occurrence of continuing angina at rest in hospital would be the strongest known risk factor for imminent important cardiac events and would definitely override the negative Troponin test. Further, a negative Troponin test in no way excludes a diagnosis of angina.

6. Though it is obviously much easier to make retrospective judgements, I believe that [Mr B] should have been referred to [the second public hospital] for coronary angiography at the time of his admission to [the first public hospital] in mid-December 99. At that time [Mr B's] name was already on the [second public hospital's] waiting list for angiography and normal practice would have been for the [first public hospital's] physician ([Dr E]) to simply phone the on-call the

[second public hospital's] cardiologist to inform him that this patient was now having recurrent chest pain in hospital on treatment – i.e. [Mr B] was now a Class 4B category and thus would qualify for urgent angiography. I have no doubt that the [second public hospital's] cardiologist would have accepted [Mr B] for urgent angiography if he had been informed about his symptoms leading to this admission – despite the fact that the holiday period was encroaching. The symptoms had clearly worsened since [Mr B] was seen by [Dr I]. It is a little difficult to understand why a phone call was not made to the [second public hospital's] cardiologist in view of [Mr B's] strongly expressed desire to have angiography and in view of the fact that he had actually presented this request in writing to [Dr E].

7. After coronary angiography [Mr B] would almost certainly have undergone urgent coronary artery bypass grafting surgery – an operation known to prolong life in patients with severe triple vessel coronary disease as was present in [Mr B].

8. It is also regrettable that [Mr B] did not receive any reply or acknowledgement to his second letter pleading for angiography though I do understand that the letter was received shortly before the Christmas break."

The Coroner found that Mr B died as a result of coronary atherosclerosis. In the light of the Commissioner's investigation into the standard of care provided to Mr B in the weeks preceding his death, the Coroner elected to make no recommendations related to the circumstances of Mr B's death.

Independent advice to ACC

A claim was made by Mrs A to ACC on the basis that Mr B's death was caused by medical misadventure. The Medical Misadventure Unit of ACC sought an opinion from Dr K, cardiologist. His report, dated 7 September 2000, is set out below:

"Issue: Alleged failure to diagnose coronary heart disease resulting in myocardial infarction and subsequent death

Case summary: [Mr B] was a 47-year-old man who was initially seen in August of 1996 suffering atypical chest pain. An exercise test was done at that time which revealed a duration of nine minutes 43 seconds. No chest pain was experienced and there were no ECG changes. It was interpreted as a negative test on the basis of both symptoms and ECG changes. He remained well from that time until approximately three years later when he had developed further chest discomfort which was considered to possibly be unstable angina. He was admitted to [the first public hospital] on 15th November 1999. Troponin I enzyme levels were assayed on two occasions over 12 hours and both were normal. Exercise testing was then done and again this demonstrated a good exercise capacity of 10 minutes. No chest pain was experienced and there were no ECG changes. Once again this was interpreted as a negative test.

He was subsequently discharged with a tentative diagnosis of angina. He was advised to continue taking Aspirin and Imtrate. No further Hospital follow up was arranged. Approximately two weeks later he was seen by a private cardiologist who recommended coronary angiography in order to provide objective evidence one way or another of the existence of coronary artery disease.

On 14th December (approximately one month following his previous admission to the first public hospital) he was readmitted having been referred again with a history suggestive of unstable angina. EGGs were recorded at times of chest pain being experienced and these were normal. Troponin I estimations were also normal 12 hours apart. Yet another exercise stress test was arranged and again this demonstrated good exercise capacity this time just over 12 minutes. He had no pain and there were no EGG changes.

On the morning of that last exercise test [Mr B] wrote a letter to his caring physician expressing concern over his pains. In that letter he also described pain which was precipitated by showering and when brushing his teeth. He described prompt relief with his Nitrolingual spray. On the evening prior to his most recent admission to Hospital he had experienced nine episodes of pain during the night all of which were relieved with his Nitrolingual medication.

[Dr F] in her letter of 5th July comments that [Mr B] experienced pain at rest and while brushing his teeth in the morning of his latest exercise test.

[Mr B] was discharged following this last exercise test. He was on the waiting list for a cardiac catheterisation however unfortunately died before this could occur. I understand that post mortem examination confirmed coronary artery disease.

Comment: The initial management of this patient with Troponin I assessments and subsequent exercise testing was appropriate and effectively placed the patient in a low risk category. This however does not exclude coronary artery disease. In a recent review patients with normal Troponin I assays were shown to have a 95% chance of an uncomplicated outcome during Hospitalisation. By the same token however, of those patients who in fact did have an adverse cardiac event following admission to Hospital with chest pain, only 26% actually had elevated Troponin levels. Thus whilst Troponin assays are reassuring they cannot be used in isolation to exclude coronary artery disease. Nor do they exclude the possibility of an adverse outcome.

