

**General Practitioner, Dr D / A Public Hospital /**

**Second Year House Officer, Dr E /**

**Specialist Emergency Physician, Dr F /**

**Registrar, Dr G /**

**Consultant, Dr H**

**A Report by the**

**Health and Disability Commissioner**

**(Case 00HDC06477)**



Health and Disability Commissioner  
*Te Toihau Hauora, Hauātanga*



## Parties involved

Mrs A	Complainant / Consumer's sister
Mrs B	Complainant/ Consumer's sister
Mr C (deceased)	Consumer
Dr D	Provider / General Practitioner
Dr E	Provider / Second Year House Officer
Dr F	Provider / Specialist Emergency Physician
Dr G	Provider / Registrar
Dr H	Provider / Consultant
Dr I	Cardiologist
Dr J	Ear, Nose, Throat Registrar
Dr K	Neurologist
Dr L	Clinical Director, Emergency Medicine
A public hospital	Provider

## Complaint

On 22 June 2000, the Commissioner received a complaint from Mrs A and Mrs B, about the care provided to their brother, the late Mr C, by general practitioner Dr D, and by medical staff at a public hospital. The complaint is summarised as follows:

### Dr D

- *Mr C had unstable angina for a period of at least six months prior to his death in April 2000. In this time, he was under the care of Dr D, who was aware of Mr C's angina. Dr D did not treat Mr C's problem during this time.*
- *Mr C underwent an ECG on 12 October 1999, and this was reported as a "borderline" result. This ECG was filed away without being reviewed by Dr D and no action was taken in response to it.*
- *On 30 March 2000, Mr C visited Dr D complaining of swelling to his neck, and head and chest pain of six days' duration. Dr D noted that Mr C had been experiencing chest pain on mobilisation and wrote to the public hospital raising the possibility of ischaemic heart disease. Dr D did nothing to treat Mr C's problem and did not arrange for him to attend hospital on this date.*
- *On 6 April 2000 Mr C returned to Dr D after experiencing symptoms including severe chest pain. Dr D prescribed codeine phosphate, and did not arrange urgent hospital treatment.*
- *Dr D did not ask Mr C pertinent questions about his family history of heart disease.*
- *Dr D had an inappropriate friendship with Mr C and this influenced the level of care that Mr C received from Dr D.*
- *Dr D made inappropriate comments to Mr C's family the day after Mr C's death. Specifically, he made a reference to a negative syphilis test and he advised Mr C's sister that "he loved [Mr C]".*

### **The public hospital**

- *On 25 March 2000, Mr C was seen at the public hospital's Accident and Emergency Department after experiencing chest pains and collapsing at work. He was sent home the following day with no definitive diagnosis.*
- *On 6 April 2000, Mr C was again seen at the public hospital with chest, ear and neck pain and was triaged at Level 2. Mr C was sent home at 1.30am on 7 April 2000 with an incorrect diagnosis of oesophageal reflux.*
- *The public hospital staff did not adequately investigate the cause of the problems that Mr C was experiencing.*
- *Telemetry treatment was not offered to Mr C on either of his visits.*
- *The public hospital staff did not take sufficient note of all the relevant information in reaching a diagnosis. In particular:*
  - *Sufficient questions about Mr C's family history of heart disease were not raised on either visit.*
  - *On 6 April 2000, a referral letter from Mr C's general practitioner raising the possibility of ischaemic heart disease, which had been received on 4 April 2000, was not taken into account.*
  - *On 6 April 2000, the records from Mr C's previous visit on 25 March 2000 were not taken into account.*

An investigation into services provided by Dr D and by the public hospital was commenced on 29 September 2000. On 16 January 2001, the investigation was extended to include the involvement of Dr E, Dr F, Dr G and Dr H. The complaint against the four doctors is summarised as follows:

#### **Dr E**

- *On 25 March 2000, Mr C was seen at the public hospital's Accident and Emergency Department after experiencing chest pains and collapsing at work. He was sent home the following day with no definitive diagnosis.*
- *The public hospital staff did not adequately investigate the cause of the problems that Mr C was experiencing.*
- *Telemetry treatment was not offered to Mr C.*
- *The public hospital staff did not take sufficient note of all the relevant information in reaching a diagnosis. In particular:*
  - *Sufficient questions about Mr C's family history of heart disease were not raised.*

#### **Dr F**

- *On 25 March 2000, Mr C was seen at the public hospital's Accident and Emergency Department after experiencing chest pains and collapsing at work. He was sent home the following day with no definitive diagnosis.*
- *The public hospital staff did not adequately investigate the cause of the problems that Mr C was experiencing.*
- *Telemetry treatment was not offered to Mr C.*
- *the public hospital staff did not take sufficient note of all the relevant information in reaching a diagnosis. In particular:*
  - *Sufficient questions about Mr C's family history of heart disease were not raised.*

**Dr G**

- *On 6 April 2000, Mr C was seen at the public hospital for the second time in two weeks. Mr C complained of chest, ear and neck pain and was triaged at Level 2. Mr C was sent home at 1.30am on 7 April 2000 with an incorrect diagnosis of oesophageal reflux.*
- *The public hospital staff did not adequately investigate the cause of the problems that Mr C was experiencing.*
- *Telemetry treatment was not offered to Mr C.*
- *The public hospital staff did not take sufficient note of all the relevant information in reaching a diagnosis. In particular:*
  - *Sufficient questions about Mr C's family history of heart disease were not raised.*
  - *A referral letter from Mr C's general practitioner raising the possibility of ischaemic heart disease, which had been received on 4 April 2000, was not taken into account.*
  - *The records from Mr C's previous visit on 25 March 2000 were not taken into account.*

**Dr H**

- *On 6 April 2000, Mr C was seen at the public hospital for the second time in two weeks. Mr C complained of chest, ear and neck pain and was triaged at Level 2. Mr C was sent home at 1.30am on 7 April 2000 with an incorrect diagnosis of oesophageal reflux.*
- *The public hospital staff did not adequately investigate the cause of the problems that Mr C was experiencing.*
- *Telemetry treatment was not offered to Mr C.*
- *The public hospital staff did not take sufficient note of all the relevant information in reaching a diagnosis. In particular:*
  - *Sufficient questions about Mr C's family history of heart disease were not raised.*
  - *A referral letter from Mr C's general practitioner raising the possibility of ischaemic heart disease, which had been received on 4 April 2000, was not taken into account.*
  - *The records from Mr C's previous visit on 25 March 2000 were not taken into account.*

---

**Information reviewed**

- Relevant medical records from a medical centre and the public hospital
- Independent expert advice from Dr Douglas Baird, a general practitioner in private practice
- Independent expert advice from Dr Geoffrey Hughes, a consultant in emergency medicine
- Advice from Dr I, a cardiologist

## Information gathered during investigation

### *Overview*

On 7 April 2000, some hours after being discharged from the Emergency Department at the public hospital, Mr C died at his home. He was 43 years old.

A post-mortem examination carried out on 10 April 2000 revealed that Mr C had narrowing of the arteries and had suffered a heart attack. In his report to the Coroner, the pathologist stated:

“In my opinion [Mr C’s] death resulted from acute myocardial infarction [heart attack] with atherosclerotic coronary vascular disease [narrowing of the arteries].”

The pathologist reported no abnormality that would explain Mr C’s history of throat swelling, and painful ears and face.

Mr C’s sisters subsequently complained about the care provided to their brother by general practitioner Dr D and medical staff at the public hospital.

### *October/November 1999*

In October and November 1999, about six months before he died, Mr C presented to three general practitioners, an ear, nose and throat specialist, a neurologist and a general medical team at the public hospital, with a variety of symptoms.

On 8 and 9 October 1999, he consulted general practitioners at a private medical and accident clinic, complaining of a sore throat, fever, earache and headache. He was prescribed doxycycline (an antibiotic), Sudomyl (a nasal decongestant), and Panadol for pain relief. A mid-stream urine test subsequently showed no evidence of urinary tract infection.

Several days later, on 12 October 1999, Mr C consulted general practitioner Dr D at his practice. Mr C had attended Dr D on two previous occasions, in June 1998 and March 1999, concerning health matters unrelated to this investigation.

Dr D’s clinical notes dated 12 October record that Mr C had been bringing up phlegm for the previous four days, and had gone white while walking to work. Mr C’s temperature was elevated at 38–39°C. He complained of central chest pain, which Dr D described in the notes as a “burning sensation”, and tightness in the left side of his throat. He had earache in his left ear, and swollen glands on the left side.

On examination, Mr C’s pulse rate and blood pressure were normal, at 78 beats per minute and 110/80 respectively. His JVP (Jugular Venous Pressure) was not elevated. Dr D recorded in the clinical notes: “Chest – fine crackles wheeze” and prescribed prednisone (an anti-inflammatory) for asthma, and codeine phosphate for pain relief. Dr D also ordered virology tests, blood tests (including cardiac enzymes to test for myocardial damage), and an electrocardiogram (“ECG”, a record of electrical impulses generated by the heart).

Mr C had the ECG carried out by MedLab, and the results were sent to Dr D's surgery. Following Mr C's death, Dr D discovered that his receptionist had "unfortunately" filed the ECG results away before he had seen them. Dr D was "dismayed" to discover that the automatic read-out printed on the ECG said "borderline". Accordingly, he asked a cardiologist, Dr I, to review the ECG for him. Dr I advised Dr D that the ECG was normal.

Dr I advised me:

"The automatic read out printed on the ECG notes sinus rhythm, non-specific T wave abnormality, borderline ECG ... There is a fairly wide range of 'normal readings' with ECGs, and automatic read outs from ECG machines quite frequently 'over read' the situation. We frequently have to 'over rule' ECG read outs for situations such as the Royal New Zealand Air Force or Air New Zealand – both of whom regularly supply me with a great many ECGs on otherwise fit, normal people in whom a 'borderline abnormality' has been 'detected' by the automatic print out.

An ECG such as this is reassuring, no further investigations would be taken on the ECG alone – clearly the clinical circumstances will guide further investigations, this ECG however is within normal limits."

Dr D commented as follows on his failure to view the ECG report:

"I do not believe that my treatment would have differed had I seen the ECG report. My reasons for this are that the Troponin serum and CKMB [creatin kinase isoenzyme (cardiac enzymes)] were negative and the clinical history was overall not strongly suggestive of an ischaemic cause. The ECG had been ordered as an additional diagnostic aid. Had I seen it at the proper time, I would have spoken to a cardiologist about the ECG because of the machine's interpretation as 'borderline'. (It is accepted that these interpretations are not always accurate.)"

According to Dr D, the likely reason for the ECG being filed before he saw it was that Mr C was not at that stage a regular patient. Dr D advised me he saw many casual patients in his practice and, until people became regular patients, they were not given a specific file number. Dr D advised me that he has taken steps to ensure such an incident would not happen again. His practice now "diligently reinforced the protocol" that nothing was to be filed unless he had signed it.

Mr C returned to see Dr D again the following day, Wednesday 13 October 1999. Dr D's notes record that Mr C was still feeling sore on both sides of his neck, but that the day before he had "managed to eat". On examination, Dr D found no stiffness in his neck, and his chest was clear except for "a few crackles". Dr D ordered a full blood count.

The next day, Thursday 14 October 1999, Mr C again returned to Dr D. He continued to have pain in his left ear and on the left side of his neck. Dr D gave him a new prescription for codeine phosphate, a sickness certificate for another three days, and noted that his ferritin levels and white blood cell count, both indicators of illness, were up.

The following week, Dr D referred Mr C to the public hospital. Dr D advised me that Mr C had told him that the symptoms he was experiencing were consistent with a previous syphilis infection for which he had been hospitalised overseas in 1978. The results of the syphilis serology tests ordered by Dr D on 12 October and reported to him on 13 October also suggested current infection.

Mr C was admitted to the public hospital on 21 October 1999. He was discharged the following day with a queried diagnosis of secondary syphilis, or possible otitis media (middle ear infection), and prescribed Amoxil (an antibiotic) for his left ear. The discharge summary suggested that Dr D refer him to an ear, nose and throat specialist if his symptoms did not clear.

Mr C returned to Dr D two weeks later, on 5 November 1999, complaining that he still had a headache, pain in the left side of his throat and left ear, and that the left side of his face was swollen. On examination, Dr D found swelling in the left parotid area (the salivary gland in front of and below the ear), and Mr C's left ear was blocked. Dr D then referred Mr C to the public hospital to be tested for mumps.

Mr C tested negative for mumps. However, a repeat syphilis serology reported to Dr D on 8 November 1999 continued to suggest current infection.

On 9 November 1999, Mr C again visited Dr D complaining that his left ear and the left side of his throat were still sore and that he could not sleep. At that stage, Dr D referred him to Dr J, an ENT (ear, nose and throat) registrar at another public hospital.

Mr C consulted Dr J on 11 November 1999. In his report to Dr D, Dr J noted:

“[Mr C] has a 9 week history of fronto parietal headaches that are constant, and are of increasing severity. The pain is that of a pressure, and extends down onto the left side of his face. He also has a history of left facial and retroauricular [behind the ear] swelling brought on by walking or exertion. The swelling disappears 15 minutes after he stops walking. He has no ear pain, tinnitus, discharge or change in hearing . . .

. . . Examination today was essentially normal, with no focal neurology, no temporal arteritis, and a normal hearing test . . .

I do not know what is causing this man's problem, but I have referred him urgently to Neurology [department] at [the public hospital] to further investigate [the cause of] these headaches.”

Mr C was seen the same day by Dr K, a neurologist at the public hospital. Dr K, in his report to Dr D, commented that Mr C had “a most unusual headache problem”. He diagnosed Mr C with a left-sided hemicranium (headache) and prescribed indomethacin (a non-steroidal anti-inflammatory drug). Dr K noted that Mr C's “paroxysmal” brief headache (a headache that recurs suddenly or with intensified symptoms) raised the possibility of pheochromocytoma, a rare form of tumour arising in the adrenal glands in 90



per cent of cases. However, that was unlikely given that Mr C's blood pressure was low at the time of his headaches.

*11 November 1999 – 25 March 2000*

Medical records obtained for this investigation indicate that Mr C did not present again to any health care provider until 25 March 2000, when he attended the public hospital's Emergency Department. The records show that following Mr C's consultation with Dr D on 9 November 1999, he next saw Dr D on 30 March 2000.

I asked Dr D, via his lawyer, whether he was consulted by Mr C at any stage between 9 November and 30 March 2000. His lawyer responded:

“[Dr D] did not consult with [Mr C] between 9 November 1999 and 30 March 2000. [Dr D] has considered his clinical records and believes he may have spoken to [Mr C] within a day of the 9 November consultation about his ENT appointment, after [Dr D] had discussed this with [Dr J]. There are no notes of this discussion. In late March, prior to the consultation on 30 March 2000 [Dr D] recalls he spoke to [Mr C] who telephoned him after he had been seen at the A&E department at [the public hospital] on 25 March. There is no written record of this conversation.”

*25 March 2000 – first visit to the public hospital's Emergency Department*

At 9.30pm on Saturday 25 March 2000, Mr C presented to the Emergency Department at the public hospital complaining of right-sided chest pain and swollen glands in his neck.

Mrs A, Mr C's sister, advised me that Mr C had collapsed at work, and had been treated by paramedics before going to the hospital in an ambulance. I note, however, that the triage nurse who assessed Mr C and gave him a triage code 3, ticked the box marked “Walk” to describe how he had arrived at hospital (the other options being “Ambulance” or “Wheelchair”).

The assessment nurse assessed Mr C at 9.45pm and recorded his presenting symptoms as follows:

“Unwell since 0100. Both ears aching with a pressure: feeling feverish. Then right sided chest pains started, associated with sweating, burning sensation in neck. Pains in chest on walking, not affected by respirations.”

The assessment nurse recorded that Mr C described having experienced the “same type of symptoms” in November 1999 when he was unwell for four weeks, and that he had been investigated at the public hospital but no diagnosis had been made.

There is a section on the initial assessment form entitled “Initial Nursing Care Plan”, where the assessment nurse records the patient's requirements under the headings “Safety”, “Clinical”, “Social/Communication”, and “Education/Discharge”. In the section headed “Clinical”, the assessment nurse ticked the box marked “Needs ECG”, and the ECG was taken at 9.55pm. The automatic printout recorded “ABNORMAL ECG” and “Unconfirmed diagnosis”.

*Dr E*

At 10.40pm, Mr C was seen by Dr E, a second year house officer, who recorded his presenting complaint as “Unwell with [right] sided chest pain”.

Dr E advised me that the aspect of the complaint that Mr C had “experienced chest pain and collapsed at work” was not the history that Mr C related to her. According to Dr E’s contemporaneous notes and her advice to me, Mr C had been walking home at 2.30am from his job, when he felt hot and had pain in his ears. Her notes record that the pain had recurred about six times during the day, and was sometimes associated with “sharp, stabbing central chest/sternal pain”. The pain would occur when Mr C walked a few steps but was relieved when he sat down. The notes record that Mr C told Dr E he had had the “identical problem” the previous year, and had been admitted to hospital but no diagnosis had been made. After examining Mr C, Dr E queried a diagnosis of otitis media (middle ear infection).

Dr E advised me:

“On examination of [Mr C], he looked flushed in the face and neck. He told me that he thought his neck was swollen. I could see no evidence of a throat infection. He had had a previous tonsillectomy. I was unable to see the right tympanic membrane (eardrum) due to wax in the external canal. I was concerned that the left tympanic membrane showed signs of otitis media (middle ear infection). He had soft cervical lymphadenopathy (palpable lymph nodes). Examination of the cardiovascular system revealed a normal pulse rate, blood pressure and heart sounds. Examination of the respiratory system revealed a midline trachea and clear lung fields. Examination of the abdomen was painless and soft, with normal bowel sounds. Given these findings, I considered a diagnosis of otitis media. However, as the diagnosis was not certain I discussed the case with the Consultant, [Dr F]. I prescribed [Mr C] codeine phosphate (pain relief) in the meantime.”