Exercise testing is likewise a useful screening test and at least on the first two occasions was entirely appropriate. Its limitations however must be recognised. The precision of the test is dependent on the likelihood of coronary artery disease being present prior to the exercise test being undertaken. In [Mr B's] case one would estimate that there is a pre-test probability of coronary artery disease approaching 50%. (This is assuming that his chest pain was classified as atypical rather than typical.) Given the negative exercise test the post-test probability of coronary artery disease still remained at approximately 20%. If that same patient was considered to have typical angina then the pre-test

likelihood of coronary artery disease being present would approach 90% and the post-test likelihood even in the presence of a negative result would still approach 60%.

Given the above clinical situation with a patient having ongoing symptoms it is not unreasonable to consider cardiac catheterisation during that second Hospitalisation. This would have required transportation to [the second public hospital] for that investigation to be undertaken.

Specific Questions:

1. Has the complainant suffered a physical injury as a result of medical treatment (or lack thereof)? The answer is clearly affirmative. The information provided to me states that he died from a myocardial infarction and it is reasonable to assume that the chest pains leading up to this event did in fact reflect unstable angina.

2. Can [Mr B's] myocardial infarction and subsequent death be attributed to the negligent failure by the team of doctors at the first public hospital in particular [Drs E and F] to diagnose his coronary heart disease? In my opinion the failure to diagnose coronary heart disease in this man is likely to have contributed to his subsequent myocardial infarction and death. I believe a causal link is present. However, I do not believe that the failure to diagnose his heart disease was negligent.

3. Has medical error occurred as defined by the ACC Act? This is a difficult question and it hinges on the issue of timing of referral for cardiac catheterisation. Practice varies both within New Zealand and around the World and thus to establish a standard is difficult. For this reason I have sought opinions of six other senior cardiologists and have had a range of responses. The clear-cut majority however did not feel that standard of care necessarily required referral for cardiac catheterisation during that second Hospitalisation. As mentioned earlier the presence of negative Troponin enzyme levels and negative exercise tests with good exercise capacity placed this patient in a very low risk category and it is therefore not unreasonable to schedule further investigations on an elective rather than an urgent or in Hospital basis."

Subsequently Dr K was sent the report of Dr J, already set out above, and was asked to review his original opinion expressed in the letter of 7 September 2000. This he did in a letter of 30 November 2000, the relevant part of which reads as follows:

"The issue being questioned is with regard to medical error. It has already been established that medical mishap could not have occurred in this instance according to current ACC legislation.

As I stated in my original opinion the question of medical error hinges around the timing and urgency of cardiac catheterisation. [Dr J] was clearly of the opinion that cardiac catheterisation should have been undertaken urgently during that initial Hospitalisation. This is in the context of assuming a diagnosis of unstable angina. Indeed if such a

diagnosis had been confirmed clinically either on the basis of an EGG or Troponin enzyme elevation then I would agree with this opinion entirely. Unfortunately the diagnosis was far from certain and the issue therefore came down to one of the most appropriate management of someone with ongoing symptoms. It is to be noted that no definite alternative explanation was given nor alternative investigations such as endoscopy advised.

As stated in my original opinion I sought input from six other senior cardiologists and received a range of responses. [Dr J's] opinion fits within the gamut of those responses.

It is indeed very easy to retrospectively consider management options in light of subsequent information. This patient did not have a clear diagnosis of unstable angina. Risk stratification had been undertaken with exercise testing and Troponin assays identifying a low risk patient. It is therefore not unreasonable to consider angiography on a non-urgent basis. Having said that many of us would have proceeded directly to cardiac catheterisation simply for logistical simplicity and to allow expeditious management of a patient who had experienced recurrent admissions with an undiagnosed problem.

Musculoskeletal chest pain will frequently occur at rest and may often continue to recur during Hospitalisation. Troponin assays and exercise treadmill testing will usually be normal. I do not believe that in hospital cardiac catheterisation is mandatory for all these patients.

In conclusion therefore the opinion expressed by [Dr J] and the additional information provided by [Dr D], [Dr G] and [a] Senior Constable do not alter the opinion I expressed on 7th September. In my opinion medical error has not occurred in this instance."

Acting on the basis of Dr K's report, ACC declined cover for medical misadventure and this was subsequently upheld after a review application brought by Mrs A.

Code of Health and Disability Services Consumers' Rights

The following Rights in the Code of Health and Disability Services Consumers' Rights are applicable to this complaint:

RIGHT 4
Right to Services of an Appropriate Standard

1) Every consumer has the right to have services provided with reasonable care and skill.

…

5) Every consumer has the right to co-operation among providers to ensure quality and continuity of services.

RIGHT 6
Right to be Fully Informed

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; …

Opinion

15 November 1999 admission

I accept the advice of my independent expert that all aspects of the admission, care and discharge of Mr B on this occasion met the standards of reasonable care. I also agree that, as in every case, the standard of care must be assessed in light of circumstances as they appeared at the time (after due inquiry and examination), and not judged with the benefit of hindsight.

In making this finding, I have paid particular attention to the fact that, according to the notes made after the ward round of 18 November, Dr D expressed the view that Mr B's case should be discussed with a cardiology consultant even if the result of the ETT test later that day was negative. The notes record, above the signature of a Dr … (apparently the house surgeon):

"? [query] (D) [discharge] after ETT – if neg. d/w [discuss with] [Dr H]."

It appears that, even though the test was negative, Mr B was in fact discharged by Dr C without there having been any discussion with the cardiologist. In the Discharge Summary

Dr C wrote, "[W]ith this negative exercise test, we think overall that [Mr B] is at low risk of significant ischaemic heart disease."

It is apparent that, with hindsight, the diagnosis on that occasion was probably wrong. It is also apparent that, if the notes are interpreted to indicate that there should have been discussion with Dr H before any discharge, that procedure was not followed. In the alternative, if the notes are interpreted to mean that Mr B's case should be discussed with Dr H after his discharge, then that discussion did not take place.

Notwithstanding this apparent departure from the planned arrangements, I have concluded that there was no departure from the standard of reasonable care and hence no breach of Right 4(1) in relation to the November admission. In forming this conclusion I am guided by the advice of the independent expert that the care of Mr B at the time of the November admission was acceptable and did not fall below a reasonable standard.

I could only have concluded that the failure to discuss the matter with Dr H amounted to a departure from the required standard of care if I had been satisfied that a discussion was required with Dr H as the consultant (before or after discharge), notwithstanding the negative ETT. As stated, the advice I have received does not support that finding.

I now address the position of each doctor involved in the November admission.

Dr C

No breach – Right 4(1)

The complaint against Dr C must be dismissed in light of the conclusions I have reached above. There is no basis for holding that her treatment fell below the standard required for the reasons set out below.

The specific complaint made against Dr C – that she misdiagnosed Mr B's heart condition and attributed his chest pain to indigestion – cannot be upheld. Dr C advised me that on the basis of a normal ECG, two normal Troponin-I measurements taken after chest pain and a negative ETT, the probability of unstable angina or significant ischaemic heart disease was low. Although the cause of Mr B's chest pain was not established, Dr C thought it could be due to oesophageal spasm or indigestion. Although in hindsight this conclusion was probably wrong, in the circumstances her assumption was reasonable. Accordingly, in my opinion, Dr C did not breach Right 4(1) of the Code.

For completeness, I record that the other specific complaint made about Dr C – that she arranged the exercise test in the afternoon when Mr B had requested that it be done first thing in the morning – does not amount to a breach of the Code. Dr C advised that she endeavoured to schedule the test for the morning but was unable to arrange an appointment until the following week. Her judgement was that it was better to schedule the test as soon as possible and not to wait until the following week. In those circumstances I consider there was reasonable compliance with the patient's request.

Dr D

No breach – Right 4(1)

In relation to Dr D, in light of my advisor's opinion I similarly find there to have been no breach of Right 4(1) in relation to the November admission.

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14 December 1999 admission

The essential basis of the complaint is that Mr B ought, by the conclusion of his stay in hospital in December (or upon subsequent receipt of his letter dated 20 December), to have been assessed as a patient with unstable angina for whom urgent coronary angiography was indicated, with appropriate steps then taken to arrange that through the second public hospital. The questions, therefore, are:

- whether there were sufficient clinical indicia for referral for urgent angiography,
- whether these were known, or ought to have been known, by the relevant medical personnel at the relevant time.

It is common ground that if the answer to these two questions is affirmative, then there ought to have been a referral for urgent angiography. It is also common ground that this was an atypical case.

In deciding this matter, I readily accept that I should be wary of "hindsight bias". It is inevitable that most complaints fall to be judged in hindsight, but the avoidance of hindsight bias requires, in the context of this case, that the death and post-mortem result indicating coronary artery disease do not inappropriately influence the assessment of whether the treatment decisions in December 1999 were made with reasonable care and skill having regard to what was known at that time.

The expert opinion available to me is that of Dr McHaffie, whose opinion I sought; Dr J, whose opinion was sought by the Coroner; and Dr K, whose opinion was sought by ACC. In assessing the weight to be given to these opinions, it is necessary for me to be sure that the factual basis upon which each opinion was given was correct in all material respects. It is also relevant to consider the purposes for which those opinions were requested and given.

I consider the position of each of the doctors involved in turn.

Dr E

Breach – Right 6(1)(c)
No breach – Right 4(1)

Dr E was the cardiology consultant. He reviewed Mr B at Dr D's request on 17 December, at 7.20 am. Mr B had had two bouts of chest tightness, relieved with GTN, during the

preceding night. By that time Mr B had written the letter dated 16 December, which he had presented to Dr D the previous day. That letter refers to his grave concerns about his health and to the escalation of chest pain incidents during the night, as well as to his research into the rate of false negatives on treadmill tests (a matter raised also by Dr D, as the letter itself records).