Dr E did not ask Mr C about any family history of heart disease, nor did she offer telemetry (continuous mechanical monitoring of the heartbeat), as Mr C mainly complained of ear pain and facial flushing, which she said seemed unlikely to be of cardiac origin. Her notes do not mention the ECG taken earlier.

Dr E advised me that the ECG results were not on the file at the time she saw Mr C and she does not recall seeing them. Had she seen the ECG results, it would have been her “invariable practice” to refer to them in her notes.

Dr E stated that, in the absence of the ECG results on the file, there was nothing to alert her that an ECG had been performed. She stated:

“Given that [Mr C] was presenting with facial flushing and ear pain, it would not be my expectation that a nurse would have requested an ECG. I had formed the view that an ECG was not indicated by this presentation.

If an ECG is performed, it is routine for the ECG results to be immediately placed upon the file. It is possible that the ECG results were temporarily mislaid or misfiled. Alternatively the time shown by the ECG could be inaccurate. It is not unusual for the time feature on ECGs to be inaccurate.”

In relation to the aspect of the complaint that Mr C was discharged with no definitive diagnosis, Dr E advised:

“... [T]his is a reasonably common occurrence in the Emergency Department. Many patients present with undifferentiated symptoms and are not fully diagnosed in the Emergency Department setting. Ongoing investigation was likely to be necessary in this case and [Mr C] was referred back to his GP for such. ... ”

*Dr F*

Mr C was seen by Dr F, a specialist emergency physician, at 11.40pm. Dr F’s notes record Mr C’s history “as above”, with the added observation that he “felt awful” and that he had experienced a “red swollen face and bulging veins” six times in the previous 20 hours.

Dr F advised me:

“He had presented with a history of six bouts of facial flushing and ear pain over the last 20 hours, which occurred on walking a few steps. This was occasionally associated with sharp stabbing chest pain, which was described initially as right sided and then as central. His main complaint to me was of feeling intermittently unwell with a flushed face and headache. Apart from his headache, his symptoms had resolved by the time I saw him.”

Dr F reviewed Mr C’s medical records. Mr C’s family history (including that his father had died of myocardial infarction) had been documented during his admission to the public hospital in October 1999.

Dr F’s notes record: “O/E [on examination] NAD [no abnormality detected].” Dr F explained that he had examined Mr C’s cardiovascular, upper and lower respiratory and neurological systems and had found no abnormality. In his notes, he had summarised the general examination findings as “NAD”. He advised:

“Although I have not documented each system examination, it is my standard practice to examine these systems when reviewing a patient with symptoms relating to them and note any abnormal findings. [Mr C’s] pulse, blood pressure, temperature, respiratory rate and oxygen saturation were normal.

His ECG at the time showed no acute ischaemic changes (no signs of heart attack).”

There is no mention of the ECG in Dr F’s clinical notes. Dr F can no longer recall whether he saw the ECG that evening. However, he advised me that he had definitely seen it subsequently, and it was normal. Dr F provided advice from a cardiologist, Dr I, who reviewed the ECG and commented that it “certainly falls within the range for a normal ECG in a normal fit population”.

Dr F's notes record that the previous year Mr C had been given "various nebulous diagnoses", including otitis media and secondary syphilis, for similar symptoms. Dr F recalled that after reviewing Mr C and taking his previous medical history into account, his impression was that there was no clear diagnosis for his chronic recurrent headache and facial flushing. In his differential diagnosis, Dr F considered intermittent obstruction of venous return to the heart and a phaeochromocytoma.

In relation to the aspect of the complaint that Mr C had experienced chest pain and collapsed at work, Dr F noted that this was not the history given by Mr C, and commented:

"If that history had been given to me by [Mr C], my approach to his investigation and management would have been entirely different."

With regard to Mr C being sent home without a definitive diagnosis, Dr F commented:

"As is often the case when a patient presents with undifferentiated symptoms to the Emergency Department, the diagnosis is not clear, as was the case with [Mr C] at the time I saw him. Hence it is not possible to give a definitive diagnosis. This does not mean that I was trying to trivialise or ignore his symptoms, reflected in my treatment of his headache pain and referral back to his GP for further investigation and possible medical outpatient review."

In response to the allegation that the public hospital staff did not adequately investigate the cause of Mr C's problems, Dr F stated:

"Given the terrible outcome for [Mr C] and his family in this case, this statement appears reasonable. However, at the time that I saw [Mr C] the situation was not that clear cut. Many patients present to the Emergency Department with unusual and non-specific symptoms, which may include chest pain that is not typical for ischaemic heart disease or other serious conditions. We are unable to admit, monitor and investigate everyone who comes to the Emergency Department with any chest pain for all possible causes of their pain."

Dr F stated that when he saw Mr C, his chest pain was "not a major issue". Rather, Mr C was concerned with his headache and facial flushing. Dr F commented:

"With consideration of his past medical and other history as stated in his medical record, I did not consider that his symptoms related to ischaemic heart disease and therefore did not investigate him for this.

...

When I saw [Mr C] ..., he presented with a constellation of atypical complaints which had been investigated previously and diagnosed as hemicrania (migraine). Chest pain was a minor part of these complaints and at the time I saw him I did not think he warranted in-hospital investigation to rule out acute myocardial injury."

Dr F advised me that there was no clinical indication for telemetry monitoring, as Mr C's predominant symptoms were headache and facial flushing. Dr F emphasised that telemetry was not a treatment. It is provided only for inpatients believed to be at high risk of significant cardiac arrhythmia (abnormal rhythm of the heart which can cause cardiac arrest), depending on the availability of the telemetry machines:

“We know that the chances of survival from cardiac arrest are higher if the cardiac arrest is witnessed, due to early recognition of the cardiac arrest (this is the perceived advantage of telemetry). The type of cardiac arrest (or abnormal rhythm) and the time taken to respond to this are also very important. There is no guarantee that a patient on telemetry will survive a cardiac arrest. There is also no guarantee that a patient who has had a normal heart rhythm while on telemetry (for whatever reason) will continue to have a normal heart rhythm once they have come off telemetry.”

In relation to the aspect of the complaint that sufficient questions were not raised about Mr C's family history of heart disease, Dr F stated:

“At the time I did not think that the family history of ischaemic heart disease was related to his symptoms of headache and facial flushing. Although family history (among other features) is a risk factor for ischaemic heart disease, it is possible to have ischaemic heart disease with no family history of this and it is also possible to be free of ischaemic heart disease when there is a family history of this.”

Dr F discharged Mr C shortly after midnight. He was prescribed diclofenac (Voltaren, a non-steroidal anti-inflammatory drug) for pain control. Dr F referred Mr C back to Dr D with the suggestion that Dr D consider referring him to the general medical outpatient clinic for 24-hour urine, in order to exclude the possibility of a phaeochromocytoma.

Dr F advised me that he deeply regretted that the diagnosis of ischaemic heart disease had not been more obvious on 25 March 2000. He expressed his sympathy to Mr C's family and stated that at the time he saw Mr C he truly believed he was doing his best for him.

In response to my provisional opinion, Dr F stated:

“... [I]t is very much with the benefit of hindsight that the clues to a cardiac cause for [Mr C's] symptoms on 25.3.00 are apparent. ... Moreover, it is important to have in context how I was brought into this case. I was asked to review a man for possible otitis media (ear infection). The history he gave to me was of paroxysmal (occurring without obvious precipitant) facial swelling and headache and his examination was normal. Over the preceding 6 months [Mr C] had been investigated for these symptoms by his GP, a general medical team during a two day hospital admission, an ENT registrar and a neurologist. None of these competent and well respected doctors considered a cardiac cause for his symptoms at the time they saw him. Clearly this was a difficult diagnosis to make in [Mr C's] case. However, looking at this case once the correct diagnosis was known, the clues to the diagnosis are relatively easy to pick out. Hence the benefit of hindsight.”

Dr F advised me that he had learned much from Mr C's case. He is now very cautious with the management of patients who present with symptoms like Mr C's. He is more circumspect in his approach to patients with unusual symptoms and risk factors for ischaemic heart disease, and he counsels his junior colleagues to be the same. He also takes greater care to document investigation results.

In October 2001, Dr F instituted a best practice guideline to improve the documentation of ECGs in the Emergency Department. The purpose of the guideline is to "ensure that all ECGs ... are performed and interpreted in an acceptable and timely manner". In summary, the guideline recommends that:

- all patients presenting with chest pain and/or other cardiac symptoms have an ECG within 10 minutes of their arrival;
- the ECG be shown to and discussed with the registrar or consultant;
- all ECGs, including normal ones, be signed legibly with the date and time, and filed into the patient's notes; and
- in patients where indications for an ECG are other than chest pain and/or other cardiac symptoms, if the ECG is deemed abnormal by a nurse certified in ECG interpretation, it should be discussed within 30 minutes with medical staff caring for the patient.

*30 March 2000 – Dr D*

On Thursday 30 March 2000, five days after his first attendance at the Emergency Department, Mr C returned to Dr D. Dr D's notes record that for six of the previous seven days Mr C had experienced "massive" swelling around the neck, head pain and chest pain. The notes record that he was in pain every day; if he sat down he was fine, but mobilising caused pain. Dr D recorded that the pain was predominantly "back, and up both sides [of the] neck".

On examination, Mr C's pulse rate and blood pressure were normal, at 78 beats per minute and 130/70 respectively. The notes record: "Heart: S1 S2 NAD [no abnormality detected]" and that his chest was clear. There were no palpable lumps in either of his ears.

The following day Dr D wrote to the public hospital's Cardiology Clinic requesting an exercise tolerance test for Mr C. An exercise tolerance test is used to record the electrical activity of the heart during physical stress to test the heart's reaction to increased demand for oxygen. One use of the test is to help determine the cause of chest pain.

In his referral letter, Dr D stated:

"Rather unusual symptoms but wonder whether he could have ischaemic heart disease.

He came to me with a 6/7 history of feeling swelling around the neck, head and chest pain when he seems to walk. He goes hot/cold, looks pale after walking and feels awful. Feels OK if stands still.

He denies stress. He had a similar unusual episode of throat, tonsil swelling last year around Xmas but not on exertion.

I acknowledge that this is a rather unusual presentation but he does complain of the above.”

Dr D advised me that he requested the exercise tolerance test on “suspicion only”. He did not consider that hospitalisation was indicated by Mr C’s clinical history or presentation.

The public hospital received Dr D’s referral letter on 4 April 2000 and Mr C was given an appointment at the Cardiology Clinic for 1 May 2000.

*6 April 2000 – Dr D*

A week later, on 6 April 2000, Mr C returned to Dr D. Dr D’s notes record that he had not felt well during the night, and had got up at half past midnight with pain in his head, throat and chest. Mr C described having had a “really bad” headache, swollen throat, tingling in his ears and very sharp, right-sided chest pain. The notes record that the pain had been “horrendous”, and that he had been “panting to breathe” because the pain was so severe. There is no record of numbness or tingling in his mouth or fingers.

By the time he consulted Dr D, Mr C’s symptoms had settled, except for earache in his right ear and a headache. On examination, Mr C’s blood pressure was 120/80, his eyes were normal and his chest was no longer tender. The only abnormal sign Dr D found was a tender left lymph node. As a result, he did not consider Mr C needed to be seen in hospital that day. He prescribed codeine phosphate for the pain and noted: “[Dr K, neurologist] – to discuss.”

In relation to the aspect of the complaint that he failed to arrange urgent hospital treatment for Mr C on 6 April, Dr D commented:

“I am also quite aware of the action for unstable angina namely immediate hospital admission via ambulance. I have sent patients in from my surgery via ambulance before because I have been of the opinion that they have had this diagnosis or had an infarct. I would not have hesitated to take this course of action with [Mr C] had I considered it necessary.”

Dr D advised me that at that time he was happy to await the outcome of his referral to cardiology.

*6 April 2000 – second visit to the public hospital’s Emergency Department*

At 9pm the same day, Mr C presented to the Emergency Department at the public hospital complaining of chest pain. Another triage nurse assessed him as Level 2. At 9.15pm, he was seen by another assessment nurse, who recorded in the notes that he complained of the onset of sharp chest pain, pain behind his left ear, and pain in his neck. The notes record that he was not short of breath. He told the second triage nurse that he had been investigated by his general practitioner and by the public hospital, but that the cause of his pain had not been found.

*Dr G*

At 10:30pm, Mr C was seen by Dr G, the registrar covering the resuscitation area and the monitoring room that night.

Dr G was seeing another patient when Mr C presented. Dr G advised me that the initial nursing assessment consisted of a brief history, obtaining IV access, withdrawing blood for laboratory investigations, and an ECG. The impression of the assessment nurse was of non-cardiac chest pain, possibly indigestion. Mr C was given a dose of Mylanta (a medication for relieving indigestion) before being seen by Dr G.

Dr G's notes describe Mr C's presenting complaint as "chronic right chest pain radiating to the ear and pain in the neck".

The notes record:

"Today epigastric [the epigastrium is the upper middle third of the abdomen just below the diaphragm] 'burning' up to throat for approximately eight hours. Had previously [been] relieved with Mylanta. [illegible] re this now pain free. No SOB [shortness of breath], no palpitations, no tightness, no nausea, no vomiting."

Dr G advised me:

"I assessed [Mr C] at 2230. He gave a history of developing a burning pain in his upper abdomen after eating lunch, which periodically went to his throat. He had previously experienced similar symptoms and had drunk milk with some effect. However on this occasion there was no relief of the pain until Mylanta was given in the Emergency Department. This had an excellent effect such that the discomfort in his epigastrium completely resolved. On further questioning I was informed that he had not experienced any shortness of breath, palpitations, nausea or vomiting. The character of the pain was again asked about, and [Mr C] described it as a burning sensation. He had no history of his cholesterol or blood pressure being elevated. He was a smoker who worked at the [...] and was living with flatmates. I was informed that his father had died of a myocardial infarct in his forties.

[Mr C] reported his main problem of being a severe throbbing in his ears over the previous 2 days, for which his GP had prescribed codeine phosphate for that day. He informed me that he had had the pain for 2 years and that he had seen a Neurologist who had told him that he had migraine type headaches, and that he had been treated for syphilis without any improvement in his symptoms. He also mentioned that he experienced pain in the rest of his head, neck and right side of his chest from time to time but had not had any such pain that day. He informed me that he had been to the Emergency Department on previous occasions with this problem and that he was awaiting an appointment as an Outpatient. This was checked on the computer records and shown to be a Cardiology Clinic.

His observations included a heart rate of 72 beats per minute, a blood pressure of 130/80 and oxygen saturations of 94–96%. On examination he was in no distress and



appeared well other than some mild facial flushing. His pulses were of a normal character and equal. His heart sounds were normal and his chest and abdomen had no abnormalities detected on examination. Although not documented, I also performed a brief neurological assessment, walking [Mr C], testing his cranial nerves and looking in his fundi [eyes] and ears, which were all normal.

My impression at that stage was of 2 problems. The first, his epigastric pain, was due to oesophageal reflux. The second, his chronic symptoms of ear, neck and right sided chest pain, for which the manifestation on that day had been described as ear throbbing, I did not feel represented a heart or lung problem. I decided at that stage to wait for his old notes, which there had been some delay in receiving. At this time [Mr C] declined any analgesia for his ear pain as he had previously taken some of his own codeine.

At around 2330 hrs his old notes were reviewed. My main interest was in his previous ECG. This was the same as the one obtained that evening, which had some non-specific ST changes as had been previously noted. I reviewed his previous ED note, noting that a Consultant had reviewed him, as well as the Neurology [department] letter.

By this time his blood tests were also available. These were all within the laboratory reported normal ranges, including 3 cardiac markers – creatinine kinase, myoglobin and troponin T.

At midnight there is a shift change at which patients are handed over to oncoming doctors and current patients are discussed with the duty consultant present. There is usually an exchange of ideas about diagnosis and management of patients. A concise history of [Mr C's] problems was presented including the history of his pain, previous admissions, results of tests including the ECG and my working diagnosis. Because of his unusual history of other symptoms, an atypical presentation of pulmonary embolus [clot on the lung] was entertained but discounted on discussion with those present, including the consultant [Dr H].

A management plan was formulated. This was to send [Mr C] home to his flat with a prescription for Mylanta and for him to see his GP that day for further review and analgesia for his headache. Following the handover I had a discussion with [Mr C] during which I reviewed his history again. The same symptoms were described and he remained pain free (apparently during the handover he had required further Mylanta, which had again settled his symptoms). I reassured him that I did not think his symptoms were due to a serious problem with his heart or lungs, and that while I sympathised with his chronic symptoms I did not think we could help him further that night, but that if the pain was a problem we would be able to assist with a referral to the Pain Service. At this stage he was happy with the plan as the epigastric discomfort had gone and he was going to see his GP in the morning for further analgesia for his head pain.

I handed him his discharge note with a prescription for Mylanta, along with a specimen jar of Mylanta in case he required more that night. He was advised to return if he had any concerns. Shortly afterwards he left the department on his own stating that he was going to walk back to his flat.

I was distressed to learn that [Mr C] died later that morning from a myocardial infarction and am sorry that such an unfortunate outcome occurred for [Mr C] and his family. However at the time that I saw [Mr C] his presentation was not typical of cardiac pathology, and his symptoms had been relieved with the Mylanta, consistent with a diagnosis of indigestion.”