Dr E informed me that he was being asked at this stage to decide whether Mr B should be given upgraded priority on the second public hospital's angiogram waiting list. Dr E advised that there should be a further exercise test, and that if this was not normal Mr B should have an inpatient angiogram. Otherwise, the then current arrangements (of awaiting an outpatient angiogram) would remain in place.

The exercise test was negative and Mr B was subsequently discharged. Dr E received Mr B's letter dated 20 December on or about 23 December and, as between himself and Dr D, assumed the responsibility to reply.

Dr E advised me that, in light of the letter, he resolved to upgrade Mr B's categorisation for angiography to urgent. He resolved to do this after the Christmas holiday break. Mr B died before that could be done.

The advice of Dr McHaffie, my independent expert, is that there were sufficient indicators by this time to require urgent angiography, and that in failing to reach that conclusion and act upon it, Dr E fell below the required standard of care expected of a provider in his position. In reaching this conclusion, Dr McHaffie accepted that the case was atypical, given the Troponin results and the negative exercise tests. He placed emphasis on the letters of 16 and 20 December. His opinion was that, because of the patient's specific and reasoned requests for tests to clarify the diagnosis it would have been appropriate to have kept him in hospital until a coronary angiogram could be done. His opinion concluded that in the period 16 to 20 December an urgent angiogram was required.

Dr E's own decision to "upgrade [Mr B's] priority for angiographies after the Christmas/New year break" was, Dr E says, made in consequence of the 20 December letter. Dr E says that the decision to upgrade was not made on the basis of assessment of clinical symptoms (which he says did not indicate urgency) but to allay the concern of Mr B as expressed in the letter. Further, Dr E and the District Health Board say that because of constraints on the facilities at the second public hospital it was generally inappropriate to upgrade without making a clinical case for urgency.

It is, of course, a little difficult to reconcile these two points: first, that a clinical case was required to be made for urgency; and second, that Dr E in fact resolved to assign urgency to Mr B's angiography for non-clinical reasons.

That said, the question I have to resolve is whether, in light of what was known by Dr E at the time of his decision to upgrade, that decision was one that would be *required* of a responsible clinician in the circumstances faced by Dr E. The alternative is that the decision was not required in order to meet the standard of reasonable care, but was taken in order to allay the patient's expressed concern. I accept that if the latter is the case, then the failure

to implement the decision to upgrade is not a culpable one, since urgent angiography would not have been a requirement of the exercise of reasonable care. In effect, although not put this way by Dr E, it seems Dr E elected to upgrade to urgency *at a date in the future*, after the holiday period. On that basis, no immediate implementation of his decision was required because the decision was to implement the upgrade only at a later date. (I return below to consider whether Dr E ought to have advised Mr B of his decision to upgrade his categorisation to urgent, whatever the reason for that decision.)

Dr K, after reviewing the files for ACC (to determine whether there was medical error) reached the view that urgent angiography was not clinically indicated in the December hospital admission. His opinion is buttressed by its reference to the fact that, of six other senior cardiologists consulted by him, a "clear-cut majority" did not feel that the standard of care necessarily required referral for cardiac catheterisation. It was not unreasonable, Dr K said, to schedule elective investigations rather than urgent or in-hospital investigations.

Dr J's opinion (that Mr B was from the outset of his December admission within the category of persons for whom urgent angiography was indicated) was referred to Dr K. Dr K did not alter his opinion that it was not unreasonable to consider angiography on a non-urgent basis. Dr K indicated that Dr J's opinion was within the range of opinion he had encountered when consulting the six cardiologists. I take this to mean that Dr J and a minority of the six cardiologists would have referred for urgent angiography, while the majority would not have.

Against that I have the opinions of Dr McHaffie and Dr J. These differ, in that Dr J is of the view that there were sufficient *clinical* indications of unstable angina to result in Mr B meeting the clinical criteria for inpatient angiography as applied at the second public hospital. He pointed to (1) the response to nitrolingual spray, (2) the short duration of the chest pains, and also (3) to the fact that the first public hospital's clinicians were not in fact pursuing other investigations to substantiate any alternative to angina. He considered that the negative treadmill tests were over-emphasised by the clinicians. He said that Mr B's continuing angina at rest in hospital was the "strongest known risk factor for imminent important cardiac events and would definitely override the negative Troponin test. Further, a negative Troponin test in no way excludes a diagnosis of angina." He said that Mr B would have been accepted at the second public hospital for urgent angiography on the basis of that information.

Dr K's response to that opinion was that the angina diagnosis was far from certain, and that had it been confirmed clinically either on the basis of an ECG or Troponin enzyme elevation he would have agreed with Dr J. His point was that there was no clear diagnosis of unstable angina to work from. Dr K does goes on to say that no other alternative explanations were being investigated by the clinicians.

In this regard, I note that Dr D records that he had diagnosed unstable angina on 16 December 1999 (letter of 14 January 2000 to the first public hospital) and that he wished Mr B to be assessed by the consultant, which duly occurred.

All are agreed that this was an atypical case. Dr J emphasises the occurrence of episodes of chest pain in hospital on oral therapy as the factor that outweighs the absence of typical symptoms. Dr McHaffie, for his part, also notes the recurrence of chest pain requiring further hospital admission in December, but places considerable emphasis on the specific and reasoned requests for urgency made in Mr B's two letters during and after the December admission.

A question that I must therefore address is how much significance to place on those letters when deciding whether urgent angiography was indicated for Mr B. I must accept that, in principle, a patient's request for a diagnostic or treatment service cannot in itself indicate that the service is clinically justified. The hospital system could not properly function on that basis. But Dr McHaffie's point is a different one. It is not just that the patient's letters contain information that all agree to be both accurate and relevant to the issue under consideration by clinicians (the rate of false positives on exercise tests). It is that the fact of the letter, or more accurately, the information in the letter about the patient's own deep beliefs and concern, forms part of the clinical background of the case and is appropriately brought to bear when deciding if urgent angiography is clinically indicated.

At this point, it is relevant to note that Dr E says (and I accept) that he was well aware of the incidence of false positives, and that he did not regard the letter as containing new information. But this does not meet the point that the letters may still have had the clinical significance attributed by Dr McHaffie – that they were an expression of the patient's deep-seated concern and may have represented an insight into his clinical condition upon which physicians could and should have acted.

It is necessary, then, to address the question whether an urgent referral was clinically indicated such that a failure to make it was a breach of the standard of reasonable care and skill.

Synthesising the medical opinions received, I have formed the view that a breach of the standard of reasonable care and skill has not been sufficiently demonstrated. My provisional opinion had placed some reliance on the proposition that Dr E's decision to upgrade reflected a clinical judgment made by him that an upgrade to urgency was required, so that the professional failing lay in not implementing that decision with appropriate urgency. I accept Dr E's explanation that the decision to upgrade was not made for clinical reasons. That explanation is supported by the fact that he resolved to implement the request for an upgrade after the holiday period, rather than immediately (as would likely have been the case if he felt urgency was clinically indicated at the time of his resolution to recommend it).

I recognise that both Dr J's and Dr McHaffie's opinion was that the standard of care and skill was breached.

Dealing with Dr J first, it is relevant to note that he was an advisor to the Coroner. Dr E and the District Health Board, in responding to my provisional opinion, have each said that Dr J is not totally independent in this matter, because he was in private practice with Dr I at the relevant time, and was also on the staff at the first public hospital for a brief period including the time at which he was called upon to advise the Coroner. It was not made

clear to me, however, why either of these facts bore upon his independence. The association with Dr I seems insignificant when it is not Dr I's performance under investigation, and Dr I made no clinical judgment that falls to be vindicated. He simply recommended that there be investigations. Similarly, the association with the first public hospital and the suggestion of discussions with staff members is, in the absence of any specific, not problematic.

Of more significance is the concern that, as put by the District Health Board, Dr J "may have had a different perception of the ease with which an upgrade in urgency could be achieved". Again, that sits uneasily alongside Dr E's own assertion, in response to my provisional opinion, that his decision to request an upgrade was made, not for clinical reasons, but only to allay Mr B's concerns. That is, it seems that an upgrade in urgency was a matter for the clinician and that Dr E felt it could be justified in Mr B's case, even if he apparently did not feel it was compelled by professional standards.

I put to one side, then, the suggestions that Dr J was not independent and that his understanding of the ease with which urgency could be assigned differed from Dr E's. I am still left with doubt, however, as to whether I can rely on Dr J's opinion. While clearly indicating that he (Dr J) and perhaps others would have treated the case as one for urgency, there is no explicit expression of opinion that the failure to accord urgency was a departure from standards of reasonable care and skill.

In other words, it is consistent with Dr K's advice. Some doctors would, and some doctors would not, have assigned urgency to Mr B's angiography based on the clinical indicators.

At this point I refer to the fact that Dr D was plainly pursuing a diagnosis of unstable angina, and this of course explains his reference of the matter to Dr E. That was quite proper; the present issue arises precisely because the diagnosis of unstable angina was not able to be confirmed on the basis of the usual set of clinical indicators. The question was whether the diagnostic service that could confirm it (ie, angiography) should be sought on an urgent or non-urgent basis. That was the decision that fell to Dr E to make.