According to Dr G, Dr H saw the ECG taken on 6 April 2000 and was confident in Dr G’s conclusion that the cause of Mr C’s presentation was oesophageal reflux. Dr G advised me that, since Mr C was due to see Dr D the following day, Dr H did not review Mr C personally.

Dr G stated that as a result of Mr C’s case he was now “very circumspect” when assessing patients with non-cardiac sounding chest and upper abdomen discomfort in the Emergency Department. He now asks an emergency medicine consultant to see personally all patients of this nature who are going to be sent home.

Dr G’s notes record that Mr C was awaiting cardiology review. Dr G could not recall seeing Dr D’s referral letter. The public hospital subsequently advised that the Cardiology Clinic received the letter on 4 April 2000, where it remained pending Mr C’s appointment there on 1 May 2000. The Cardiology Clinic’s procedure was to request a patient’s full medical notes 10 days prior to the clinic. Thus, until the medical notes were due to arrive in the Cardiology Clinic prior to his appointment, Dr D’s referral letter would not have been filed in Mr C’s medical records.

Concerning the aspect of the complaint that Mr C was not offered telemetry, Dr G explained that this was because of the presumed non-cardiac cause of his symptoms. Had a cardiac cause been suspected, Mr C would have been referred to the on-call medical registrar for assessment and further management at his or her discretion.

#### *Dr H*

In his original response to my investigation, Dr H, the supervising consultant on call that night, advised me:

“I have no recollection of this patient at all, but gather that he was discussed at the midnight handover that occurs every night between the consultant on call and all the junior staff that have seen patients that evening. As such, I can only comment on the notes as I see presented to me regarding the relevant attendance on 6 April 2000.”

Based on Mr C’s notes, Dr H advised me:

- A patient with chest and ear pain would provoke an initial suspicion of cardiac disease, especially in the light of a family history of heart attacks
- The given history could, however, have been due to reflux, especially as it cleared with antacids, (although this is also known to happen in heart attacks) and coexisting ear disease

- The patient was, it seems, pain free when seen
- Extensive investigations were undertaken in the department, including specific cardiac blood tests and ECG traces to look for a heart attack – no abnormality in these was found. Clearly, the doctor attending [Mr C] had considered a diagnosis of heart disease
- On balance, the registrar involved felt that a heart attack was not the diagnosis
- A cardiology review had already been arranged from a previous visit.

...”

Dr H advised me that if the diagnosis was thought to be oesophageal reflux, discharging Mr C was reasonable, as it was not a condition requiring an overnight stay:

“In summary, it is regrettable that the diagnosis of myocardial ischaemia was not made, but in light of the normal cardiac markers and the ECG, I think the diagnostic conclusion was not unreasonable.

I am sorry that I am unable to provide more information about my involvement in the matter than that which I have stated.

This is clearly an unfortunate and very sad case and I can certainly appreciate and understand the feelings and distress of [Mr C’s] family. I would stress to them that the doctor that saw [Mr C] acted, I firmly believe, in good faith and I sincerely hope that the small amount of information I have supplied can be of help in their understanding of the processes that occurred during [Mr C’s] time in the Emergency Department at [the public hospital].”

Following receipt of my provisional opinion, Dr H, via his lawyer, responded in greater detail. Dr H’s lawyer explained that Dr H had misunderstood the original notice of investigation, and had been under the impression that he was being asked only for an opinion in relation to Dr G’s standard of care; Dr H had not appreciated that he was personally under investigation.

Dr H’s lawyer stated that Dr G did not ask Dr H to see, examine or review Mr C or his medical records on 6 April 2000, nor did he request a second opinion on his diagnosis prior to discharging Mr C.

As summarised below, Dr H’s lawyer described Dr H’s view of his role as on-call supervising consultant generally, and the usual practice when patients were discussed at a handover, and provided detailed submissions on Dr H’s involvement in Mr C’s care.

#### 1. Role of consultant

In summary, in relation to the consultant’s role, Dr H’s lawyer stated:

- Dr H “fully accept[ed]” that he had an obligation to supervise junior staff, including Dr G;
- as junior staff gained more knowledge, experience and confidence, the requirement diminished for them to refer matters to the consultant prior to making diagnoses, treatment or management plans;
- it was not usual practice for an Emergency Department consultant in either New Zealand or the United Kingdom (where Dr H now works) to routinely make decisions and treatment plans for every patient;
- the consultant’s role was supervisory, consultants being obliged to review the decisions and treatment plans made by junior staff “when requested or when circumstances indicate”, and to be available when a junior staff member was having difficulty reaching a diagnosis or was unsure how to proceed with a particular patient, or where doubt about the treatment existed;
- it was “a normal occurrence” for registrar staff to make treatment plans and discharge patients of their own accord without the consent of the consultant, particularly as a consultant was not available on site 24 hours per day;
- it was possible that a patient would be seen by a registrar when the consultant was also in the department, and that a decision and treatment plan would be formulated and the patient discharged without the consultant ever being aware that the patient was in the department;
- the level of supervision a consultant was required to provide to junior staff depended on the junior staff member’s level of experience, expertise and competence;
- if an experienced registrar told Dr H he or she was confident of a diagnosis, and the story of the findings appeared reasonable and logical, Dr H would trust the registrar. If the registrar was not sure, and especially if a patient had a potentially dangerous diagnosis, he would review the patient;
- Dr H had worked with Dr G over a period of time and formed the view that Dr G was an “excellent doctor” with “above average common sense and diagnostic skills”;
- Dr H believed that chest pain and reflux conditions were areas in which Dr G had a great deal of clinical experience, and Dr G was a junior doctor he felt confident in delegating decision-making and treatment responsibility to;
- Dr H trusted Dr G to seek him out if he was particularly worried about a patient or unsure of the diagnosis or treatment plan; and
- Dr H would have seen Mr C personally and/or reviewed his clinical records and test results before he was permitted to be discharged, if he believed that Dr G’s history and/or clinical findings did not tally, or the details given did not sound reasonable or logical, or if he had sensed some doubt in Dr G’s formulation.

## 2. Handover meetings

In summary, in relation to the usual practice at handover, Dr H's lawyer stated:

- each doctor would discuss quickly each patient they had seen, and if there was significant doubt about a patient after a handover, the consultant would see the patient;
- if a doctor was worried about a patient, the doctor would ask the consultant to review the patient before the handover; as Dr G saw Mr C at 10.30pm and only raised Mr C's case at the midnight handover meeting, "it could be inferred" that Dr G was not significantly troubled by Mr C's presentation, diagnosis or treatment plan; and
- as Dr H had never failed to see a patient when requested, and as he had not written in Mr C's medical notes, he could say unequivocally that there was no possibility that he had been asked to see Mr C at any stage.

## 3. Facts presented at handover meeting on 6 April 2000

Dr H agreed that Mr C would definitely have been discussed or at least mentioned during handover at midnight. He disputed, however, that Dr G had given a "concise history" of Mr C's problems. He also denied being involved in any discussion entertaining the possibility that Mr C had an atypical presentation of pulmonary embolus (clot on the lung).

Dr H could not recall exactly how Mr C's history had been presented to him. Based on Dr H's "usual practice and past experience", however, his lawyer advised me that he could confidently make the following comments:

- if he had agreed that Mr C could go home, his clinical suspicion of a heart attack, based on Dr G's presentation at handover, would have been negligible;
- without wishing to impugn Dr G, Dr H believed Dr G's "natural tendency" at handover would have been to relay Mr C's case with an "inherent bias" towards the diagnosis of oesophageal reflux that he had already made;
- although he had "great respect and regard" for Dr G, he "sincerely believe[d]" that Dr G did not provide him with all the information outlined in his response to me. If Dr G had outlined the "unusual history of other symptoms", Dr H felt "absolutely confident in stating that his response would not have been to discharge [Mr C]";
- if Dr G had come to the handover to ask what to do, Dr H would have personally seen Mr C and read his notes, both for 6 April and 25 March, in which case Mr C would not have been permitted to be discharged;
- if heart attack had been in Dr G's differential diagnosis, Dr H would have requested information on the ECG and blood tests at handover; and
- Dr H did not believe he sighted the ECG at the handover meeting, and he was "absolutely certain" he was not told about Mr C's chest and neck pain, family history of heart attacks, or ECG suggesting ischaemia.

4. Diagnosis of oesophageal reflux

Dr H's lawyer advised me that Dr H was not in a position to confirm Dr G's diagnosis of oesophageal reflux. Rather, he was only in a position to agree at the handover meeting that Dr G's diagnosis (and treatment plan) seemed reasonable in light of the history, examination and investigations relayed to him at that time.

Dr H's lawyer stated:

“Obviously, in hindsight, the diagnosis does not appear reasonable, but at the time, given the information as then provided to him by [Dr G], [Dr H] had no cause to question or disagree with the diagnosis.”

Dr H's lawyer advised me that Dr H has subsequently sought advice from an expert in oesophageal reflux and a gastroenterologist. Both advised him that while it would be unusual for reflux to last eight hours, it was by no means impossible, and oesophageal reflux pain could appear continuously for some days. Both doctors considered that an eight-hour history might lead a clinician to reconsider the diagnosis. Dr H did not believe that Dr G had indicated at handover that Mr C had an eight-hour, continuous history of reflux.

5. ECG

To the best of Dr H's knowledge, he did not see the ECG taken on 6 April 2000 until it was sent to him by my Office. According to Dr H, the ECG was “suspicious of an acute coronary syndrome” and was “certainly not normal”. However, the fact that the cardiac enzyme Troponin T was normal would have been very reassuring and probably influenced Dr G's decision.

Dr H's lawyer advised me that Dr H believed he acted reasonably in accepting Dr G's verbal descriptions of the ECG and blood test results, Dr G being a respected, experienced registrar, whose judgement Dr H trusted. If Dr G had “expressed any doubt at all”, Dr H would have reviewed the ECG.

6. Requirement for further assessment

Dr H's lawyer submitted that Dr H had acted “entirely reasonably and appropriately” in not requiring further assessment of Mr C before he was discharged, “despite the tragedy that then occurred”. For Dr H to have agreed to Mr C being discharged, Dr G must have been confident of his diagnosis and treatment plan when he presented the case at handover.

In retrospect, Dr H agreed that Dr G's diagnosis left “some room for doubt”. If Dr H had, on 6 April 2000, been in possession of the information now available, he would have queried the diagnosis and discharge.

*Discharge on 7 April 2000*

At 1.20am on 7 April 2000, the first triage nurse recorded in Mr C's notes that his pain had eased with the mylanta and paracetamol, his intravenous line had been removed, and he had been discharged.

Some hours after being discharged, Mr C suffered a heart attack and died at his home.

*Dr D's response to the complaint that Mr C had unstable angina and he did not treat it*  
Mrs A and Mrs B complained that Mr C had had unstable angina for at least six months before he died, and that Dr D was aware of it and had failed to treat it.

I note that the term "angina" denotes a diagnosis of a specific type of pain in the chest which is caused by inadequate blood flow through the blood vessels (coronary vessels) of the heart muscle (myocardium). The term "unstable angina" is usually used to describe an accelerating or "crescendo" pattern of pain whereas previously "stable" angina lasts longer, occurs with less exertion or at rest, and is less responsive to medication.

Dr D advised me:

"[Mr C] did not have a diagnosis of unstable angina given, nor did he have a clear diagnosis of angina. Until receipt of the complaint I was unaware that unstable angina had been diagnosed.

[Mr C], over a period of 6 months, presented with a multiple collection of signs and symptoms (predominantly symptoms).

He complained at times of having a sore neck, right and left sided chest pain, swollen glands in the neck, pain in the throat, swelling over the left side of his parotid area, massive headache, pain in his back, redness of his face, neck, epigastric pain and sore ears. These symptoms were not typical for unstable angina, and were a somewhat unusual collection of symptoms. For this reason I referred [Mr C] to the cardiology clinic on 31 March 2000. That referral was for an exercise tolerance test, as I considered it possible he might have ischaemic heart disease."

Dr D noted that none of the various other health providers who saw Mr C in the six months before his death mentioned ischaemic heart disease. To the best of his knowledge, he was the only practitioner who had considered the possibility of ischaemic heart disease. He stated: "I say this to illustrate the fundamental point that [Mr C] had multiple, difficult to interpret symptoms."

Concerning the aspect of the complaint that he failed to treat Mr C's angina generally, and did nothing to treat Mr C's problem on 30 March 2000, Dr D informed me that he did not start Mr C on medication that day because of the diagnostic uncertainty and the possible side effects of medication. He advised me that he told Mr C it would take about four weeks to be seen for an exercise test at the public hospital, and suggested a private test. However, as Mr C was not covered by medical insurance, he elected to go on the public hospital waiting list.

Mrs A provided me with evidence of an insurance policy Mr C had with a private insurance company through his employer. According to Dr D, however, after making enquiries Mr C discovered that the policy did not cover the costs of an exercise tolerance test.

*Family history*

In response to the aspect of the complaint that he failed to ask Mr C pertinent questions about his family history of heart disease, Dr D stated that generally he asks about patients' family history if he strongly suspects heart disease. He advised:

“I do, however, tend to concentrate more on trying to carefully elicit and clarify the symptoms that might suggest heart disease. In [Mr C's] case, because his diagnosis was so unclear, I placed more emphasis on trying to obtain a diagnosis from his presenting complaints.”

*Allegations of inappropriateness*

Dr D visited the family of Mr C at Mr C's home the day after his death. I have been given conflicting information about how this meeting came to take place. Dr D informed me that the meeting took place at the family's request. According to Mr C's sister, Mrs B, Dr D suggested he meet the family. During the meeting, Dr D told Mr C's family that he “loved [Mr C]”.

Dr D advised me that he “remain[ed] firm” in his belief that it was the family who requested the meeting. He recalled an initial suggestion that the family meet with him at his surgery during work hours, but Dr D did not consider that suitable. According to Dr D, it was therefore decided to meet at Mr C's apartment.

Dr D advised me:

“[At the meeting] [Mrs A] stated repeatedly how [Mr C] was loved by everybody and asked me ‘you know that didn't you’.

I spontaneously said I loved [Mr C] as well, but I emphasise that this was a reflection of her prior statements regarding everybody's love for him. I assumed she was using the word love in a general sense. In the situation at that time it seemed an appropriate, spontaneous way to express my compassion for the family and empathy for them. It certainly was not an expression of any past or ongoing relationship with [Mr C]. I am sorry if that was the impression conveyed and has led to concerns regarding [Mr C's] level of care. However if they felt that [Mr C] and I had any other relationship than a doctor-patient one, then they are incorrect.”

Mrs A advised me that in the family's view, Dr D was guilty of “gross negligence” and “misplaced trust” as he had exploited their brother's kindness. In her letter of complaint, she wrote: “The overriding factor is that [Dr D's] friendship with [Mr C] impinged on his ability to treat [Mr C] medically and foresee and connect the problems.”

Dr D responded as follows:

“In respect to [Mrs A's] comments that I had an inappropriate friendship with [Mr C] and this influenced the level of care that [Mr C] received from me, I completely deny this. I am unaware of the basis for this assertion.



Whilst we had a good rapport, I can state categorically that [Mr C] and I did not have a friendship; our relationship was strictly a doctor-patient one.

...

I deny that I in any way exploited [Mr C] or transcended our doctor-patient relationship. At all times I believe I provided proper treatment and care.”

Dr D advised me that he visited Mr C on only one occasion outside of his clinic when he went to see Mr C in the Infectious Diseases Ward at the public hospital. The visit was in his professional capacity as Mr C’s general practitioner. Dr D advised me that he visits the majority of his patients who are admitted to hospital, and that he has visited other public hospitals at various times to see patients and give them support.

Mr C’s family was also unhappy that Dr D had made a reference to Mr C’s negative syphilis test results at the meeting and felt that it was a breach of patient confidentiality. Dr D explained the reference as follows:

“... [T]he family repeatedly asked me what the cause of death was and also advised me they did not know why [Mr C] had been in hospital earlier in the year. When they asked me why I thought it was appropriate at the time to tell them.”

*Advice from Dr L, Director of the public hospital’s Department of Emergency Medicine*

Dr L advised me that, in retrospect, it appeared Mr C was presenting to the public hospital with atypical angina and that the unusual symptoms had misled all the clinicians with whom he had come in contact. Dr L stated:

“Medicine is an imprecise science and patients do not always present with classical symptoms. Doctors are aware of this and do their best to come to a correct diagnosis. In this case it would appear that the diagnosis was incorrect, but I do not believe that this was due to any error or misjudgement on behalf of [Dr G]. The same symptoms had confused several previous clinicians, although [Dr D] had suspected that [Mr C] might be suffering from ischaemic heart. [Dr D] in his letter of referral to the Cardiology Department acknowledged that this was a rather unusual presentation. The diagnosis of ischaemic heart disease in the Department of Emergency Medicine is made from a combination of history, examination, ECG and blood tests. In the case of [Mr C] none of these were diagnostic and it is likely that he would have needed an exercise ECG in order to prove significant ischaemia. [Mr C] did have a positive family history of ischaemic heart disease with a father who died young with a myocardial infarction. This with his smoking would be considered as risk factors, but not diagnostic of ischaemic heart disease.”