I turn to Dr McHaffie's opinion. He explicitly addressed the issue of professional standards of care and skill, as requested by me. He, as already indicated, placed considerable emphasis on the letters as indicators that urgency was required. I readily accept that patients' letters may, in appropriate circumstances, have a clinical significance in that they form part of the picture against which a clinical judgement must be made. The question is whether the letters had that significance in this case, in light of the known rate of false negatives on exercise tests.

I consider that on the basis of the advice available to me I cannot be sure that an upgrade to urgency was required in December 1999 in order to meet the standard of reasonable care and skill that is demanded by Right 4(1). The evidence suggests to me that some physicians would, and some would not, have referred for urgency. It is not clear to me that those who would not have done so would thereby have failed to provide services of an appropriate standard.

I therefore find no breach of Right 4(1).

However, I consider there was a breach of Right 6(1)(c) by Dr E. It is clear that the letter of 20 December, in conjunction with Dr E's previous assessment of Mr B, led Dr E to resolve to upgrade Mr B's status to urgent. This he resolved to do after the holiday period. I have already indicated that Dr E's decision to upgrade cannot be construed as an admission by him that such an upgrade was clinically required. An alternative explanation is possible and is in fact given by Dr E: that, while continuing to believe there was no clear clinical justification, he was prepared to upgrade on the basis that it would allay Mr B's concerns (and he may well have regarded the case as one that was near the threshold for urgency even if not over it).

Having decided to upgrade his case to urgent, Dr E took no steps to communicate that decision to Mr B. It is plain that in the period from 18 December to 4 January it would have been of immense comfort to Mr B to have been contacted and informed of Dr E's decision. It is also possible that in the course of communicating his intention to Mr B, Dr E may have been prevailed upon by Mr B to make the recommendation earlier than after the holiday period. Certainly, if there had been communication between Dr E and Mr B, the patient would have told his consultant about the continuing symptoms he was experiencing after his discharge. (There is, of course, no certainty as to when an angiogram might have occurred, and it cannot be said that communication would have prevented the death of Mr B.)

In these circumstances I have formed the view that Dr E breached Right 6(1)(c) of the Code, the right of a consumer to receive advice of the estimated time within which services will be provided.

A specific complaint was made about Dr E's failure to reply to the letter of 20 December 1999 addressed to Drs E, D and F. I do not accept that a failure to reply to this letter constitutes a breach of any of the rights in the Code. I accept that it was reasonable for Dr E to assume the responsibility of replying but I also consider that a formal reply could reasonably await his return from holiday. I do not think it unreasonable that a letter, apparently received on December 24, is not answered by January 4 (the date of Mr B's death). However, in my opinion, although the formal response to the letter could wait, the oral communication to Mr B that his categorisation was to be upgraded to urgent should not have been delayed. Such oral communication would probably have superseded the need for a reply to the letter.

Dr D

No breach – Right 4(1)

First, there can be no criticism of Dr D for failure to reply in writing to Mr B's letter of 16 December. An absolute requirement that health care providers reply in writing to letters from patients would be unduly onerous for providers. It was reasonable for Dr D to conclude that his oral response to the letter on 16 December was all that was necessary. As to the letter of 20 December 1999, Dr E had assumed the responsibility to reply and in those

circumstances it was not incumbent on Dr D to respond. But independent of the question of reply to the letter is the issue of whether the required standard of care was met.

In light of my conclusions above in relation to Dr E, it follows that there was no breach by Dr D of Right 4(1).

Dr F

No breach – Right 4(1)

Dr F was Dr D's registrar. I have formed the view, again based on the advice of my independent expert, that Dr F's actions were reasonable in the circumstances and that there was no failure on her part to exercise reasonable care and skill, and hence no breach by her of Right 4(1) of the Code.

In making this finding I note that Dr F's discharge letter recorded that it was *Dr E* who had said, at that stage, "we did not need to proceed to urgent angiography". I recognise that, as a more junior member of the medical team involved with Mr B's care, Dr F's own assessment of the urgency of the need for angiography may not have carried weight. I am not prepared to conclude, on the evidence available to me, that Dr F's own failure to advise urgent angiography represented a departure from reasonable care.

A specific complaint about Dr F relates to the telephone conversation between her and Mr B on 23 December 1999. The complaint was that, although Mr B reported further chest pain, Dr F did not respond appropriately and did not seek his readmission. As to this facet of the complaint, I accept the advice of my expert advisor that Dr F responded promptly to Mr B's call. From the conversation she concluded that the symptoms he was reporting were no different to those he experienced while in hospital. Dr F agreed that Mr B could alter the time of the dosage of his medication to optimise its effect and advised him to contact his general practitioner if there were any ongoing problems.

In my opinion, Dr F acted appropriately in these circumstances and did not breach the Code.

The District Health Board

Vicarious liability
In my opinion the District Health Board is vicariously responsible for the breach of Right 6(1)(c) committed by Dr E. In placing such a significant workload on the shoulders of one clinician, the District Health Board as employer is legally responsible for the communication failure on the part of its employee.