*23 May 2000*

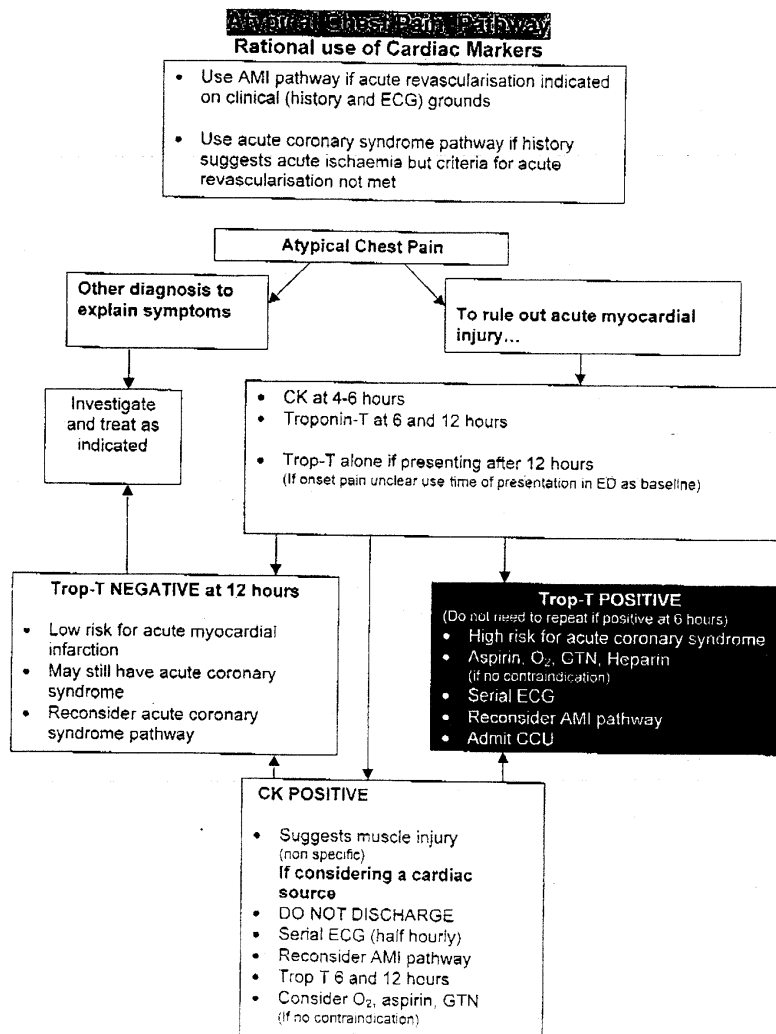
Mr C’s case was discussed in a Morbidity and Mortality meeting of the Department of Emergency Medicine at the public hospital on 23 May 2000. Dr F advised me:

“[Mr C’s] case is an example to all doctors of the potential for acute coronary syndromes to present in unusual ways, and the need to actively seek to exclude this diagnosis when there is any doubt.”

Dr F advised that he had subsequently written clinical practice guidelines for patients presenting with atypical chest pain. The guidelines are designed to help junior doctors manage patients with chest pain safely, based on the currently available evidence in the medical literature.

The Clinical Practice Guidelines for patients presenting with atypical chest pain were implemented in November 2000 and are set out on the following page.

## Clinical Practice Guidelines – Atypical Chest Pain Pathway – Emergency Department, the public hospital



*July 2000 meeting*

In late July 2000, Mrs B, and Mr C's brother and sister-in-law, attended a meeting of the "Grieving Team" at the Department of Emergency Medicine. Mrs B informed me that although the meeting had given the family answers to some of their questions, they still wanted the registrar who treated Mr C on 6 April 2000 [Dr G] to acknowledge that he "got it wrong" and "did not look deep enough".

In response to my provisional opinion, Dr G advised me:

"... I acknowledge the diagnosis of oesophageal reflux was incorrect and thus proper management was not instituted for [Mr C]. I will forever regret this. With what I have learnt and more clinical experience, I know that if I saw a similar patient again, the care provided would be different."

---

## **Independent advice to Commissioner**

*Independent general practitioner advice*

The following advice was obtained from general practitioner Dr Douglas Baird, about the care provided by Dr D:

"Documentation provided to me to consider this complaint are the 'supporting information' items A to S listed in your Request for Medical/Professional Expert Advice on this case. I have read these documents thoroughly and I am sure that I have a clear picture of the medical interactions in the final illness of [Mr C].

I will answer your specific questions and then offer some observations on this case.

- **Please comment on the complaint that [Mr C] had unstable angina for at least six months prior to his death, which was not treated by [Dr D].**

There is no evidence in any of the documents that you forwarded to me that [Mr C] had unstable angina. He was seen by a raft of Medical Practitioners through this time, who formed various, but similar, opinions as to his diagnosis. Only [Dr D] and [Dr G] put cardiac pain in their possible diagnoses. [Dr G] felt he had satisfactorily excluded it, and [Dr D] was awaiting expert opinion. Given this it is hard to conclude that [Dr D] failed to treat a condition that we still are unsure existed.

- **Please comment on [Dr D's] examination of [Mr C] on both 30 March 2000 and 6 April 2000 and the appropriateness of [Dr D's] response to [Mr C's] complaints on each occasion. Is there any indication that [Dr D] should have sent [Mr C] to hospital on either of these dates?**

30 March 2000: It appears from the clinical files forwarded by [Dr D] that he took a history and performed an examination in keeping with the presentation of [Mr C]. The

history and symptoms provided along with the examination findings are in no way typical, or even suggestive, of heart disease. It would not be common for a GP to request an Exercise Tolerance Test (ETT) given such clinical signs and symptoms.

6 April 2000: These notes are hand-written as opposed to all other notes provided being computer generated. I assume that this is because this consultation was a house call rather than in [Dr D's] rooms. Once again [Mr C] has confusing symptoms that cannot easily be attributed to one illness, except perhaps something of viral origin. Although [Dr D] documents chest pain, once again it is not typical of cardiac pain. As the most distressing symptoms had disappeared at the time of the consultation, his planned treatment was eminently reasonable.

There is no evidence to suggest that [Mr C] should have been admitted to hospital on either occasion.”

[In response to my provisional opinion, Dr D explained that the 6 April consultation took place in his rooms. He advised me that, by that stage, a folder file had been made up for Mr C and, when a patient had a folder file, his practice was to write his notes in the file. Dr D stated:

“I have commented on [Dr Baird's] statement because of the questions raised about visits that I had made to [Mr C] at his home. As I have stated before, I had only ever seen [Mr C] twice outside of my surgery.”]

- **Please comment on the complaint that [Dr D] did not ask pertinent questions about [Mr C's] family history of heart disease.**

This is an oversight on [Dr D's] behalf. Although it may have raised his index of suspicion it would still require unusual prescience to attach [Mr C's] symptoms to his heart. [Dr D] had ordered lipid tests that showed a mildly elevated serum cholesterol only and there was no hypertension. Countering these findings there was a history of tobacco use and moderate obesity with a Body Mass Index (BMI) of 32.3. (Calculated by me from post-mortem data on weight and height.) Normal BMI 20–25.

Given this I do not think that any action beyond referral for an ETT would be considered necessary. This was the action that [Dr D] undertook.

- **Please comment on [Mr C's] ECG of 12 October 1999 inadvertently being filed without being reviewed. Is there any action that needed to be taken in response to this ECG?**

It has become well known to medical practitioners in this country that it is considered a doctor's responsibility to follow up in any investigations ordered. This is in the belief that if it is important enough to ask the question it is important enough to find the answer. I am uncertain whether this view was as concrete in 1999 but I suspect that it was. The factor that I believe mitigates this for [Dr D] is that this investigation does not appear to have been ordered by him. He saw [Mr C] on 13 October 1999, the day

following this recording. [Mr C] was seen at [the private accident & medical clinic] on the 8<sup>th</sup> and 9<sup>th</sup> October 1999 and it is unlikely that the ECG was ordered during this consultation, although there is no annotation to suggest this.

[Dr D] annotates his investigations quite clearly in his files, yet there is no record of an ECG being ordered. The last time [Dr D] saw [Mr C] prior to the ECG was 12 March 1999.

The filing of the ECG without doctor sign-off is not best practice, whoever orders the investigation, but it would be hard to hold [Dr D] responsible if he were unaware that such an investigation had been ordered.

[Dr D] states that [Dr I], cardiologist, says that the ECG was essentially normal. Subsequent ECGs performed at the public hospital tend to reinforce this conclusion. The action that should have been taken following this mechanical report was a cardiologist's report of the tracing. If [Dr I's] opinion has been reported to us correctly that recording would have made no difference to [Mr C's] treatment.

- **Please also comment on any additional matters which you think should be brought to the Commissioner's attention.**

Having read the complete file to this complaint I have the distinct feeling that three separate pathologies may have been involved.

Firstly, there is the chronic and recurring symptomatology with head, neck and chest pain accompanied by swelling and malaise. Many doctors reviewed this and no clear diagnosis was made. In the later stages treatment was with Non-steroidal anti-inflammatory drugs (NSAID).

Secondly, there was the presentation at the the public hospital ED on the night prior to [Mr C's] death where he was diagnosed as having reflux oesophagitis that responded to Mylanta, an antacid. NSAIDs can certainly cause indigestion that would be alleviated by antacids. [Mr C] had been taking NSAIDs at the time.

Thirdly, there was the Myocardial Infarct (MI) that killed [Mr C]. I am uncertain as to the exact time of [Mr C's] death but the pathologist states that the MI occurred between six and twelve hours prior to death. There is no evidence of previous heart muscle damage.

If [Mr C] died on the morning of 7 April 1999 it is possible his MI occurred after he left the ED at [the public hospital].

In conclusion I feel that there is no clear evidence that [Dr D] failed to provide services with reasonable care and skill to [Mr C]. It is my opinion that the services [Dr D] provided complied with the relevant professional standards. [Dr D] has kept good records; he has recorded adequate histories and examinations and has referred appropriately for investigations and consultant opinions.

I do not feel I have been given enough evidence to comment on the nature of the relationship between [Dr D] and [Mr C]. ...”

*Further general practitioner advice*

Dr Baird provided the following additional general practitioner advice:

“Further documentation provided to me to consider this complaint is in the body of your letter of 19 June 2002, plus there is a copy of an ECG dated 12 October 1999 with ‘[Mr C]’ written on it.

Given that this ECG was ordered by [Dr D] and performed on the same day at MedLab [...] it would seem to have been a major oversight to have had this filed without [Dr D] seeing it or chasing up the result. What seems very strange is that [Dr D] saw [Mr C] the day following the ECG recording and the investigation does not seem to have been discussed.

The electronically assessed report of the ECG states: ‘Sinus rhythm, Non-specific T-wave abnormality, **borderline ECG**’. Given that cardiac symptoms were suspected and that there was cause to further investigate an ECG that fell outside the normal range, it must be considered a significant failure on the part of [Dr D] [not] to access the result and review the ECG, either himself if he had sufficient cardiology skills, or with a cardiologist.

If this was an essentially normal ECG as [Dr D] reports [Dr I], cardiologist, as concluding then it would have been acceptable to continue along the treatment path that [Dr D] had established.

In answer to your specific questions:

- What would a GP reasonably be expected to do on receipt of this ECG?

It would be reasonable to review the tracing and form an opinion, or if not confident to do this, to ask a cardiologist to look at the investigation and pass opinion as to significant and further action.

- Are there any signs of unstable angina in this ECG that a reasonable GP would be expected to recognise?

I do not consider myself to be competent in reading ECGs and I generally do not ask for ECGs unless they are performed under the supervision of a cardiologist and reported by him or her. Given my less than perfect ability to read ECGs I would think any personal opinion on this result would have very little value. I would suggest, instead, asking [Dr I] to provide you with a written opinion as to the significance of this recording and what further investigations, if any, he would have asked for, and what degree of urgency.

- Does this ECG, and the fact that it was inadvertently filed away before [Dr D] saw it, change your advice in any way?

It would sway me to pass the view that this ECG should have been more rigorously followed up by [Dr D]. He should have chased up the investigation and result itself, and then having that should have either reviewed the tracing and passed opinion, or asked a cardiologist to do the same.

I see from your letter of 19 June 2002 that [Dr D] has changed the systems at his rooms to ensure that there is no further filing without his review of results. I would commend this activity and perhaps review the system he has instituted to see whether it is foolproof.”

#### *Independent emergency medicine advice*

I obtained the following independent advice from Dr Geoff Hughes, a consultant and clinical director in emergency medicine, about the services provided at the public hospital. The advice that immediately follows was provided prior to Dr H responding in full to my provisional opinion. At that stage, I asked my advisor whether Dr H’s additional information altered his original advice. Dr Hughes’ additional comments are provided later in my report.

#### **“Introduction**

I, Dr Geoffrey Hughes am employed as a consultant and clinical director in emergency medicine at Wellington Hospital, Capital and Coast District Health Board. I have been asked by the Health and Disability Commissioner (HDC) to provide an independent report on this case. The HDC has a copy of my curriculum vitae filed in his office.

The case concerns that of an adult male [Mr C], who attended [the public hospital] emergency department (ED) on two occasions in March and April 2000. On both visits he was discharged home after clinical assessment. After the second visit [Mr C] died at home later on the day of discharge. Death was due to acute myocardial infarction.

The family of [Mr C] has complained to the HDC.

#### **Documents provided by the HDC**

The HDC has given me the following:

- Complaint letter by [Mrs A] dated 22 June 2000, marked ‘A’.
- Complaint letter by [Mrs B] dated 24 August 2000, marked ‘B’.
- Action notes of discussions with [Mrs A] to further clarify the complaint, dated 14 August 2000, 19 September 2000, and 29 September 2000, marked ‘C’.
- Notification of investigation letters to [the public hospital] dated 29 September 2000, and Drs E, F, G and H dated 16 January 2001, marked ‘D’.
- Response from [the public hospital] dated 3 November 2000, marked ‘E’.



- Response from [Dr F], specialist emergency physician [at the public hospital], dated 21 February 2001, marked 'F'.
- Response from [Dr E], senior house officer [at the public hospital], dated 14 February 2001, marked 'G'.
- Response from [Dr G], registrar [at the public hospital], dated 16 February 2001, marked 'H'.
- Additional response from [Dr F of the public hospital], dated 12 March 2001 marked 'I'.
- Additional response from [Dr G of the public hospital], dated 27 March 2001, marked 'J'.
- Additional response from [Dr E of the public hospital], dated 16 March 2001, marked 'K'.
- Response from [Dr H], consultant [at the public hospital], dated 4 May 2001, marked 'L'.
- Responses from [Dr D], General Practitioner, dated 15 October 2000 and 7 March 2001, with relevant medical records attached, marked 'M'.
- Copies of Emergency Department medical records for March and April 2000, marked 'N'.
- Letter from [the] complaints co-ordinator [of the public hospital], dated 10 April 2001, with enclosures including the medical records related to [Mr C's] outpatient visit on 15 November 1999, and admission from 21-22 October 1999, marked 'O'.
- Action note of conversation with [Mrs A] on 17 August 2000, marked 'P'.
- Action note of conversation with [Mrs A] dated 19 January 2001, marked 'Q'.
- Action note of conversation with [Mrs A] on 31 January 2001, marked 'R'.

### **Questions asked by the HDC**

The Commissioner has asked me to answer several specific questions:

- **Were each of the examinations performed by [Dr E], [Dr F], and [Dr G] appropriate and complete? Were the conclusions they drew about [Mr C's] condition appropriate and reasonable in the circumstances?**
- **Should telemetry monitoring have been offered by any of the providers involved in [Mr C's] care? If so, please advise whom.**
- **Please comment on the diagnosis of oesophageal reflux that was made on 6 April 2000. Was this a reasonable diagnosis to make on the basis of the information that was available at that time? If not, who was responsible for the incorrect diagnosis?**
- **In your opinion, is there any evidence to indicate that [Dr H] should have personally reviewed [Mr C] on 6 April 2000?**
- **Is there any evidence to indicate that the decision to discharge [Mr C] was inappropriate on either occasion he presented to the Emergency Department?**

**If so, please comment on the level of responsibility that each of the providers involved in his care has for the decision to discharge.**

- **Please comment on any other relevant matter which you think should be brought to the Commissioner's attention.**

I will

- review and quote from the clinical notes,
- comment when relevant,
- give an overview commentary,
- provide a reference from the medical literature,
- answer the above questions,
- provide a summary.

I will not repeat all of the details recorded in the clinical notes or in the papers provided.

#### **Perusal of clinical notes**

- **[The public hospital's] ED 25 March 2000**

The hospital notes (on both visits) are clear, well written and follow a standard format of history, examination and special investigations.

[Mr C] was seen initially by a **triage nurse** at 2145 hours. Amongst the presenting symptoms she describes

**'unwell since 0100. Both ears aching with a pressure: feeling feverish. Then right sided chest pains started, associated with sweating, burning sensation; pains in chest on walking, not affected by respirations.'**

She makes reference to similar symptoms investigated in November 1999 at [the public hospital]. No diagnosis was made then although he was unwell for four weeks. She has ticked a box to order an ECG.

The notes by [Dr E] are detailed and comprehensive. She records

**'walking home at 0230 and felt hot and felt pain in his ears. Pain has reoccurred about six times today, sometimes associated with sharp stabbing central chest sternal pain.'**

This relationship is not elaborated on. She also mentions that he had an identical problem the previous year when he was admitted to hospital but no diagnosis was made (presumably the episode referred to by the triage nurse). She adds

**'pain occurs on walking a few steps, relieved by sitting down'.**

The consultant [Dr F] then writes his notes. He notes:

**‘History as above. Felt awful and red swollen face & bulging veins x 6, last 10 hours.’**

In his differential diagnosis he considers intermittent obstruction of venous return to the heart (SVC obstruction) and a phaeochromocytoma (a rare tumour which arises from the adrenal glands in 90% cases).

Neither set of notes refers to an ECG taken at 2155 hours, as requested by the triage nurse. The ECG is printed from a Hewlett-Packard Page Writer that also lists abnormalities that it detects. It reports that the ECG is abnormal, listing abnormalities in the inferior leads 2 (11), 3 (111), and AVF. The ST segment is negative. The printout says that these findings are an ‘unconfirmed diagnosis’ and is clearly marked in capital letters ‘ABNORMAL ECG’.

Neither [Dr E] nor [Dr F] mentions the ECG or the abnormalities in their contemporaneous notes. The discharge summary, printed by the department’s computer and signed by [Dr F], is a clinical summary of the attendance for the GP. It does not refer to the ECG.

In subsequent correspondence to the Commissioner [Dr F] refers to it but [Dr E] does not. [Dr F] says that the ECG shows ‘no ischaemic changes’. He does not refer to the abnormalities reported on the printout.

- **[The public hospital’s] ED 6 April 2000**

These notes follow a standard format, as in the earlier attendance.

[Mr C] was seen by the **triage nurse** at 2115 hours. She describes

**‘onset of sharp chest pain and pain behind the left ear. Pain in neck.’**

The notes from [Dr G] are thorough. He describes

**‘chronic right chest pain radiating to the ear and pain in the neck – awaiting cardiology review’**

and

**‘today epigastric burning up to throat for approx eight hours’.** (The epigastrium is the upper middle third of the abdomen just below the diaphragm.)

He comments that similar symptoms had previously been relieved with Mylanta – an indigestion remedy. He records a family history of ischaemic heart disease. [Mr C’s] father had an AMI between 40 and 50 years of age.

An ECG taken has a machine generated report of non-specific ST depression in two leads. It is labelled 'OTHERWISE NORMAL ECG'.

My own reading of this ECG is that there is non-specific ST depression in leads V4, V5 and V6. I think lead AVF is abnormal with a flat ST segment and absent T waves. In lead 3 (III) there is a suggestion of ST elevation and T wave inversion.

The contemporaneous notes of [Dr G] comment on the ECG noting ST segment depression. He says it has been seen previously. He does not think that there is any difference compared to that seen previously. I assume that 'previously' refers to the ECG of 25th March. They do look similar but the machine-detected abnormalities are different. I can find no comment on this in his notes or correspondence to the HDC. I also think lead 3 (III) has a subtle but slight difference in the second trace.

He writes that the patient has reflux oesophagitis and there is no evidence of significant cardiac or lung pathology. The cardiac enzyme results are normal.

### **Review of an ECG dated 12 October 1999**

Included in the bundle of papers I was given there is an ECG strip dated as above. I think it came from the GP notes. I have no idea whether it was available on the dates in March and April 2000 but I suspect not. I mention it for interest only.

The strip has printed on it 'non-specific T wave abnormality' and is labelled 'borderline ECG'. This strip has abnormalities in leads 2 (II), 3 (III) and AVF. Leads 3 (III) and AVF have inverted T waves. Lead 2 (II) has flattened T waves. This pattern in the inferior leads is, in my opinion, abnormal. They suggest that an acute coronary care syndrome may have been present in October 1999.

### **Commentary**

Chest pain is one of the commonest presenting symptoms to EDs world-wide. The differential diagnosis is long. Pain comes from disease or injury to structures in the chest, abdomen, neck and back. Some causes are trivial and self-limiting, some are serious but easily treatable. Some are life threatening, or potentially life threatening but treatable. Some are fatal despite treatment.

Life threatening conditions include acute myocardial infarction (acute heart attack – AMI), pulmonary embolus (clot on the lung) and aortic dissection (splitting and rupture of the body's largest artery). Serious but treatable conditions include pneumonia (chest infection), pneumothorax (air bubble around the lung), perforated peptic ulcer (from the stomach or duodenum), gall bladder disease and pericarditis (inflammation of the outer sac of the heart). Trivial conditions include rib muscle injuries, viral infections of the rib cage and simple reflux oesophagitis (heartburn or indigestion). Chest pain due to acute cardiac disease ranges from a heart attack (acute myocardial infarction or AMI) to unstable and stable angina.

It is worth clarifying some terms used.

- Ischaemic or ischaemia means lack of oxygen to a tissue due to poor blood supply
- Angina is chest pain due to ischaemia of the heart muscle. Angina is 'stable' or 'unstable'. Angina can lead to AMI. By definition the ischaemia that occurs in angina is reversible.
- Heart muscle is known as myocardium.
- AMI can occur without angina.
- AMI means acute onset of dead heart muscle due to blockage of blood supply to the muscle.
- Infarction means death of tissue.
- Currently the term 'acute coronary syndrome' covers a range of cardiac syndromes due to ischaemia or infarction.

Diagnosis of chest pain is frequently straightforward but as is seen from the reference quoted below, it can also be difficult. Mistakes occur. This regrettable case reflects this problem. Worldwide, hospitals, cardiologists and emergency physicians are grappling with the challenge of reducing the chance of mistaken diagnosis. They have been for many years. Practice and models of care are evolving and improving as new strategies are developed.

The key to reducing error is to use a systematic approach. The fundamental principle of history taking, examination and special investigations needs to be complemented by a clinical guideline or protocol. I will not enter the debate about the difference between guidelines and protocols.

The history taken from the patient needs to pursue details about the nature, character and radiation of the chest pain, its mode of onset, duration, precipitating, aggravating and relieving factors, relationship to exercise, breathing, movement (as opposed to exercise) and eating. Systemic (non-chest) symptoms are helpful. Past medical history, family history, drugs, and allergies can all provide clues to diagnosis. A former cardiology boss of mine taught me that the key to initially suspecting infarction is attention to the details in the history. A professor of surgery taught me that in all clinical specialities the history leads you in the right direction eighty percent of the time. I agree with both of them.

Examination may elicit a variety of signs that I will not detail here. A point I wish to make is that a patient suffering from AMI may appear normal apart from the fact that they are in pain. They may not even have pain.

Special investigations will depend on the information elicited from the history and examination. For example a diagnosis of a rib muscle injury does not need any tests. Gall bladder disease will need an ultrasound scan. If cardiac disease is suspected ECGs and cardiac enzyme blood tests (and sometimes pictures done by an echocardiogram machine) are used. If the cause is uncertain then a range of tests may be ordered.

Depending on the hospital guideline or protocol, the patient will have tests done in the emergency department, a ward in the hospital, by the GP or in the outpatient clinic.

The presenting symptoms of an AMI are well taught in undergraduate and postgraduate medical teaching. When the presentation is 'classical' the diagnosis is obvious from the history alone. Examination and special investigations (ECG and enzymes) are confirmatory. When symptoms are suggestive but not classical ECG and blood tests are diagnostic and critical. Occasionally symptoms are so atypical that chest pain is not actually a symptom. 'Silent' or painless infarctions are well described. Atypical symptoms are legion [and I] will not list the range of atypical symptoms here. Even experienced clinicians can be fooled and miss the diagnosis.

In this case the symptoms are, in my opinion, both typical and atypical. Parts of the history, (even allowing for the benefit of hindsight) suggest ischaemic cardiac disease. These include:

- pain in chest on walking (first attendance)
- symptoms in the neck (both attendances)
- epigastric pain radiating to the throat and duration for eight hours (second attendance)
- central/sternal chest pain (first attendance)
- pain occurs on walking a few steps, relieved by sitting down (first attendance)

The problem is compounded by the fact that Mylanta (an indigestion remedy and mentioned on second attendance) had been successful previously. However I believe the fact that the indigestion lasted for up to eight hours is significant. If an oesophageal indigestion syndrome lasts this long then the diagnosis needs review. Symptoms of this duration suggest AMI, peptic ulcer disease, gall bladder disease and pancreatitis.

Examination in a patient suffering AMI may be normal or reveal findings due to the complications of the disease and the risk factors causing the disease. Often it is unhelpful. I will not comment on the examination notes.

The ECG is an essential investigation when cardiac disease is suspected or the differential diagnosis uncertain. It may show a range of abnormalities, from the classical appearance of an evolving or mature infarction, to subtle, non-specific, equivocal appearances. The ability to detect subtle changes depends on the skill and experience of the person reading the ECG. The less experienced make more mistakes.

[The public hospital] ED uses an ECG machine that prints out abnormalities that it detects. These types of machines are not standard throughout the world. Some departments don't use them. Some people believe that they are too sensitive and overly diagnostic (false positives). Others believe that this is a good thing as it is a safety net. Better to be over than under diagnostic. If abnormalities are detected then the doctor must accept what the machine says or reject the abnormalities and explain why.

The machine has detected abnormalities on both visits. They are subtle and compatible with ischaemic heart disease (acute coronary syndrome) but are not classical changes of acute infarction. I understand how they can be missed, especially if someone is inexperienced or not thinking of cardiac disease.

In March 2000 the ECG is not mentioned and hence the abnormalities detected by the machine are not commented on. This concerns me. If a test is done then it needs to be heeded, otherwise why do it? The fact that the ECG is not mentioned suggests that it was not read. If it was read then why is it not mentioned? If it was not read, why not?

In April 2000 the ECG is mentioned. The notes say that there is no change from previously. Presumably this means the ECG of March. I will return to this below.

Cardiac enzymes are proteins released from the myocardium when it is damaged by infarction. Measuring them in the blood helps detect myocardial infarction. Several enzymes or proteins are released which become detectable at different times, depending on the time since tissue damage started. Different hospitals measure different enzymes. For example [the public hospital] measures myoglobin but [other hospitals may] not use it routinely.

No enzyme tests were done in March. I am concerned about this. Presumably this was because cardiac disease was not suspected by the doctors, although it was by the triage nurse (she indicated a need for an ECG). This suggests that the ECG (and the machine-detected abnormalities) were either not seen or ignored.

Myoglobin and Troponin T were measured in April. These were normal. I have no information about the specific levels. The fact that the Troponin T in particular was normal is very reassuring to a clinician. This was probably influential to [Dr G's] decision. A possible explanation for the normal enzyme tests in April is that at that time infarction may not have occurred, but ischaemia only. The patient may have had an acute coronary syndrome. If a patient is suffering an acute coronary syndrome or unstable angina (as opposed to infarction) enzyme markers are generally unhelpful.

I will now discuss the guidelines on 'atypical chest pain' used in the department (they were included in the papers). It is good that guidelines are available. Most EDs around the world and in New Zealand have similar ones. The variation is in the detail. The broad principles are similar. To a layperson this may seem odd but it is a fact of life and reflects the difficulty in getting universal agreement to a single policy. The guidelines used in [the public hospital's] ED are well within the normal variation. They are very reasonable.

Having argued that the guidelines are very reasonable I wish to highlight three points. Firstly there is a box labelled 'Trop-T negative at 12 hours'. It states that despite the test being negative a patient may still have an acute coronary syndrome. Secondly one of the enzyme tests used is creatine kinase or CK, measured at four–six hours. I can find no evidence that it was measured in the April visit. Finally the guideline is dated November 2000 and may have been written after this case occurred. I do not know if it

was available in March and April. If not this signals that lessons have been heeded and changes implemented.

In summary the assessment of chest pain in an undifferentiated patient in ED can be easy or difficult. A systematic approach of history, examination and special investigations is needed. Acute presentations of ischaemic heart disease range from stable angina to unstable angina to AMI. The term 'acute coronary syndrome' is increasingly used to cover these syndromes. The history provides significant clues in most cases. The examination is often unhelpful. The ECG may not be abnormal and if it is the findings can be subtle. A subtle abnormality (found by machine or doctor) needs to be heeded or positively rejected as irrelevant. Enzyme tests are extremely helpful but only after appropriate time intervals from symptom onset. Even if negative they do not exclude an acute coronary syndrome.

An increasingly common strategy to tackle these problems is the use of chest pain assessment units or a lower threshold for admission to a coronary care unit. The philosophy behind this is 'better to be safe than sorry'. I will return to this when answering the questions of the HDC.

### **Reference Textbook Extract**

The following is from a leading international emergency medicine reference book. It is an extract that discusses the problems of assessing chest pain and acute cardiac presentations in an emergency department.

### **EMERGENCY MEDICINE**

**4th edition Rosen & Barker Published by Mosby 1998**

**pp 1666-1668.**

(Please note the USA spelling of ischaemic as ischemic.)

'A significant concern is the patient with an atypical presentation of acute ischemic coronary syndrome. Up to 25% of patients with ultimate diagnoses of AMI have unusual initial presentations. The Framingham study and the Western Collaborative Group study find that 25% to 30% of all MIs are clinically unrecognised. Approximately one half of these unrecognised infarctions are truly silent; the other half of patients remember an atypical symptom complex that likely represents the MI. In patients having AMI without chest or epigastric discomfort, atypical symptoms can include dyspnea, syncope, confusion, stroke, fatigue or generalised weakness, or nausea and vomiting. Increased patient age reduces the likelihood of chest pain as a principle complaint in AMI. In patients older than 85 years of age the emergency physician should anticipate atypical presentations of AMI rather than typical descriptions of chest pain. Central nervous system complaints of stroke, confusion, and syncope become more prevalent. Diaphoresis and nausea and vomiting are manifested less often ...

... Uretsky et al note that patients with atypical AMI presentations average 10 years older, smoke less, and rarely describe a history of angina compared with patients with



typical presentations. As would be expected, patients with atypical symptom complexes for AMI tend to delay seeking medical care. Correspondingly, a delay in making the diagnosis of AMI is often noted in the ED for these patients, which can result in prolonged times to cardiac monitoring and definitive treatment compared with patients with classic presentation ...

The prognosis for patients with AMI having atypical presentations is typically worse than for patients with classic symptoms. Uretsky et al find a threefold increased mortality for patients presenting atypically (50%) versus patients with classical descriptions of chest discomfort (18%) ...

... Advanced age with associated comorbidity is considered responsible for the increased mortality of the atypical presentations group in this study ...

... The Framingham study demonstrates an increased long-term mortality rate for unrecognised infarctions; a 10-year 45% mortality rate was observed for patients with unrecognised infarctions, and individuals with symptoms had a 39% mortality rate ....

### **... Unintentional Release from the Emergency Department**

The characteristics of patients released home from the ED with AMI or acute ischemic coronary syndromes that progress to AMI are of great interest. Multiple studies document that 2.9% to 10% of patients with chest discomfort and AMI are unintentionally released from the ED. Based on an estimate of 800,000 patients admitted with AMI each year in the United States and a 5% unintentional release rate, approximately 40,000 patients with AMI will be released from the ED with AMI. These patients represent considerable risk for potential liability; it has been estimated that approximately 20% of the malpractice dollars awarded for emergency care in the United States are related to the emergent diagnosis and treatment of acute ischemic coronary disease.

Four percent of patients with AMI released from the ED in a chest pain study group protocol are significantly younger, have atypical symptomatology, and are less likely than a control group of patients with AMI to have ECG evidence of ischemia or infarction. Mortality for the group released from the ED tends to be higher than those admitted, postulated to be due to a return to normal activity, rather than bed rest. In this study improved ECG reading skills and the admission of patients with obvious ischemic pain at rest could have correctly diagnosed 49% of the patients with missed AMI. In a study by Schor et al from Jerusalem, a 10% missed AMI rate is noted in the emergency setting. The authors conclude that younger patients and individuals without previous hospitalisation for cardiac disease are more likely to be refused admission. From another study population with a 9% release rate for AMI, three of five patients released from the ED were young men between 30 and 45 years of age with non-specific clinical and ECG findings. A recent study finds a 2.9% release rate from the ED for patients with AMI. Improved ECG reading skills would have decreased the number of patients with AMI released from the ED ...

... Study patients compared with concurrent controls are younger, have atypical ED presentations, and have fewer ECGs diagnostic for AMI on presentation. Emergency physicians responsible for the care of these patients have less experience in the ED, tend to document histories less clearly, admit fewer patients to the hospital, and have difficulty interpreting ECGs. An autopsy study confirms that antecedent diagnosis of AMI is also difficult in a hospitalised population, with 47% of patients having AMI unrecognised before demise. Atypical or obscure presentation is cited as a major reason for incorrect diagnosis.

In all studies, younger patients and individuals with atypical histories for acute myocardial ischemic disease are most likely to be released from the ED with AMI. Improved clinician ECG reading skills would probably decrease this number. Careful, well-documented follow-up will also improve outcome for patients unintentionally released from the ED for AMI. In urban hospitals, chest pain clinics can serve to evaluate low-risk patients released from the ED with chest pain. Urging the patient to return to the same ED if symptoms recur will also facilitate re-evaluation and previous ECG comparison.'

(End of quote.)

#### **Answer to the questions asked by the HDC**

**Were each of the examinations performed by [Dr E], [Dr F], and [Dr G] appropriate and complete? Were the conclusions they drew about [Mr C's] condition appropriate and reasonable in the circumstances?**

I think that each of the doctors performed appropriate examinations. I am concerned that the ECG (and the machine report) is not mentioned in the notes of [Drs E and F]. [Dr G] did read the ECG. I have already covered this.

With hindsight the conclusions on both occasions were wrong. There are clues in the history to suggest cardiac disease. I have mentioned these above in my commentary and will repeat them here.

- pain in chest on walking (first attendance)
- symptoms in the neck (both attendances)
- epigastric pain radiating to the throat and eight hours duration (second attendance)
- central/sternal chest pain (first attendance but not elaborated on)
- pain occurs on walking a few steps, relieved by sitting down (first attendance)

I must emphasise that I have the privilege of saying this with the benefit of hindsight.

Was the connection made at the time? Was the family history of his father's cardiac disease noted? These questions reflect the problem that chest pain assessment is difficult. Clear thinking can be clouded by atypical or confounding factors.