Other comments

As my advisor aptly pointed out, the sad and regrettable aspect of this case was not so much that the overall diagnosis was mistaken, but that medical staff at the first public hospital

failed to respond adequately to Mr B's concerns and pleas based on his genuine and well-founded belief that the clinical course being followed was mistaken and should be changed. Although Mr B made a number of approaches to medical staff and expressed his concerns clearly, he was left with a strong impression that he was not heard and his concerns were not acted on. As noted by my advisor, the failure to respond to his legitimate concerns added a burden of mental stress and strain upon Mr B and his family that was unnecessary and unjustified.

With the exception of the communication issue (resulting in the finding of a breach of Right 6(1)(c)), I have formed the view that the clinical course taken by the health professionals involved did not constitute a departure from the standard of reasonable care and skill. It is right to record that this was a case in which there were conflicting opinions on that critical issue. I am confident, however, that all medical personnel involved will have learned from this case and that similar cases in future will be approached in light of this experience.

I accept that there are, and will probably always be, resource constraints in such cases. Clinical uncertainties cannot routinely be resolved by calling for diagnostic services that are already under pressure. The question in this case was whether the clinical symptoms, which all agree to have been atypical, reached the level of an indication for urgent access to those services. I am satisfied that, at the first public hospital in December 1999, that threshold had not been reached.

Actions taken

I am informed that since November 1999, as a result of Mrs A's complaint, the District Health Board has taken the following actions to minimise the likelihood of a similar adverse event in the future:

- Shortly before Mr B's death the first public hospital recruited two additional cardiologists.
- Subsequent to Mr B's death the first public hospital recruited a further cardiologist.
- The first public hospital now has a higher rate of angiogram referrals to the second public hospital.

Actions

- I recommend that Dr E apologise in writing to Mrs A for his breach of the Code. This apology is to be sent to the Commissioner and will be forwarded to Mrs A.

- I recommend that the District Health Board:

  – Apologise in writing to Mrs A for its employee's breach of the Code. This apology is to be sent to the Commissioner and will be forwarded to Mrs A.

  – Hold a study session to raise further awareness amongst relevant medical staff that it is possible for a serious cardiac condition to exist even in the absence of traditional diagnostic indicators.

  – Introduce a written policy to clarify responsibility where a clinician (other than the responsible clinician) provides specialist input into a patient's care.

Other actions

- In light of the review of the cardiac services at the first public hospital by the Ministry of Health in April 2000, a copy of this opinion will be sent to the Director-General of Health.

- A copy of this opinion will be sent to the Coroner's Office and the Medical Council of New Zealand.

- A copy of this opinion, with personal identifying features removed, will be sent to the Royal Australasian College of Physicians, the New Zealand Resident Doctors' Association, and the Deputy Director-General, Clinical Services of the Ministry of Health, for distribution to the Chief Medical Advisors of all District Health Boards, and

placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

APPENDIX A

Mr B's letter to Dr D dated 16 December 1999

"I am lying here in my hospital bed at 6.00am thinking about seeing you this morning. I thought that I should put my thoughts down on paper in case I forget any detail when I see you.

Approximately 5-6 weeks ago on a Friday morning, I had chest pains whilst going to the toilet. I returned to bed and the pain subsided. Later I had a shower and the pain returned. I lay down and the pain subsided again.

I went to see my GP, [Dr G], and he prescribed Nitrolingual and advised me to visit Emergency or call 111 if the pains worsened over the weekend. I had chest pains on Saturday, Sunday and Monday mornings so returned to my GP on Monday and was subsequently admitted to this hospital with unstable angina for 4 days under your care.

On the third day, I had my most severe attack to date whilst having a shower. I just made it back to my bed calling for help and with nitrolingual and oxygen felt well again in 5 minutes. That morning when I saw you, you said to me, 'whether you have angina or not is no longer the question, we just have to decide what level of treatment is required, angiogram, angioplasty or bypass surgery'.

[Dr C] suggested a treadmill test and if I passed this test, then I should be released on medication of the care of my GP. You then raised the question about the reliability of this treadmill test not being 100%, however, in the end agreed with [Dr C's] suggestion.

I 'passed' my treadmill test which lasted 10 minutes and my heart beat climbed to 160 per minute without any problems. [Dr C] told me during the course of this test that in her opinion I did not have angina and this both annoyed and angered me. It annoyed me because on the one hand, I had a consultant telling me that I definitely did have angina and at the same time had a Registrar telling me that she didn't think that I did have angina. Of course this left me with nothing but ???'s regarding my health. I also felt that it was not her place to contradict an opinion of an obviously vastly experienced consultant when she was on the first steps of hopefully a long and successful career as a Doctor herself!