---

**Should telemetry monitoring have been offered by any of the providers involved in [Mr C's] care? If so, please advise whom.**

I think this is the wrong question and you are referring to continuous ECG monitoring. If a patient has an AMI they will (in most hospitals) be admitted to a coronary care unit (CCU) for monitoring, pain relief and the detection / treatment of complications. If it is not an AMI but an 'acute coronary syndrome' most patients are admitted to a CCU. In CCU continuous ECG monitoring occurs. If the diagnosis is uncertain but there is a low risk possibility of a cardiac cause then a patient may not have continuous ECG monitoring, even if they are staying in ED, a short stay assessment ward or a CCU.

If the ECG abnormalities had been noted (subtle as they are) on the first visit then it is likely that thinking will have been different and further evaluation occurred. Such evaluation may include more ECGs (as opposed to continuous monitoring), extra enzyme tests and a provocative exercise test. (See the 'atypical chest pain' guidelines used in Auckland.) I think the decision to consider further assessment rested with [Dr F] in March and [Dr G] / [Dr H] in April.

As stated earlier clinicians universally are struggling with this problem. Chest pain assessment units are becoming more common. Patients in whom the diagnosis is unclear are further assessed in them but without the need for a full admission. If a cardiac diagnosis is confirmed they are admitted to CCU. If it is excluded they are discharged. Chest pain assessment units can be part of ED or a short stay ward.

It is my view that [Mr C] needed further assessment on both occasions.

**Please comment on the diagnosis of oesophageal reflux that was made on 6 April 2000. Was this a reasonable diagnosis to make on the basis of the information that was available at that time? If not, who was responsible for the incorrect diagnosis?**

This diagnosis is suggested by burning pain from epigastrium to the throat and relief by Mylanta. Oesophageal disease presents with symptoms of heartburn, indigestion and problems with swallowing. Heartburn and indigestion cause chest pain. Oesophageal disease can mimic cardiac chest pain and is part of the differential diagnosis. At the risk of repetition it can be difficult to differentiate. The symptom lasted eight hours which is unusual for oesophageal reflux. Generally the symptoms are shorter in duration. An eight-hour duration should question the diagnosis of reflux. Oesophageal indigestion symptoms of this length suggest AMI, peptic ulcer disease, gall bladder disease and pancreatitis. Another problem is that antacids such as Mylanta can (paradoxically) relieve anginal chest pain. The burning pain from epigastrium to throat was probably ischaemic cardiac pain.

[Dr G] records that [Mr C] was awaiting a cardiology review. I realise I am talking with hindsight but did he think about this?

The diagnosis of reflux appears to have been first made by [Dr G] and confirmed by [Dr H]. [Drs E and F] do not mention it.

**In your opinion, is there any evidence to indicate that [Dr H] should have personally reviewed [Mr C] on 6 April 2000?**

It is reasonable for a doctor to make a decision based on indirect evidence without seeing the patient. It happens daily worldwide. Supplementary information can still be obtained indirectly. It is up to the doctor to then decide whether the patient needs to be seen personally. Attention to the details of the history is equally, if not more important, if the indirect approach is used. If in doubt examination is mandatory. ECGs can only be reviewed by inspection.

In his letter from the UK dated 4/5/01, [Dr H] says the ECG is normal. The ECG actually has an abnormality (ST depression) on it. [Dr G] refers to it in his notes, saying it is no different from previous readings. Did [Dr H] know of the March ECG? Did he compare it with the April one? If not then this ignorance may be a consequence of the indirect approach.

**Is there any evidence to indicate that the decision to discharge [Mr C] was inappropriate on either occasion he presented to the Emergency Department? If so, please comment on the level of responsibility that each of the providers involved in his care has for the decision to discharge.**

The decision to discharge [Mr C] was, sadly, incorrect on both occasions. Senior staff were involved as second opinion each time.

**Please comment on any other relevant matter which you think should be brought to the Commissioner's attention.**

I have made comments throughout. I will now close with a summary.

### **Summary**

I have written this report to highlight that errors in chest pain assessment are not unique to [the public hospital]. The very fact that four doctors (over the two visits and all working in a very good ED) saw or were informed of his complaints signifies how easy it is for well meaning and committed professionals to get it wrong. It is only right that analysis needs to look at all factors and not just at an individual or individuals. A systemic approach is needed.

As mentioned several times models such as chest pain assessment units are increasingly in use. Coupled with changing use of cardiac enzyme testing, ECG tests and provocative exercise tests the risks of error are reduced. I am aware that in the USA radioactive isotopes are being studied, with their use in EDs, to see if diagnosis is improved.

I want to emphasise that what I am about to say is made with the benefit of hindsight.

In this case clues are present to suggest that [Mr C] was suffering from an acute coronary syndrome. These clues include parts of the history and subtle ECG abnormalities. Confusing and confounding factors were clearly present, one of them being a previous diagnosis of hemicrania (which I have not mentioned in my report) and reports that Mylanta was successful in symptom control. The normal enzyme results on the second visit were also confounding variables.

If the 'atypical chest pain' guidelines were not available in March or April then clearly [the public hospital] has learnt from the experience. If they were available then the guidelines were not followed.

I cannot say with certainty that admission on either occasion will have led to a different outcome. On the balance of probabilities it will have done."

*Further emergency medicine advice*

The following additional expert advice was obtained from Dr Geoff Hughes. Again, this additional advice was provided prior to my receiving Dr H's full response.

"Thank you for your letter dated 16<sup>th</sup> May. I note that you are asking some supplementary questions, after reading my original report to you.

I will answer the questions as best as I can below. I have reprinted your questions in bold print. My answers follow them.

**1. In relation to the services provided to [Mr C] by [Dr E], please clarify your answers to the following questions and give reasons for your answers:**

**Was the history [Dr E] took of [Mr C] of an appropriate and reasonable standard?**

As stated in my original report the notes of [Dr E] are clear, well written and follow a standard format of history, examination and special investigations. They are of a high standard.

**Was it reasonable of [Dr E] not to ask about the family history of heart disease?**

Despite my answer above it is true to say that the family history was not recorded. It does mean that the full history taken was incomplete. A perfectionist will argue that this is most unreasonable. A more reasonable view is that it is unfortunate. It is debatable if recording the family history will have made any difference to the outcome. It may or may not have done (e.g. it did not make any difference with the second visit on 6<sup>th</sup> April).

**Was it reasonable of [Dr E] not to consider the possibility of ischaemic cardiac disease?**

As mentioned in my first report it is easy to be clever with the benefit of hindsight. With hindsight it is unreasonable to have not considered this possibility. Clues were present to suggest a cardiac cause for the symptoms.

**In not looking at the ECG or ordering cardiac enzyme tests, did [Dr E] depart from acceptable standards of practice in the circumstances?**

If a test is performed (such as an EGG) it is prudent to look at the results – otherwise why do it? The decision not to perform cardiac enzyme tests was consequent to the fact that cardiac disease was not considered.

**Was [Dr E's] queried diagnosis of otitis media reasonable?**

With the benefit of hindsight – no. Although a previous history of otitis media and symptoms of earache were noted, ear examination was difficult in the right ear and normal in the left ear. On balance, I think the diagnosis is unreasonable.

**2. In relation to the services provided to [Mr C] by [Dr E], please clarify your answers to the following questions and give reasons for your answers:**

**Was it reasonable of [Dr E] not to consider the possibility of ischaemic heart disease?**

The notes of [Dr E] are concise. My answer is the same as that given for the same question for [Dr E] above.

**Was it reasonable for a person of [Dr E's] experience to draw the conclusions he did from the ECG? Was it reasonable of [Dr E] not to consider further assessment for [Mr C]?**

I can see no evidence that [Dr E] looked at the EGG at the time. If he is saying retrospectively that the EGG showed no acute abnormalities, then he is at variance with what the machine itself is saying. The print out says 'abnormal EGG'. The abnormalities are subtle but present.

If he did not look at the EGG at the time then it cannot have influenced his thinking. The answer to the second question comes back to the point about 'hindsight'.

**If the subtle abnormalities in the ECG had been noted, what would the reasonable person in [Dr E's] position have done?**

The answer must be to have considered an acute coronary syndrome or ischaemic heart disease. Specifics will depend on a local policy, but are likely to include enzyme tests and / or admission for further assessment.

**Did [Dr E] adequately take into account the family history of heart disease?**

It does not appear so.

**At the time, was the decision to discharge [Mr C] reasonable?**

On balance no. I repeat the word 'hindsight'.

[In response to my provisional opinion, Dr E advised me that, with respect to Dr Hughes, he disagreed with his interpretation of the ECG taken on 25 March 2000. According to Dr E, the ST segment changes in lead II were subtle and, in his view, the ECG was "within normal limits".

Dr F asked Dr I, cardiologist, to interpret the ECG. Dr F provided me with Dr I's report on the ECG, which stated:

**“ECG – 25.3.00 – Timed 21:50:43 hours**

This ECG shows sinus rhythm with a normal axis at 73 beats/minute. The inferior Q-waves are physiological and not pathological. The minor ST/T-wave changes in the inferolateral leads are not infrequently seen in normal patients, being a normal variant, particularly when there is a slight broadening of the QRS (although <0.12milli sec). Subtle changes like these may also be seen with pathological conditions such as left ventricular hypertrophy and myocardial ischaemia, but are not diagnostic of these conditions.

This ECG certainly falls within the normal range for a normal ECG in a normal fit population.”

In a letter accompanying his ECG report, Dr I further noted:

“... the comments on the top of the ECG relating to 'inferior Q-waves noted' and 'inferior ST/T abnormalities' are not infrequently printed onto an ECG by the automatic ECG printer. Experienced clinicians are aware that these comments are very frequently incorrect and misleading. Many clinicians, myself included, do not routinely read these comments because of their inaccuracy and instead simply read the ECG. Clinical studies have shown that experienced clinicians are better at interpreting ECGs than even the best of these ECG machine programmes with their accompanying notes.”]

**3. In relation to the services provided to [Mr C] by [Dr G], please clarify your answers to the following questions and give reasons for your answers:**

**Was it reasonable for a person of [Dr G's] experience to interpret the two ECGs as he did?**

Yes.

**In all the circumstances, was it reasonable of [Dr G] not to consider the possibility of ischaemic heart disease?**

The presenting symptoms on this occasion are different but are suggestive of an ischaemic cardiac aetiology. I think [Dr G] was considering a cardiac aetiology as indicated by the use of cardiac enzymes.

**Was it reasonable of [Dr G] not to consider further assessment for [Mr C]?**

He discussed the case with his consultant and arranged GP follow up. He will have been influenced by his consultant's advice.

**4. [Dr H] did not see [Mr C] personally.**

**In your earlier advice, you observed that it is reasonable for a doctor to make a decision based on indirect evidence without seeing the patient. [Dr H] appears to have seen only the ECG taken on 6 April, which in his letter to the Commissioner he described as 'not specific for a heart attack'.**

**Was his interpretation of the ECG reasonable?**

The ECG is not specific for a heart attack but is 'suggestive' for an acute coronary syndrome. It is abnormal. Did he read the print out of the machine? As stated in my first report, if a doctor chooses to ignore a machine read out, then there must be a clearly stated set of reasons why. In this context, it may be considered unreasonable, but again I use the word 'hindsight'.

**In the circumstances, was it reasonable for [Dr H] not to see [Mr C] personally?**

This depends (as stated in my first report) on the supplementary information obtained indirectly. The symptoms (epigastric burning up to throat for 8 hours) could have been obtained by indirect questioning of the patient (ie [Dr G]).

**In the circumstances, was it reasonable of [Dr H] not to consider further assessment for [Mr C]?**

On balance no.

**5. In your earlier advice to the Commissioner, you commented on abnormalities in the ECG strip dated 12 October 1999. You advised that they suggest that an acute coronary care syndrome may have been present in October 1999.**

**This ECG was inadvertently filed by [Mr C's] general practitioner's nurse before he had seen it. In your opinion, what are the consequences of [Mr C's] general practitioner not having seen it?**



Who can answer what the consequences are? If the GP had seen it he may have done any one or more of the following:

- Seen the patient and arranged another EGG
- Taken some cardiac enzyme tests
- Referred to ED at once
- Referred to cardiology outpatients or in-patient team urgently
- Nothing.

**If he had seen it, what would a reasonable GP have done with it?**

See above.”

*Further emergency medicine advice*

Dr Hughes was asked to review Dr H’s lengthy response to my provisional opinion and to state whether it led him to change his original advice in relation to either Dr H or Dr G. Dr Hughes responded by providing me with his original advice, which he had amended to take account of the additional information.

In relation to my question “In your opinion, is there any evidence to indicate that [Dr H] should have personally reviewed [Mr C] on 6 April 2000?”, Dr Hughes made the following additional comments:

“In his correspondence of November 2002 [Dr H] goes to great length to outline his role and working methods as a consultant. In detail he describes how he interacts with and supervises his registrars. This is all reasonable and it reflects how the majority of ED specialists work with junior staff. The intuitive next question to ask is ‘where does the buck stop?’ in this relationship.

[In] his November letter, ... [Dr H] reflects on the communication between himself and [Dr G]. His comment ‘that he had no cause to question or disagree with the diagnosis’ is pertinent to this debate. Did [Dr H] reflect on the time (eight hours) of the indigestion? Did this raise any concerns in his mind? Clearly no ‘alarm bells’ were set off in [Dr H’s] mind.

At what point does the supervising or duty consultant ‘step in’ to ask for additional and more detailed information? It may be argued that at this point of handover, the supervising consultant takes on some responsibility for the case. However others may wish to disagree.

[Dr H’s] letter indicates that his interaction with and acceptance of what his registrar told him occurred in good faith. From [Dr G’s] perspective, it is likely that he felt reassured that he was ‘on the right track’ when [Dr H] did not challenge him or ask supplementary questions.

I can understand and sympathise with this scenario.

Returning to the issue of ‘where does the buck stop’ this is a matter for further debate and opinion. Personally I have been trained to believe that in a situation such as this the consultant becomes ‘involved’ in the patient’s care. If this is accepted, then by default the consultant assumes some responsibility for the decision making. In a ward based specialty (such as one of the medical or surgical specialities) a ward round may, on occasion, occur in the office, rather than the ward. This can be regarded as a similar scenario to an emergency department handover. If a consultant sits in on an ‘office’ ward round what is his or her responsibility and accountability?”

---

## **Code of Health and Disability Services Consumers’ Rights**

The following Right in the Code of Health and Disability Services Consumers’ Rights is 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.*
- 

## **Opinion: No breach – Dr D**

### *General comment*

I note the following advice from my general practitioner advisor:

“It is my opinion that the services [Dr D] provided complied with the relevant professional standards. [Dr D] has kept good records; he has recorded adequate histories and examinations and has referred appropriately for investigations and consultant opinions.”

### *Failure to treat unstable angina*

The first aspect of the complaint is that Mr C had unstable angina for at least six months before he died, that Dr D was aware of it and that he failed to treat it.

In the six months prior to his death, Mr C had a total of seven consultations with Dr D; on 12, 13 and 14 October 1999, on 5 and 9 November 1999, and on 30 March and 6 April 2000. During that period, Mr C was also assessed by a medical team at the public hospital; ENT specialist Dr J; neurologist Dr K; second year Emergency Department house officer Dr E; and specialist emergency physician Dr F.

The medical professionals who saw Mr C in the six months before he died queried whether his symptoms might be the result of causes ranging from secondary syphilis or middle ear infection to mumps or phaeochromocytoma, a rare form of tumour usually arising in the adrenal glands. None of them diagnosed him as suffering from unstable angina.

Mr C presented to Dr D with a variety of symptoms. At the first appointment, on 12 October 1999, he was bringing up phlegm and had a “burning sensation” and a “wheeze” in his chest. The left side of his throat was tight, his left ear was aching and the glands on the left side of his neck were normal. The next day, both sides of his neck were still sore but his neck was not stiff and, except for “a few crackles”, his chest was clear. The following day, Mr C’s left ear and the left side of his neck were still painful.

Over those three days, 12, 13 and 14 October, examinations performed by Dr D showed that while Mr C had an elevated temperature, his pulse rate and blood pressure were normal. Syphilis serology tests suggested current syphilis infection, and Mr C’s ferritin levels and white blood cell count were up, both indicating illness.

Dr D also ordered cardiac enzyme tests and an ECG on 12 October 1999. The results of the cardiac enzyme blood tests, which test for damage to the heart, were negative.

Dr D did not review the ECG, which his receptionist filed before he had seen it. I will return to this issue later in my report.

After spending 21 and 22 October 1999 in the public hospital, Mr C was discharged with a queried diagnosis of secondary syphilis or possible otitis media (middle ear infection). Dr D explained that he referred Mr C to the public hospital because Mr C had told him that the symptoms he was experiencing were consistent with a previous syphilis infection for which he had been hospitalised overseas in 1978.

Two weeks later, on 5 November 1999, Mr C returned to Dr D complaining that he still had a headache, pain in the left side of his throat and left ear, and that the left side of his face was swollen. Dr D found that his left parotid area was swollen and sent him to be tested for mumps. The mumps test was negative.

On 9 November 1999, Mr C returned to Dr D with continuing symptoms of pain in his left ear and the left side of his throat. Dr D referred him to ear, nose and throat specialist Dr J. Dr J saw Mr C two days later and appears to have been mystified as to what was causing Mr C’s constant and increasingly severe headaches. He reported back to Dr D that he did not know what was causing Mr C’s problem. Dr J referred Mr C “urgently” to the Neurology Department at the public hospital for further investigations.

Neurologist Dr K saw Mr C the same day and was also unable to provide a definitive diagnosis. He described Mr C as having a “most unusual headache problem”. He described Mr C’s headache as “paroxysmal”, meaning that it recurred suddenly or with intensified symptoms. He wondered if Mr C had a phaeochromocytoma, but considered that unlikely.

Following the appointment with Dr K on 9 November 1999, Mr C did not present to any other medical practitioner until he went to the Emergency Department for the first time on 25 March 2000.

Five days later, on 30 March, he returned to Dr D. He told Dr D that for six of the previous seven days he had experienced “massive” swelling around the neck, head pain and chest pain. If he sat down he was fine, but mobilising led to pain. Dr D recorded that the pain was predominantly in his neck. Dr D decided to refer Mr C to the public hospital’s Cardiology Clinic for an exercise tolerance test on what he described as “suspicion only” that Mr C might have ischaemic heart disease. In his referral letter to the clinic, Dr D acknowledged that Mr C’s symptoms, if they were indicative of ischaemic heart disease, were “rather unusual”.

A week later, on 6 April 2000, Mr C returned to Dr D reporting that during the night he had been in so much pain he had been “panting to breathe”. He described having had a “really bad” headache, swollen throat, tingling in his ears and very sharp right-sided chest pain. By the time he consulted Dr D, his symptoms had settled except for earache in his right ear and a headache. Dr D made an entry in his notes that he needed to discuss Mr C’s case with the neurologist, Dr K.

Mr C died the next day. The post-mortem showed that he had atherosclerotic coronary vascular disease (narrowing of the arteries) and had suffered an acute myocardial infarction (heart attack).

With the benefit of that knowledge, it is understandable that Mr C’s family concluded that his chest pain was actually angina. However, on the evidence available to me, I am unable to conclude that Mr C had unstable angina. I note the following comments from my general practitioner advisor:

“There is no evidence in any of the documents ... that [Mr C] had unstable angina. He was seen by a raft of Medical Practitioners through this time, who formed various, but similar, opinions as to his diagnosis. Only [Dr D] and [Dr G] put cardiac pain in their possible diagnoses. [Dr G] felt he had satisfactorily excluded it, and [Dr D] was awaiting expert opinion. Given this, it is hard to conclude that [Dr D] failed to treat a condition that we still are unsure existed.”

In my opinion, the allegation that Mr C had unstable angina, that Dr D was aware of it and that he failed to treat it, is not substantiated, and Dr D did not breach the Code.

#### *30 March 2000 consultation*

Mrs A and Mrs B complained that when Mr C consulted Dr D on 30 March 2000, Dr D wrote to the public hospital raising the possibility of ischaemic heart disease, but did nothing to treat Mr C’s problem. They complained that Dr D should have arranged for Mr C to attend hospital on that date.

Dr D’s notes dated 30 March 2000 record that Mr C had been experiencing “massive” swelling around his neck, and head and chest pain over the previous six days. If Mr C sat

down he was fine, but mobilising led to pain. Dr D recorded that the pain was predominantly in Mr C's neck.

Dr D examined Mr C and found that his pulse rate and blood pressure were normal. Dr D detected no abnormality in Mr C's heart sounds, and his chest was clear.

Dr D wrote to the public hospital's Cardiology Clinic requesting an exercise tolerance test for Mr C. Dr D advised me that he requested the exercise tolerance test on "suspicion only". I note that in his referral letter to the public hospital, Dr D acknowledged that Mr C's symptoms were "rather an unusual presentation" for ischaemic heart disease.

According to my general practitioner advisor, the examinations Dr D performed were in keeping with Mr C's history and presentation. My advisor stated that Mr C's history and symptoms, and the examination findings, were "in no way typical, or even suggestive, of heart disease". He further advised: "It would not be common for a GP to request an Exercise Tolerance Test (ETT) given such clinical signs and symptoms."

According to Dr D, hospitalisation that day was not indicated by Mr C's clinical history or presentation. I note that my general practitioner advisor could find no evidence to support the allegation that Mr C should have been admitted to hospital that day.

It is understandable, given that Mr C ultimately died of a heart attack, that his family believe he should have been treated for ischaemic heart disease when it was suspected. However, Dr D informed me that he did not start Mr C on medication on 30 March 2000 because of the diagnostic uncertainty and the possible side effects of medication. I accept my general practitioner advisor's advice that Dr D's management of Mr C was appropriate.

In my opinion, therefore, on 30 March 2000 Dr D provided services to Mr C with reasonable skill and care, and in compliance with relevant professional standards, and did not breach the Code. Based on Mr C's clinical history and presentation, and Dr D's examinations, I consider that Dr D's decision to refer him for an exercise tolerance test more than adequately met the standard of care required of him.

#### *6 April 2000*

Mrs A and Mrs B complained that Dr D did not arrange urgent hospital treatment for Mr C on 6 April 2000.

Dr D's notes dated 6 April record that Mr C had been in "horrendous" pain during the night, with a very bad headache, swollen throat, tingling in his ears and very sharp right-sided chest pain. He had been "panting to breathe" because the pain was so severe. Mr C's symptoms had settled by the time he saw Dr D, except for earache in his right ear and a headache.

Dr D examined Mr C. His blood pressure and eyes were normal, and his chest was no longer tender. Dr D advised me that the only abnormal sign he found was a tender left lymph node. He prescribed codeine phosphate for Mr C's pain. Dr D advised me that he

was happy to await the outcome of his referral to cardiology. He also made a note to discuss Mr C's case with Dr K, the neurologist who had seen Mr C in November 1999.

Dr D refuted the allegation that he should have arranged urgent hospital treatment that day. Denying that Mr C had unstable angina, he advised me:

"I am also quite aware of the action for unstable angina namely immediate hospital admission via ambulance. I have sent patients in from my surgery via ambulance before because I have been of the opinion that they have had this diagnosis or had an infarct. I would not have hesitated to take this course of action with [Mr C] had I considered it necessary."

According to my general practitioner advisor, Mr C's symptoms were "confusing" and not attributable to one illness, except possibly a virus. Although chest pain was documented, it was "not typical of cardiac pain". In relation to Dr D's treatment of Mr C on 6 April 2000, my general practitioner advisor stated: "As the most distressing symptoms had disappeared at the time of the consultation, [Dr D's] planned treatment was eminently reasonable."

I accept my general practitioner advisor's advice that there was no evidence to suggest that Dr D should have admitted Mr C to hospital that day. In my opinion, Dr D treated Mr C appropriately on 6 April 2000, and did not breach the Code.

#### *Family history of heart disease*

Mrs A and Mrs B complained that Dr D did not ask pertinent questions about Mr C's family history of heart disease. Mr C's father had died from heart disease while in his forties.

Dr D accepted that he did not ask Mr C about any family history of heart disease. He advised me that generally he asked about family history if he strongly suspected heart disease:

"I do, however, tend to concentrate more on trying to carefully elicit and clarify the symptoms that might suggest heart disease. In [Mr C's] case, because his diagnosis was so unclear, I placed more emphasis on trying to obtain a diagnosis from his presenting complaints."

According to my general practitioner advisor, not asking about Mr C's family history was an "oversight" on the part of Dr D. Although the knowledge that Mr C's father had had cardiac disease might have "raised [Dr D's] index of suspicion", in my advisor's view it still would have required "unusual prescience" to attach Mr C's symptoms to his heart. My advisor further noted that blood test results showed Mr C did not have hypertension and his cholesterol level was only mildly raised.

If Dr D had elicited the information that Mr C's father had had heart disease, or if Mr C had volunteered the information, it would have been one more piece of information available to Dr D in his attempt to diagnose the cause of Mr C's symptoms. A more thorough historian would have elicited the family history. In my opinion, however, by not asking about Mr C's

family history, Dr D did not breach his duty of reasonable skill and care, and therefore did not breach the Code.

*Allegations of inappropriateness*

Mrs A and Mrs B alleged that Dr D had an inappropriate friendship with Mr C which influenced the level of care he provided. Mrs A felt that Dr D was guilty of “gross negligence” and “misplaced trust” for exploiting her brother’s kindness.

Dr D denied the allegation and advised me that he was unaware of its basis:

“Whilst we had a good rapport, I can state categorically that [Mr C] and I did not have a friendship; our relationship was strictly a doctor-patient one.

...

I deny that I in any way exploited [Mr C] or transcended our doctor-patient relationship.”

I find Dr D’s explanation entirely credible. No evidence has been provided that in any way supports this unfortunate allegation.

With regard to the allegation that it was inappropriate for Dr D to state that he loved Mr C, I accept Dr D’s explanation that he made the comment spontaneously in the context of a family meeting when Mr C’s family were talking about how much Mr C was loved by many people. Dr D commented that “it seemed an appropriate, spontaneous way to express my compassion for the family and empathy for them. It certainly was not an expression of any past or ongoing relationship with [Mr C].”

It is sad that, in their understandable grief, Mr C’s family have chosen to impugn the motives of Dr D. Doctors are often criticised by families for their lack of sympathy after a patient/family member dies. I am satisfied that Dr D’s comments were compassionate. There is no evidence to suggest that Dr D’s relationship with Mr C was anything other than professional. Accordingly, in my opinion this aspect of the complaint is unfounded.

*Reference to negative syphilis test*

The final aspect of the complaint against Dr D was the allegation that he made inappropriate comments to Mr C’s family including a reference to a negative syphilis test. Dr D responded to the allegation as follows:

“... [T]he family repeatedly asked me what the cause of death was and also advised me they did not know why [Mr C] had been in hospital earlier in the year. When they asked me why I thought it was appropriate at the time to tell them.”

I accept Dr D’s explanation and can understand why he chose to explain to grieving family members the reason for Mr C’s admission to the public hospital six months previously. However, I take this opportunity to remind him of his obligations of patient confidentiality, even following a patient’s death.

*Record keeping*

I note that Dr D advised me that he did not note in Mr C's clinical records a telephone consultation between 25 and 30 March 2000 and (possibly) a telephone consultation shortly after 9 November 1999. Although it is commendable that Dr D is accessible to patients by telephone, I remind him of the need to keep accurate notes of all consultations (including advice given by telephone) in a patient's clinical records.

---

**Opinion: Breach – Dr D**

*Follow-up of ECG*

Mrs A and Mrs B complained that an ECG carried out on 12 October 1999 was filed without Dr D having seen it, and that he failed to take any action in response to the "borderline" result.

At Mr C's presentation to Dr D on 12 October 1999, Dr D ordered virology tests, blood tests and an ECG. MedLab, which carried out the ECG, sent the result to Dr D's surgery but his receptionist filed it away before he had looked at it. Dr D advised me that this probably happened because Mr C was not at that time a regular patient and therefore he had not yet been given a file number.

Dr D was "dismayed" to discover that the automatic read-out printed on the ECG said "borderline". He asked cardiologist Dr I to review it for him and Dr I concluded that the ECG was normal. Dr I advised that automatic read-outs from ECG machines frequently "over read" ECG results and that, on the basis of Mr C's ECG alone, no further investigations would have been undertaken. In the opinion of my independent emergency medicine advisor, however, the pattern in the inferior leads of the ECG was abnormal, and suggested that an acute coronary care syndrome may have been present in October 1999.

Dr D informed me that if he had seen the "borderline" computer print out, he would have asked a cardiologist to review it. However, he believed his treatment of Mr C would not have been any different had he seen the ECG report. Mr C's clinical history did not strongly suggest an ischaemic cause, cardiac enzyme test results were negative, and the ECG was ordered as an additional diagnostic aid.

Dr D advised me that he has improved his systems as a result of this incident, so that no test result is now filed unless he has personally signed it. I note, however, my independent general practitioner's advice that filing the ECG without doctor sign-off was not best practice, and that not seeing the ECG or chasing up the result was a "major oversight" on the part of Dr D.

In my opinion, by not following up the ECG he had ordered and by having a system in place at the time which allowed the ECG to be filed without his sign-off, Dr D breached his duty to provide services to Mr C with reasonable care and skill. Although Dr I and my independent emergency medicine advisor have interpreted the ECG differently, the fact



remains that Dr D had an obligation to read and consider the report. Having ordered the ECG, it was the general practitioner's responsibility to follow up on the results when they were not brought to his attention. In my opinion, in this respect Dr D failed to care for Mr C appropriately and breached Right 4(1) of the Code.

I note that, in response to my provisional opinion, Dr D accepted that he breached the Code in relation to follow-up of the ECG, and provided an apology for Mrs A and Mrs B.

---

## **Opinion: No breach – Dr E**

### *Investigation and diagnosis*

At 9.30pm on 25 March 2000, Mr C attended the public hospital's Emergency Department. Dr E was the second year house officer who assessed him at 10.40pm. The complaint is that Dr E did not adequately investigate the cause of Mr C's problems, did not offer him telemetry, and took insufficient note of relevant information, in particular his family history of heart disease.

According to Mrs A, Mr C had collapsed at work and been treated by paramedics before going to the hospital in an ambulance. However, the contemporaneous notes written by the health professionals who saw Mr C in hospital that night do not support Mrs A's account of events. The first triage nurse who assessed Mr C on arrival, recorded that he had arrived on foot. Dr E recorded that he had been walking home at 2.30am from his casino job, when he felt hot and had pain in his ears. Dr F, the specialist emergency medicine consultant who assessed Mr C, also stated that Mrs A's account was not the history given by Mr C. On the basis of the contemporaneous notes, I conclude that Mr C arrived on foot.

Dr E's notes record that Mr C's ear pain had recurred about six times during the day, and was sometimes associated with "sharp, stabbing central chest/sternal pain". The pain was relieved when Mr C sat down. Mr C told Dr E that he had experienced the "identical problem" the previous year, and had been admitted to hospital but not diagnosed.

Dr E examined Mr C. He looked flushed in the face and neck. He told Dr E he thought his neck was swollen. Dr E could see no evidence of a throat infection. She was unable to see his right eardrum because of wax in the external canal, but she advised me that she was concerned that his left eardrum showed signs of middle ear infection.

Dr E examined Mr C's cardiovascular system and found that his pulse rate, blood pressure and heart sounds were all normal. She examined his respiratory system and his lung fields were clear. Mr C's abdomen was painless and soft, and his bowel sounds were normal. She considered a diagnosis of otitis media (middle ear infection). However, because she was not certain of the diagnosis, she decided to discuss Mr C's case with Dr F. In the meantime, she prescribed codeine phosphate for pain relief.

In relation to the aspect of the complaint that she did not offer telemetry to Mr C, Dr E advised me that she did not consider it necessary because Mr C's main complaint was ear pain and facial flushing. Telemetry is not a treatment, and I am satisfied that Dr E did not breach the Code by not offering it to Mr C.

With one exception, which I will discuss in the next section of my report, my emergency medicine advisor advised me that Dr E's notes were "detailed and comprehensive". In relation to Dr E not asking about family history, my advisor stated:

"It does mean that the full history taken was incomplete. A perfectionist will argue that this is most unreasonable. A more reasonable view is that it is unfortunate. It is debatable if recording the family history will have made any difference to the outcome. It may or may not have done (e.g. it did not make any difference with the second visit on 6<sup>th</sup> April)."

I accept that it would have been preferable for Dr E to have asked about Mr C's family history of heart disease. However, I do not consider that her failure to do so amounted to a breach of her duty to provide services with reasonable skill and care. Furthermore, although I note my advisor's view that, on balance and with the benefit of hindsight, Dr E's queried diagnosis of otitis media was unreasonable, I consider that Dr E took appropriate steps by asking her consultant, Dr F, to review Mr C when she knew her diagnosis was uncertain. In so doing, she provided services to Mr C with reasonable skill and care, and did not breach the Code.

#### *ECG*

In relation to the aspect of the complaint that Dr E took insufficient note of relevant information, my emergency medicine advisor was concerned that Dr E's notes did not mention the ECG ordered earlier by the assessment nurse and taken at 9.55pm.

According to my advisor:

"If a test is performed (such as an EGG) it is prudent to look at the results – otherwise why do it? The decision not to perform cardiac enzyme tests was consequent to the fact that cardiac disease was not considered."

In response to my provisional opinion, Dr E argued that as the ECG results were not on the file, there was nothing to alert her that an ECG had been performed. Dr E stated that, because Mr C was presenting with facial flushing and ear pain, she did not consider that an ECG was indicated, nor did she expect that a nurse would have requested an ECG.

I accept that at the time Dr E saw Mr C, the ECG results were not on the file. I also accept that Dr E did not know that an ECG had been ordered. I do not accept, however, that there was no way of Dr E knowing that an ECG had been ordered. The assessment nurse had ticked the box marked "Needs ECG" on the assessment form, and that form was on the file when Dr E saw Mr C.

Furthermore, facial flushing and ear pain were not Mr C's only symptoms. Both of the nurses who saw Mr C referred to his chest pain in the notes, and Dr E recorded Mr C's presenting complaint as "Unwell with [right] sided chest pain". Dr E went on to record in the notes that Mr C's recurring ear pain was sometimes associated with "sharp, stabbing central chest/sternal pain" when he walked a few steps. Dr E may not have considered that an ECG was indicated, but the assessment nurse clearly did, and that information was available to Dr E.

In her response to my provisional opinion, Dr E informed me that if an ECG was performed, the results were routinely placed immediately upon the file. She suggested that the ECG results may have been temporarily mislaid or misfiled, or that the time shown on the ECG may have been inaccurate.

I do not propose to take this issue any further, but I remind Dr E of the need to take proper account of any available nursing assessment in undertaking her own clinical assessment of a patient.

---

### **Opinion: No breach – Dr F**

#### *Consultant review and decision to discharge*

Dr F was the specialist emergency physician who assessed Mr C at 11.40pm on 25 March 2000. He discharged Mr C shortly after midnight with no definitive diagnosis. The complaint is that Dr F did not adequately investigate the cause of Mr C's problems, did not offer him telemetry, and took insufficient note of relevant information, in particular Mr C's family history of heart disease.