I think that my GP was also unhappy with the contradiction of the medical opinion that I received whilst in hospital so referred me to [Dr I], cardiologist, to ascertain the next steps in regard to my health. His opinion was that I definitely needed an angiogram to determine the state of my angina. He recommended that I have it privately as I would then be able to have it immediately, however, I am not in a financial position to afford the $3,000 so he has placed me on the public waiting list at the second public hospital.

During last weekend, I wasn't feeling well and had several attacks of angina. On Monday evening, I had the worst bout of attacks to date, having 9 attacks during the

night, some of them so severe that I was on the verge of dialing 111, however, the nitrolingual relieved the pain on every occasion.

This night's episodes did and still does **greatly** concern me.

Secondly, I had never before had attacks whilst lying down, let alone been waken from sleep by angina pain.

Thirdly, this series of attacks occurred whilst lying down and whilst on medication supposed to keep my angina in control.

Dr, I am now convinced that medication will **not** control my angina. I believe that I need either angioplasty or bypass surgery to 'fix' my problem.

The purpose of this letter is to plead with you to have me urgently transported to the second public hospital for an **urgent** angiogram **before** I have either a fatal heart attack or do irreparable damage to my heart muscle.

During the last months I have researched various aspects of angina on the internet and amongst other things, learnt that treadmill tests are far from conclusive with an 'unreliable' result in the 10% to 20% region."

APPENDIX B

Mr B's letter to Dr E, Dr D and Dr F dated 20 December 1999

"Last Friday I did a treadmill stress test and lasted 12 minutes and my heart beat reached 167 per minute, or thereabouts with no chest pain or EKG irregularities. On the basis of this, I was subsequently discharged to the care of my GP again on medication, awaiting my angiogram scheduled for mid to late February.

Nothing of what anyone of you have said to me have caused me to change my mind in regard to doubting the importance of 'passing' the stress test without any irregularities in my EKG.

In my efforts to research the treadmill stress tests on the internet, I have never come across any information that supports your reliance on this test, in fact, quite the opposite. I have enclosed two articles to support my point of view.

Firstly, from the Heart Site, I would like to quote you from page 4. 'If a patient is able to achieve the target heart rate, a regular treadmill stress test is capable of diagnosing important disease in approximately 67% or 2/3rds of patients with coronary artery disease. The accuracy is lower (about 50%) when patients have narrowing in a single coronary artery or higher (greater than 80%) when all three major arteries are involved'.

Secondly, the Shamberg, Johnson & Bergman newsletter gives a frighteningly similar example to myself, at least initially, I haven't died yet. 'Dr Truong's plan was to monitor Mr Johnson overnight, and if there was no recurrence of symptoms, to perform stress electrocardiography (a treadmill test) the following morning. Mr Johnson performed well on the stress test; he exercised for 12 minutes without any type of abnormality, either in the ST-segment or in his vital signs. On the basis of this 'negative' stress test, the defendant advised Mr and Mrs Johnson that the test result was negative and explained that nothing in the test indicated ischemia. He said whatever caused the chest pain was not related to Darrel Johnson's heart'.

Also, 'Plaintiff's strongest theories of liability were as follows; Failure to recognise the limitations of the exercise stress test in ruling out coronary disease as the cause of the symptoms – Improperly reassuring the decedent and creating a false sense of security that his symptoms were non-cardiac, when, in fact, cardiac causes had not been ruled out'.

I have also enclosed the letter that I wrote for [Dr D] as it covers my history.

My point of view is quite simple and uncomplicated.

I had chest pains and was admitted to [the first public hospital] with unstable angina. Four days later, I 'passed' a stress test and was discharged on medication.

Approximately 1 month later whilst on medication, I suffered chest pains to a greater extent than previously and was subsequently admitted for a further four days, 'passed' my stress test again and was again discharged on medication.

The fact that I was discharged on each occasion was due to my 'passing' the treadmill stress test. I believe that this is a huge mistake on your behalf!

Just for a moment, please ignore the stress tests and for my benefit, humour me and accept that their results are in fact inconclusive.

I had severe chest pains over a period of several days. I was released from Hospital on medication to reduce my angina. One month later I had chest pains greater in number and severity than before whilst on this medication that was supposed to reduce my chest pains. This tells me that all is not right and that I urgently need an angiogram to ascertain if there is a problem with my coronary arteries before I have another bout, perhaps even stronger and more serious than I've already experienced!

When I have had chest pains where I have not been able to rest and have nitrolingual immediately, for example when they have occurred whilst having a shower, the pains have increased in intensity and more than this as I have struggled to get to my bed, I have always had a feeling of 'I'm not going to make it'. My legs feel as if they are going to give way on me and I feel that I am going to collapse on the floor. If I can immediately rest and have my nitrolingual, the pains go away within 3-4 minutes. This does not feel like indigestion or any other cause to me.

I plead with you to reconsider your decision not to place urgency on my angiogram."