Dr F advised me that Mr C's main complaint was of feeling intermittently unwell with a flushed face and headache. Apart from his headache, Mr C's symptoms had resolved by the time he saw Dr F.

Dr F examined Mr C's cardiovascular, upper and lower respiratory and neurological systems and found no abnormality. Mr C's pulse, blood pressure, temperature, respiratory rate and oxygen saturations were all normal.

Dr F reviewed Mr C's medical records, and noted that Mr C had been given "various nebulous diagnoses" for similar symptoms the previous year. Dr F considered there was no clear diagnosis for Mr C's chronic recurrent headache and facial flushing. In his differential diagnosis, he considered intermittent obstruction of venous return to the heart and phaeochromocytoma.

Dr F advised me that when he saw Mr C, chest pain was "not a major issue". Rather, Mr C was concerned with his headache and facial flushing. Dr F explained:

“With consideration of his past medical and other history as stated in his medical record, I did not consider that his symptoms related to ischaemic heart disease and therefore did not investigate him for this.

...

When I saw [Mr C] ..., he presented with a constellation of atypical complaints which had been investigated previously and diagnosed as hemicrania (migraine). Chest pain was a minor part of these complaints and at the time I saw him I did not think he warranted in-hospital investigation to rule out acute myocardial injury.”

Dr F discharged Mr C shortly after midnight, and prescribed diclofenac for pain control. He referred Mr C back to Dr D with the suggestion that Dr D consider referring him to the general medical outpatient clinic for 24-hour urine, in order to exclude the possibility of a phaeochromocytoma.

I note that Dr F was aware of Mr C’s family history of heart disease, as it was documented in the notes he reviewed from Mr C’s admission to the public hospital in October 1999.

In considering the conduct of Drs E and F on 25 March 2000, I have taken into account the supervisory responsibilities of specialists. These responsibilities were recently examined by the District Court in *Director of Proceedings v Katherine McKenzie* (NP 762/02, 30 August 2002). Judge Doogue commented as follows:

“A doctor supervising junior staff must be expected to make reasonable observations of their competence and draw reasonable conclusions from what is observed. The judgement so formed will in turn form still further judgements as to how great the degree of delegation to those staff members should be. But notwithstanding what the degree of delegation is, there must be a residual obligation to monitor and supervise the work of the ‘delegate’.”

Dr F was the senior doctor attending Mr C that night. He had been consulted by the house officer, had examined Mr C in person and was aware of his family history. In these circumstances, Dr F had a responsibility to take appropriate steps to rule out cardiac disease, particularly in light of the family history. My independent emergency medicine advisor stated that clues for cardiac disease existed at that presentation and that Mr C should not have been discharged without further assessment being carried out.

In response to my provisional opinion, Dr F stressed that it was “very much with the benefit of hindsight” that the clues to a cardiac cause for Mr C’s symptoms were apparent on 25 March 2000. He also asked me to note the context in which he became involved in Mr C’s care. That is, Dr E had asked him to review Mr C for possible otitis media, and none of the competent and well-respected doctors who had investigated Mr C’s symptoms in the preceding six months had considered a cardiac cause.

I accept that cardiac disease was a difficult diagnosis to make in Mr C’s case and that picking out the cardiac clues was “relatively easy” only with the benefit of hindsight. On

balance, I am satisfied that in reviewing Mr C and deciding to discharge him, Dr F met the standard of care expected of a responsible consultant emergency physician and did not breach Right 4(1) of the Code.

### *ECG*

My emergency medicine advisor was concerned that Dr F's notes did not mention the ECG. Dr F advised me that although he can no longer recall whether he saw the ECG that evening, he had definitely seen it subsequently.

Dr F commented that the ECG showed no acute ischaemic changes (no signs of a heart attack). My advisor, however, noted that the ECG machine had detected subtle abnormalities on 25 March which were compatible with ischaemic heart disease. The automatic printout had recorded "ABNORMAL ECG" and "Unconfirmed diagnosis".

My advisor made the following observation about the use of ECG machines which print out the abnormalities they detect:

"Some people believe that they are too sensitive and overly diagnostic (false positives). Others believe that this is a good thing as it is a safety net. Better to be over than under diagnostic."

In his view, if emergency departments use such a machine and the machine detects abnormalities, doctors must "accept what the machine says or reject the abnormalities and explain why".

In response to my provisional opinion, Dr F advised me that, with respect to my advisor, he disagreed with his interpretation of the ECG. Dr F provided me with a report from cardiologist Dr I, which stated that the ECG fell within the normal range for a normal ECG in a normal fit population. In a letter accompanying the ECG report, Dr I noted that clinical studies demonstrate that experienced clinicians are better at interpreting ECGs than even the best of ECG machine programmes with their accompanying notes.

On balance, I am satisfied that Dr F, if he did see the ECG on 25 March, interpreted it with reasonable care and skill, notwithstanding my advisor's professional difference of opinion. Accordingly, in my opinion Dr F treated Mr C appropriately and did not breach Right 4(1) of the Code.

### *Telemetry*

In relation to the aspect of the complaint that telemetry was not offered, Dr F explained that there was no clinical indication for telemetry monitoring, as Mr C's predominant symptoms were headache and facial flushing. Dr F emphasised that telemetry is not a treatment and is provided only for in-patients believed to be at high risk of significant cardiac arrhythmia, depending on the availability of the telemetry machines.

I accept Dr F's explanation and am satisfied that he acted reasonably in not offering telemetry to Mr C.

## **Opinion: No breach – Dr G**

### *Investigation and management*

Dr G was the registrar covering the resuscitation area and the monitoring room on 6 April 2000, when Mr C re-presented to the Emergency Department at the public hospital.

The complaint is that Dr G did not adequately investigate the cause of Mr C's problems, took insufficient note of relevant information, did not offer him telemetry, and discharged Mr C inappropriately at 1.30am.

Mr C arrived at the Emergency Department at 9pm complaining of the onset of sharp chest pain, pain behind his left ear, and pain in his neck. Mr C was triaged at Level 2. Prior to seeing Dr G, Mr C was given a dose of Mylanta to relieve what was thought to be indigestion.

By the time he saw Dr G at 10.30pm, Mr C was no longer in pain. He told Dr G he had been experiencing "chronic right chest pain radiating to the ear and pain in the neck". Dr G recorded that Mr C had experienced "burning" up to his throat for approximately eight hours, which the Mylanta had relieved.

According to Dr G, Mr C's main problem was severe throbbing in his ears for the previous two days. He told Dr G he had had the pain on and off for two years and that a neurologist had told him it was a migraine type headache. Mr C also told Dr G that from time to time he experienced pain in the rest of his head, neck, and the right side of his chest, but that he had not had any such pain that day.

Dr G examined Mr C and found that his heart rate, heart sounds, blood pressure and oxygen saturations were all normal. Dr G examined Mr C's chest and abdomen and detected no abnormalities. Dr G also reviewed the ECG and blood tests ordered by the assessment nurse.

Dr G advised me that his impression was that Mr C was suffering from two separate problems. First, he considered that the epigastric pain was due to oesophageal reflux. Second, he considered that Mr C's chronic symptoms of ear, neck and right-sided chest pain – for which the manifestation that day was described as ear throbbing – did not represent a heart or lung problem. At that stage he decided to wait for Mr C's notes from his attendance at the Emergency Department on 25 March 2000.

Dr G advised me that when the old notes arrived his main interest was the ECG taken on 25 March. According to Dr G, the ECG was the same as the one obtained on 6 April, which had some non-specific ST changes. Three cardiac enzyme markers in the blood tests – creatinine kinase, myoglobin and troponin T – were all within normal range.

According to Dr G, he discussed Mr C's case with the consultant, Dr H. Dr G advised me that he gave Dr H a history of Mr C's problems including the history of his pain, previous admissions, results of tests including the ECG and blood tests, and Dr G's working

diagnosis. He advised me that, in consultation with Dr H, an atypical presentation of pulmonary embolus (clot on the lung) was considered but discounted.

I have been given conflicting information as to exactly what Dr G discussed with Dr H. Dr H denied having been given a “concise history” of Mr C’s problems, or being involved in any discussion entertaining the possibility of a pulmonary embolus. I am unable to conclude exactly what was discussed.

In any event, a management plan for Mr C was formulated. He was sent home to his flat with a prescription for Mylanta and told to visit Dr D the following day for further review and analgesia for his headache. Dr G reassured Mr C that he did not think his symptoms were due to a serious problem with his heart or lungs. Dr G advised me that Mr C was happy with the plan. His epigastric discomfort had gone with the Mylanta, and he was going to see Dr D in the morning for further analgesia for his head pain.

My independent emergency medicine advisor agreed that the ECGs taken on 25 March and on 6 April looked similar. Although in his view the machine had detected subtly different abnormalities on the two dates, he considered Dr G’s interpretation of the two ECGs reasonable. My advisor also noted that the troponin T cardiac enzyme, in particular, was normal, and he advised me that this was “very reassuring” to a clinician.

According to my advisor, oesophageal reflux can mimic cardiac chest pain and it is part of the differential diagnosis when a patient presents with chest pain. My advisor emphasised that it can be difficult to differentiate the two:

“[Mr C’s] symptoms lasted eight hours which is unusual for oesophageal reflux. Generally the symptoms are shorter in duration. An eight-hour duration should question the diagnosis of reflux. Oesophageal indigestion symptoms of this length suggest AMI, peptic ulcer disease, gall bladder disease and pancreatitis. Another problem is that antacids such as Mylanta can (paradoxically) relieve anginal chest pain. The burning pain from epigastrium to throat was probably ischaemic cardiac pain.”

I asked my advisor whether it was reasonable that Dr G did not consider further assessment for Mr C. He replied: “He discussed the case with his consultant and arranged GP follow up. He will have been influenced by his consultant’s advice.”

With the benefit of hindsight, Dr G’s diagnosis of oesophageal reflux was incorrect. However, in my view the evidence does not support the allegation that Dr G failed to adequately investigate the cause of Mr C’s problem. Dr G’s interpretation of the two ECGs was reasonable and the cardiac enzyme tests were normal. Dr G clearly considered that Mr C’s problem might have had a cardiac cause but had eliminated that differential diagnosis.

Although I am unable to conclude exactly what was discussed, I am satisfied that Dr G took the appropriate step of discussing Mr C’s case with his consultant, Dr H. In my opinion, by seeking specialist advice and referring Mr C to his general practitioner, Dr G provided services to Mr C with reasonable skill and care, and did not breach Right 4(1) of the Code.

I note Dr G's advice that he regrets his incorrect diagnosis and is now "very circumspect" when assessing patients with non-cardiac sounding chest and upper abdomen discomfort in the Emergency Department. He now asks the emergency medicine consultant to see personally all patients of this nature who are going to be sent home.

*Family history*

In my opinion, the aspect of the complaint that Dr G did not take into account Mr C's family history of heart disease is unfounded. I note that Mr C told Dr G that his father had died of a myocardial infarct in his forties. That information was one of a number of factors Dr G considered.

*Dr D's referral letter*

In relation to the aspect of the complaint that Dr G did not take into account Dr D's letter requesting an exercise tolerance test, I note that the letter arrived at the Cardiology Clinic on 4 April 2000. When Dr G saw Mr C on 6 April, the letter had not yet been filed with Mr C's medical records. Dr G's notes record that Mr C told him he was awaiting cardiology review.

In my opinion, Dr G did not breach his duty to provide services to Mr C with reasonable skill and care by not reading the letter. Dr G was aware from Mr C that he was awaiting cardiology review and took that information into account.

*Notes from 25 March 2000*

Finally, the aspect of the complaint that Dr G did not take into account records of Mr C's visit to the Emergency Department on 25 March 2000 is also unfounded. Dr G advised me, and his contemporaneous notes support this fact, that he reviewed Mr C's previous notes just before midnight.

*Telemetry*

In relation to the aspect of the complaint that Mr C was not offered telemetry, Dr G advised me that this was because of the presumed non-cardiac cause of his symptoms. If a cardiac cause had been suspected, Mr C would have been referred to the on-call medical registrar for assessment and further management at the discretion of the medical registrar.

As previously discussed in my report, telemetry is not a treatment. It is a means of continuously monitoring in-patients who are believed to be at high risk of significant cardiac arrhythmia. I am satisfied that Dr G acted reasonably in not offering telemetry to Mr C.



## **Opinion: No breach – Dr H**

### *Consultant responsibility*

Dr H was the supervising consultant on call in the Emergency Department on 6 April 2000. He has no recollection of Mr C. Initially, he responded to the complaint based on the information contained in Mr C's hospital records. After I formed my provisional opinion, Dr H, via his lawyer, provided a more lengthy response in which he explained his decision not to review Mr C. I then asked my independent advisor whether Dr H's additional response changed his original advice.

In Dr H's original response, provided under the mistaken impression that he had been asked only for an opinion in relation to Dr G's standard of care, Dr H advised me that it was regrettable that myocardial ischaemia had not been diagnosed. However, he considered the diagnosis of oesophageal reflux was reasonable. He noted that extensive investigations had been undertaken, including specific cardiac blood tests and ECG traces to look for a heart attack. Mr C's cardiac markers were normal and the ECG was "not specific for a heart attack". Dr H considered the decision to discharge Mr C was reasonable, as he was pain free and a diagnosis of oesophageal reflux did not require an overnight stay.

I asked my independent emergency medicine advisor whether there was evidence to indicate that Dr H should have personally reviewed Mr C on 6 April 2000. In his original advice, my advisor stated:

"It is reasonable for a doctor to make a decision based on indirect evidence without seeing the patient. It happens daily worldwide. Supplementary information can still be obtained indirectly. It is up to the doctor to then decide whether the patient needs to be seen personally. Attention to the details of the history is equally, if not more important, if the indirect approach is used. If in doubt examination is mandatory. ECGs can only be reviewed by inspection."

In his further advice, having reviewed Dr H's response to my provisional opinion, my advisor stated:

"... [Dr H] goes to great length to outline his role and working methods as a consultant. In detail he describes how he interacts with and supervises his registrars. This is all reasonable and it reflects how the majority of ED specialists work with junior staff. The intuitive next question to ask is 'where does the buck stop?' in this relationship.

... [Dr H's] comment 'that he had no cause to question or disagree with the diagnosis' is pertinent to this debate. Did [Dr H] reflect on the time (eight hours) of the indigestion? Did this raise any concerns in his mind? Clearly no 'alarm bells' were set off in [Dr H's] mind.

At what point does the supervising or duty consultant 'step in' to ask for additional and more detailed information? It may be argued that at this point of handover, the

supervising consultant takes on some responsibility for the case. However others may wish to disagree.

[Dr H's] letter indicates that his interaction with and acceptance of what his registrar told him occurred in good faith. From [Dr G's] perspective, it is likely that he felt reassured that he was 'on the right track' when [Dr H] did not challenge him or ask supplementary questions.

I can understand and sympathise with this scenario.

Returning to the issue of 'where does the buck stop' this is a matter for further debate and opinion. Personally I have been trained to believe that in a situation such as this the consultant becomes 'involved' in the patient's care. If this is accepted, then by default the consultant assumes some responsibility for the decision making. In a ward based specialty (such as one of the medical or surgical specialities) a ward round may, on occasion, occur in the office, rather than the ward. This can be regarded as a similar scenario to an emergency department handover. If a consultant sits in on an 'office' ward round what is his or her responsibility and accountability?"

In my opinion, although Dr H did not personally review Mr C, he must assume some responsibility for the decision to discharge Mr C, even if the discussion with Dr G was brief and incomplete. With the benefit of hindsight, the decision to discharge Mr C was unwise. My advisor hints that alarm bells should have rung for Dr H, certainly if he was told about the eight-hour, continuous history of reflux pain.

On balance, taking into account the risk of the benefit of hindsight, the reasonable basis for Dr H's view that Dr G was an experienced registrar whose judgement he could trust, the uncertainty about how much information Dr G provided at handover, and the persuasive submissions made by Dr H's lawyer, I am satisfied that Dr H adequately discharged his responsibility as consultant, and did not breach Right 4(1) of the Code.

---

## **Opinion: No breach – The public hospital**

### *Vicarious liability*

Employers are vicariously liable under section 72(2) of the Health and Disability Commissioner Act 1994 for ensuring that employees comply with the Code of Health and Disability Services Consumers' Rights (the Code). Under section 72(5) it is a defence for an employer to prove that it took such steps as were reasonably practicable to prevent the employee from doing or omitting to do the thing that breached the Code.

At the time of the events complained about, the public hospital employed Dr E, Dr F, Dr G and Dr H. Since none of these doctors has been found in breach of the Code, no question of vicarious liability on the part of the public hospital arises.

I note that since Mr C's case the public hospital's Emergency Department has introduced clinical practice guidelines for atypical chest pain presentations, which may help to reduce the possibility of mistaken diagnoses in the future. I also note that the Emergency Department has introduced clinical practice guidelines for the investigation and initial management of possible acute coronary syndromes and myocardial infarction. These guidelines are designed to help junior doctors safely manage patients with chest pain. Dr F has developed a best practice guideline to improve the documentation of ECGs in the Emergency Department. The guideline is designed to ensure that all ECGs are performed and interpreted in an acceptable and timely manner.

---

## **Actions**

- A copy of this opinion will be sent to the Medical Council of New Zealand.
- A copy of this opinion, with all identifying features removed, will be sent to the Royal New Zealand College of General Practitioners, the Royal Australasian College of Physicians, the College of Emergency Medicine, and the Deputy Director-General, Clinical Services, Ministry of Health (for distribution to all District Health Board Chief Medical Advisors) and will be placed on the Health and Disability Commissioner website, [www.hdc.org.nz](http://www.hdc.org.nz), for educational purposes.